

Atlantic States Marine Fisheries Commission

Atlantic Coastal Cooperative Statistics Program Coordinating Council

*October 28, 2019
3:00 - 5:30 pm
New Castle, New Hampshire*

Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*L. Fegley*)
2. Council Consent
 - Approval of Agenda
 - Approval of Previous Meeting Minutes
3. Public Comment
4. Funding Subcommittee Update (*J.D. Simpson*)
5. Consider Recommendations for FY2020 Submitted Proposals (*L. Fegley*) **Action**
6. Consider Revising ACCSP Technical Committee Structure (*J.D. Simpson*) **Action**
7. Consider Establishment of Data Coordination Committee (*G. White*)
Possible Action
8. Program/Committee Updates
 - Electronic Trip Reporting Status (*G. White*)
 - Registration Tracking (*J.D. Simpson*)
 - Updates from Operations/Advisors Joint Meeting (*N. Lengyel-Costa*)
 - Committee Updates (*N. Lengyel-Costa*)
 - For-Hire Methods Workshop Summary (*G. White*)
 - State Conduct of For-hire Telephone Survey (*G. White*)
9. Other Business/Adjourn

The meeting will be held at Wentworth by the Sea, 588 Wentworth Road, New Castle, NH; 603.422.7322

**DRAFT PROCEEDINGS OF THE
ATLANTIC COASTAL COOPERATIVE STATISTICS PROGRAM
COORDINATING COUNCIL**

**The Westin Crystal City
Arlington, Virginia
April 30, 2019**

These minutes are draft and subject to approval by the
Atlantic Coastal Cooperative Statistics Program Coordinating Council.
The Council will review the minutes during its next meeting.

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2. **Approval of minutes of February 2019** by consent (Page 1).
3. **Move to amend the RFP to read “up to 33%” for multi-agency proposals only for FY2020** (Page 3). Motion by Pat Keliher; second by Dan McKiernan. Motion carried (Page4).
4. **Move to convene a workgroup to iron out details to simplify future RFP language and policies** (Page 4). Motion by Cheri Patterson; second by Matthew Gates. Motion carried (Page 5).
5. **Move to approve the RFP as amended** (Page 5). Motion by Cheri Patterson; second by Bob Beal. Motion carried (Page 5).
6. **Motion to adjourn** by consent (Page 11).

ATTENDANCE

Council Members

Pat Keliher, ME DMR, Vice-chair
Megan Ware, ME DMR, proxy
Cheri Patterson, NH F&G, proxy for D. Grout
Dan McKiernan, MA, proxy for D. Pierce
Jason McNamee, RI DFW
Matt Gates, CT DEEP, proxy for J. Davis
Jim Gilmore, NYS DEC
Maureen Davidson, NYS DEC, proxy
Joe Cimino, NJ DFW
Stewart Michels, DE DFW

John Clark, DE DFW, proxy
Lynn Fegley, MD DNR (Chair), proxy for D. Blazer
Robert Beal, ASMFC
Pat Geer, VMRC
Dee Lupton, NC DMF, proxy for S. Murphey
Robert Boyles, Jr., SC DNR
Kathy Knowlton, GA DNR, proxy for D. Haymans
Erika Burgess, FL FWC, proxy for J. McCawley
John Carmichael, SAFMC

Staff

Mike Cahall
Geoff White
Julie Defilippi Simpson
Alex DiJohnson
Heather Konell
Jessica Kuesel

Ed Martino
Nico Mwai
Joe Myers
Jennifer Ni
Mike Rinaldi
Coleby Wilt

Guests

Tom Sminkey, NOAA

Dave VanVoorhees, NOAA

The Atlantic Coastal Cooperative Statistic Program Coordinating Council of the Atlantic States Marine Fisheries Commission convened in the Jefferson Ballroom of the Westin Crystal City Hotel, Arlington, Virginia; Tuesday, April 30, 2019, and was called to order at 4:30 o'clock p.m. by Chairman Lynn Fegley.

CALL TO ORDER

CHAIRMAN LYNN FEGLEY: Hello everyone. We are going to go ahead and get started with the ACCSP Coordinating Council. Thanks everybody for coming.

APPROVAL OF AGENDA

CHAIRMAN FEGLEY: To start the meeting, the first order of business is to approve the agenda. In the interest of time, and also in the interest of an item that has come to our attention, I would like to entertain a motion to modify the agenda. Cheri.

MS. CHERI PATTERSON: Yes, thank you. Again, to address our time constraints today, I move to modify the agenda to add after Agenda Item 5, Public Comment, a discussion pertaining to maintenance project funding, then proceed to Agenda Item 9, Review and Consider Approval of 2020 RFPs, and then follow the agenda as written, and stop the meeting at any of the agenda updates, either Agenda 7 or 8, if time does not allow for the updates.

CHAIRMAN FEGLEY: Great thank you, do I have a second? Dee. Is there any objection to this motion? Seeing none we shall proceed.

APPROVAL OF MINUTES

CHAIRMAN FEGLEY: Okay, and next is you all have meeting minutes from the winter meeting in your packets. Is there any comment or editing needed to those meeting minutes?

PUBLIC COMMENT

CHAIRMAN FEGLEY: Great, seeing none, and finally is there anybody in the public who would like to provide comment? Okay seeing none, we will move on to what is now our first agenda item.

MAINTENANCE PROJECT FUNDING

CHAIRMAN FEGLEY: This item concerns the formula that we're using for maintenance projects, where a project is funded for four years, and then after that there begins a 33 percent step down each year for three years, until funding reaches zero. We had this come up at the Executive Committee that some states are going to be put in a difficult position with this. I wanted to at this point, Pat if it's okay; tee you up to talk a little bit about this.

MR. PATRICK C. KELIHER: The state of Maine, in planning for the reduction in maintenance funds are 33 percent a year step down that has been outlined back from 2016. We were in the process of putting together outlines for new proposals as it pertains to, in particular, lobster reporting. We are fully prepared to submit new applications for that use.

In fact, since Mr. McKiernan is here we'll highlight the fact that we are intending to hopefully go in that direction for the year 2020, Dan. Okay, you win. I give! What we also though have started to look at pertaining to not only Massachusetts, but New Hampshire and states as far down as New Jersey, is a multistate effort that we run out of the state of Maine for monitoring the herring fishery. Reductions in that line at this time become problematic. It relates to what's going on in Massachusetts as well, because of their reliance on research set aside, and the money that comes into research set aside.

There is some complexity there with these multistate approaches. One of the ways to potentially resolve this, if I may, would be to

modify the RFP as one way to address this. Instead of having it be a hard, “you will reduce by 33 percent,” softer language to say, “You would reduce by up to 33 percent,” to give this Coordinating Council some additional flexibility when it comes time to addressing those type of multistate proposals.

CHAIRMAN FEGLEY: The question is, I’m not sure if we need a motion for this or not. The idea here is to amend the RFP with just a single word that would allow some flexibility for the Coordinating Council, so that step down is up to 33 percent. There is a couple of scenarios where this might not be a bad idea. But I think there is also, I want to extend the conversation a little further. But first, does anybody have any objection to modifying the RFP in this way, or does anybody have any comments about this? Cheri.

MS. PATTERSON: I have been involved in this maintenance process from the beginning, and I was on that work group that came into this step process of reducing states reliance on ACCSP funding. With what Pat is suggesting, I don’t have much of an opposition to at this point in time, as long as it just pertains to those projects, or those proposals that are multistate faceted.

I understand that we probably should have gotten together well before now, to have these discussions with these multistate projects. Therefore, I’m willing to concede that on this particular RFP, but I’m not willing to necessarily concede this on a state basis, a state project basis, just on those that are multistate faceted.

CHAIRMAN FEGLEY: Does anybody else have any comments about this? Then if not, I’ll try to sum up. Dee.

MS. DEE LUPTON: I would endorse what Cheri said. I am in one of the states who would like to see the step down start. If we restrict this only to the multistate proposals, I’m fine with that for one year, until that can be revisited later this year maybe for next year. I think we may need

to define the multistate proposals, because some partners think they’re in a multistate proposal. You know I’ve ranked these proposals. I see how people kind of play the game to be quite honest. There is a handful of what I would consider truly multistate proposals.

CHAIRMAN FEGLEY: Thank you, Dee. I think one of the things that might, Bob.

EXECUTIVE DIRECTOR ROBERT E. BEAL: Just to add to the comments. I’m kind of torn. It’s kind of like an ACCSP purist. I get the notion that the funding through ACCSP is meant for pilot-type programs, and then once they’re up and running, and you get over that initial hurdle of some initial start-up cost, then the state or a different agency takes it over after that. But, here is where I’m torn is that I see kind of the fiscal reality that some of the states are in, and some of these maintenance projects, if we end up with holes in those data streams, or diminished sampling levels. I think it’s going to cause some problems down the stream. One of the projects that Pat, or that Maine gets money for is the Herring Sampling Project. If you were around this morning, which seems like about 30 hours ago. The herring quotas are way down, the herring stock is in rough shape.

Reduced biological sampling in that fishery that is something we want to avoid. I’m kind of torn on this, but I think a couple other pieces of information is that I don’t have a good sense of how many more proposals, and how many more viable proposals we’re going to get, if we start diminishing funding to the maintenance projects.

If we end up with not getting a whole lot of additional projects, or proposals, and we end up with kind of “extra money” at the end of this process. I would hate to see funding to a state project be diminished, either by funding a pilot program that’s really not that great of a project, or just having money sit on the table, because we’ve obligated ourselves to go down 33

percent, and we don't have any other proposals that have come in.

The other piece of information is that it looks like the total funding for ACCSP may be increased a little bit for this year. We may go up, the Atlantic Coastal Act part of that may go up by about \$75,000.00, so we may have an extra few dollars at the end of the pipeline. Put all those random thoughts together, and I think I'm comfortable with where Pat is going with this. I get the multistate dimension that Dee and Cheri have brought up as well.

CHAIRMAN FEGLEY: That is helpful. Robert, is that your hand?

MR. ROBERT H. BOYLES, JR.: Yes, Ma'am. This is about like a conversation about social security. I'm a state that has benefited. Our state has benefited terrifically by a maintenance project, I'm grateful for that. I just want the Coordinating Council to recognize we made a policy decision about this maintenance, and pilot project, a very difficult conversation. A very courageous decision, I believe at the time. I say that with the group recognizing it's our ox that's being gored here a little bit.

I just want us to think about this. I think Vice-Chairman Kelihier puts a really good point out there. There are priority things that we need to do, and we need to be able to allocate resources to. That is certainly within the prerogative of this group. But I would just remind you; we made a difficult and a courageous decision several years ago about stepping down. I think it's important that we honor that commitment, thank you.

CHAIRMAN FEGLEY: It's a fair point, and I think we also have to be cognizant that once you begin, you know it's likely that we would need some sort of criteria, because if we are deciding that one maintenance project gets a bye, then the next maintenance project does, and the next and the next. It is something that we have to be

very cognizant, and the process that got us where we are today.

CHAIRMAN FEGLEY: Given what we've heard, a couple of things. I would A, I think we're going to need a motion if we want to amend the RP, so I would ask that somebody make a motion if we want to add that up to 33 percent. But the way that I would see this unfolding, is that if we were to amend the RFP that we would let the proposals come in, and let the Operations Committee review them, and see where we fall out. At that point I think two things should happen. I think the Operations Committee might want to take the opportunity just to do a little cross check on our priorities.

I think also we should consider convening some variant of that work group that convened years ago to develop this process, so the Coordinating Council and the Operations Committee to discuss exactly how we would deal with these multistate projects that might ask for a step down waiver, if you will.

I think it's going to be really important to get that group together, talk about as Dee said, what is a multi-partner project, and come up with some criteria as to how exactly that would happen. But I think initially the first step would be is there anybody who would like to make a motion to amend? Pat.

MR. KELIHER: Look, it's already there. **Move to amend the RFP to read "up to 33%" for multi-agency proposals only for FY2020.** If I get a second I'll add some additional rationale.

CHAIRMAN FEGLEY: Dan, thank you.

MR. KELIHER: Whenever Robert Boyles speaks and he pauses it makes me nervous, because I expect a quote to come, so thank God he stopped at just social security. He was looking for one, I think. I don't take this lightly. I know there was a lot of, as he put it, a courageous policy decision on this point. I'm not looking for anything guaranteed here. It is strictly to allow

for some flexibility between the Ops Committee and ultimately the Coordinating Council, to make decisions on areas of high priority.

CHAIRMAN FEGLEY: Are there any other comments? Kathy.

MS. KATHY KNOWLTON: As a person who sat on Ops for about 18 years, and sat on I think every single funding work group that has ever been and will ever be, and has aged me in dog years. We knew that the rubber was going to hit the road for this exact thing, and it was probably going to be one of the maintenance proposals that have been going for 15, 18, almost 20 years, in terms of data collection.

I can remember sitting on the Work Group, the most recent one that has been referenced when we put forward this phase-in plan. We had the opportunity for partners who had been receiving the funds for so many years to be on that and them saying, we need the structured timeline to take this to our legislators and our representatives, in order to have the time to make a plan and work with legal changes that need to be made.

I understand that there are perhaps some more unexpected bumps that have come up when it's multi agency. However, I would recommend, I'm not sure I'm comfortable with actually changing the RFP and saying up to. I think I'm a little bit more comfortable with a group of partners who want to pursue that putting that in their cover letter, and giving us the reasons why this needs to be considered and it's imperative. Then the Operations Committee, and the Advisors, taking that under advisement for their recommendations, because you all would need to decide right now, which proposals that applies to and why. Does it apply to the headboat proposal? Those of our partners in the South Atlantic are very concerned that my partner right here to the right in Florida doesn't have that I know of yet, set-aside money for the headboat sampling, once this funding source runs out.

I don't know what their plans are, but they've had time to work on it. I think we need to be very, very careful, and I would not be in support of changing the RFP at this point. I would suggest that the partners get together and supply strong language in their cover letter that indicates to them why this is necessary, and let the Ops and Advisors use that as part of the review.

CHAIRMAN FEGLEY: Are there any other comments on the motion at this point? Kathy, or maybe Mike or Bob you can help me. If this motion were to not pass, and the partners were to include language in their cover letter. Does the Operations Committee, does the Coordinating Council even have the ability?

They do. Okay, all right, okay. The answer there is that yes, if this RFP is not amended, it sounds like that flexibility still remains, if a compelling case is given in a cover letter from the partners. At that point, I guess what I'm going to do is just call the question on this. **I'll read the motion; it is move to amend the RFP to read "up to 33%" for multi-agency proposals only for FY2020.**

If you are in favor please signify; any abstentions, any nulls. I'm hesitating, because I thought I saw Mr. Langley's hand up in opposition for Maryland, and Mr. Dize. Maybe you're a null. It sounds like the motion carries 11, 7, 3, and I'm hoping I got that right. Is there any other comments on this, or we'll move on. Cheri.

MS. PATTERSON: **I would like to make a motion that we convene a work group to have this discussion to iron out these "devil in the details," so that there is no future to these motions.**

CHAIRMAN FEGLEY: Fair enough, second by Matt Gates. Are there any comments on the motion?

MR. MIKE CAHALL: How would you want that group composed, Cheri?

MS. PATTERSON: If we can find out who were previous work group members, get them together. If they are not present, then we just need a combination of Ops and Coordinating Council individuals.

CHAIRMAN FEGLEY: The motion is to convene a workgroup to iron out the details to simplify future RFP language and policies, motion by Ms. Patterson, second by Mr. Gates. **Is there any opposition to this motion? Okay seeing none,** the next item on the agenda is the RFP review, and Mike to you.

MR. CAHALL: You already did the RFP. We're going to the Accountability/Validation piece right? We're going back to the agenda in order, right? I'm not doing that because Julie is doing it.

REVIEW AND CONSIDER APPROVAL OF 2020 REQUEST FOR PROPOSALS

CHAIRMAN FEGLEY: Okay, so now we have, and I believe I need a motion to approve the RFP, yes Cheri.

MS. PATTERSON: **Yes, I would like to make a motion to approve the RFP as amended.**

CHAIRMAN FEGLEY: Second, Bob. Okay the motion is to approve the RFP as amended by Cheri Patterson, second by Bob Beal. **Is there any objection to this motion? Okay, all right, now we can move on, Mike.**

ACCOUNTABILITY/VALIDATION UPDATE

MS. JULIE DEFILIPPI SIMPSON: This is a follow up to the survey results that you all received in the February meeting, and they were attached here. This issue was discussed at the Commercial Technical Committee meeting in March. Most of that discussion centered around the idea that the original survey was very intentionally somewhat broad, because there is a lack of definition on some of the language in there.

Specifically, they refer to things like the words validation and audit. People are using them in very different ways, and interpreting them in different ways. That was very clear in the answers that we got. A small group was created to address the issue of accountability, and they wanted to start out by defining the terminology, and then bringing that back to this group, and looking for guidance on how the group felt we should move forward. Are there any questions on what the Commercial Technical Group worked on in this topic?

CHAIRMAN FEGLEY: No questions? Okay, moving right along.

ADMINISTRATIVE UPDATE

MR. CAHALL: I have fresh news on this particular topic, since I met this morning/afternoon, with the NMFS CIO. We've been asked to bring our systems into compliance with the Federal Information Security Management Act, or at least to have them reviewed with the eye towards the FISMA process.

We were given funds to pay for it through NMFS, and we went ahead and hired a company that specializes in this kind of work, and they did an audit, and I will tell you honestly, it was an exhaustive, long drawn out and fairly painful process that involved what, two or three, four hour, five hour interview sessions, and a lot of questions and a lot of poking.

We just last week received the draft results of the audit, and along with that came a proposal from the contractor for \$300,000.00 to do the monitoring for the following three years, as well as writing the correction plans. I politely refused their offer. We went ahead and hired Joan Palmer to write our security plan, she's just retired from her position as Director of Information Systems at the Northeast Fisheries Science Center, and had in fact just finished revising her own security plan.

Our thinking was, that Joan understands the internals of the NMFS systems and she knows a lot more about us than the contractor would, and Joan was very eager to do it. She's one of the few people I would say, she actually said, "this will be fun." Really, she did. I was stunned. Anyway, we met with the new OCI this morning, and we had a chat, actually it was at 1:00 o'clock, about what their expectations are. ACCSP and the other fisheries information networks are in kind of a weird middle place. We are authorized under Magnuson-Stevens, but we aren't actually federal systems. There is no legal obligation for us to comply with FISMA, on the other hand if we don't, it will cause all kinds of issues with information sharing, especially as security requirements get tighter.

They are especially worried about personal identification information, so that is you know, names, addresses, birth dates that kind of thing. As any of you have been familiar with our processes over the years. We pretty much have to have people's names and birth dates to be able to uniquely identify them inside our systems.

We had an open conversation with them. We are going to present them with the results of the audit, and I know that Joan stayed behind and had a little bit more further discussion with them. I haven't had a chance to touch base with her yet. But the next step here would be for them to come back to us, and identify what in that report are the priorities.

Most of the time, as they went through our planning and our implementations, it isn't that we haven't done the steps that need to be done, it's that they are documented in accordance with the kinds of standards that the Feds expect to see. A lot of this will be generating paper that lines up with the way that they think they need to see them.

There shouldn't be much impact on our end users. Any of you who are familiar with our

confidentiality process – that clearly meets a FISMA requirement – for example. Although the way we've documented it doesn't quite meet the standard. There are a few other things that we are going to have to do from a technical standpoint. I won't glaze you all over about what they are.

I think in the near term, I will get a list of priorities back from the OCIO, and we'll have Joan and Ed, Ed on the staff who is also working with this, will be working on, is he here someplace? He's supposed to be here. Where are you Ed? There you are, Ed. Joan and Ed are working on writing the plans, and part of Ed's follow-on duties will be to act as our security officer.

It remains to be seen, how much ongoing funding and resources are going to have to be put on maintaining this. FISMA isn't a one-shot deal. You get an audit. You identify your priorities. You fix them, you look at your next list of priorities, you fix them, you look at a third list of priorities, you fix them. You start over again.

It's a three-year cycle, where you have to provide quarterly updates to the OCIO about where you are and what's going on, if they require us to follow the conventional NMFS standard. I talked to them. I made it pretty clear that if they do that to us, we need to have some money from them to pay for it.

They didn't seem to have any problem with that – this coming from their HMS representative – so I was very pleased about the level of support. They were very cooperative; they were very interested in helping us out. They want to be active participants in our planning process. I felt pretty comfortable walking out of that meeting.

Again, I think that in the near term you're not going to look at too much. There will be some changes likely in the not-too-distant future inside the Commission. Those of you who access our database directly, there is probably going to

be some tightening down of security. We're going to have uglier passwords. There will have to be some kind of security training and signoffs.

Those sorts of things are what we're looking at. I am not looking to pass out CAT cards to people so they can access our system. We're hoping we'll know more as time goes by. But I am confident that Joan and Ed will make sure that we are minimally impacted, while at the same time meeting the requirements that they've given us.

SAFIS UPDATE

MR. CAHALL: The SAFIS redesign still underway, although we've not been able to devote as much energy towards it as we wanted to, simply because we've focused so much work on getting the eTrips/Mobile tool up to snuff, to be able to collect both northeast and southeast for-hire commercial and HMS requirements. I'll talk to that in just a minute.

We have created something that is going to be the heart of the new system. We're creating a switchboard that will essentially allow program partners to turn fields off and on, and turn the way that they are validated off and on. For example, if you want circle hooks you click the little button that turns them on. Then they will suddenly appear in the folks that are reporting to you.

If you want, and I'm being hypothetical now, if you want to be able to report not only the dealer that you sold it to, but which dock you landed it on, you'll be able to do that if you have to split. Those kinds of things are going to be gradually built into this, as part of the redesign of the system.

The end goal, and I'm not going to promise how long it's going to take, but at the end goal you should be able to custom configure the system to meet your own requirements, within the ACCSP standards. We also are working on the TMS System, for those just to recall. It is

essentially the switchboard that moves the data to the other systems that need it, or indicates that it needs to be moved.

It also creates the universal trip ID, which is critical to integrated reporting. TMS, we have a version of TMS. The baseline system is up and running. It really right now just consists of some database tables, and a bunch of procedures. When a VTR hits the SAFIS database, it's given a universal trip ID.

The next thing that we're going to be looking at, and it's actually next week, is pre-trip notifications, which are going to be required for the southeast reporting, and eventually for northeast. When the Mid-Atlantic requires all that commercial reporting that is going to overlap, into a whole bunch of folks that have to do pre-trip notifications, so we need to be ready to do that.

Trip management will say I have a pre-trip notification for a northeast permitted dealer; it needs to go to the pre-trip notification system that's managed by the Northeast Fisheries Science Center. That in turn would notify the Observer System, and the VTRs and Law Enforcement. The TMS System will also maintain a cross reference of all the reports that are associated with that trip. As the reports are added into SAFIS, if a dealer report that comes in off of a trip, then it will connect them together and eventually resulting in the warehouse of a single record that represents all of the different pieces that we have that go with that trip. Over time we hope that that will include the biological and observer data, and potentially electronic monitoring as well.

That is like a decade kind of thing, but that's the vision. Okay, she says I'm talking too much, eTrips/Mobile Version 2. We released the latest version of eTrips/Mobile on April 15. They're working on 2.1 right this minute. It is much more flexible. It runs on both kinds of phones, it runs

on all three kinds of tablets, and it will run on a Windows 10 desktop.

It includes some redesign work that we did. We're working on the hail-out, which will include the HMS and social econ elements that are going to be required, and 2.1 is in discussion right now, and that will be released fairly soon and have all that stuff in it. You can't be here for either.

RECREATIONAL UPDATE

MR. GEOFF WHITE: I'll be super quick. This is kind of an announcement/pre-announcement. We've been working with MRIP on a national level for-hire data collection methods workshop. This is the idea of evaluating the minimum requirements of implementation challenges for a future, kind of comprehensive program.

The idea is vessels that have a required mandatory logbook, what elements of when those reports come in, how do they get validated, what are the minimum requirements of those components, and how does that match up with the idea of, if there are for example state vessels that don't have a logbook. How do those get included in the survey? It is state waters, federal waters, up and down the coast, national level, and headboats and charterboats.

The audience is really national representatives. We've got about 40 people identified and committed to do this. We're going to be holding the workshop July 10 and 11. Many of your state and federal partner agency representatives are already aware of this. I wanted to just at least highlight this, and briefly let you guys read what the major terms of reference are for that workshop. If you've got questions, please feel free to ask me afterwards, but we'll be sending out a further notice later.

MR. CAHALL: A quick add on to that. This is really important to be able to use these recreational trip data for catch estimation later. We're really looking forward to the outcome of this, very excited about it.

MR. WHITE: The intention is to figure out what are the minimum elements and pieces, so that MRIP can include the for-hire logbooks for effort and catch, and do the right math to combine it, so that there is a single comparable estimate at a national level on the for-hire statistics that we both believe in statistically and empirically.

MR. CAHALL: And emotionally.

MR. WHITE: And emotionally, yes excellent.

MR. ALEX DiJOHNSON: It's me. I'll try to make it fast; because I know we're under a time crunch. I just wanted to give a quick update.

MR. WHITE: Pardon me one moment. Alex DiJohnson, who has led the APAIS tablet development, I think you saw him at the last meeting, but he's been in charge of the tablet development and APAIS at the moment.

MR. DiJOHNSON: Thanks Geoff, so just a quick update on APAIS so far. We're almost finished, today is the last day. I think there is maybe 15 assignments left for Wave 2, so for March and April, and Wave 1 is obviously finished with just North Carolina, and so far this has been done in 2019, all of it has been done on tablets so far.

We're looking at just under 1,400 site assignments completed. These are actually a little bit old, so I think it's closer to 50 headboat assignments completed at this point, with just over 4,000 intercepts, and per assignment it's coming out to be about three intercepts per assignment. So far this about matches what we were seeing in previous years, '18, '17, and '16 it is about the same.

We actually just had an assignment come through with 98 intercepts recently. People are still killing it out there with their ability to get as many people as possible on assignment. The application, in general the way that we're kind of doing this on the tablet, we have an application on there that we're developing.

It's pretty much finished at this point. There are still a couple minor things that are being worked on, but overall the application software is where we want it to be to maximize the interviewer's time out there, to have as many intercepts as possible to improve the timeliness of available data. We're seeing this reflected in the way that the data is QC'd, both between us and the states.

It's a lot faster. It's the reduction and recall bias is great, I say. They submitted something yesterday and I say, hey what was this supposed to mean? They remembered, because they literally just did it yesterday, and so far yes. All the tablets have been sent out. It's about 170 tablets, I think throughout the coast.

MR. WHITE: About 140.

MR. DIJOHNSON: One hundred forty along the coast, and they're all distributed, they're all set up. I just actually worked with the last of them in Maine right before coming here. Everyone is ready to go for this year, and we actually held our first Wave meeting with all the states on the 17th of this month. We're on target to keep going for APAIS into 2019.

MR. WHITE: Thank you, Alex and passing it to Coleby Wilt, who has been leading the charge on the For-Hire Telephone Survey Data Collection.

MR. COLEBY WILT: The for-hire telephone survey, ACCSP is developing what we call a CATI system, which is a computer assisted telephone interviewing system. This is a centralized web-based tool, where states would be able to go on and conduct MRIPs for-hire telephone survey. With MRIPs approval we have been creating this tool, and have started to implement it and collecting data using the tool in 2019. There are three states that are going to be using the tool, or are already using the tool in 2019, which is North Carolina, Georgia, and Maine. North Carolina started in Wave 1, Georgia started in Wave 2, so they're just finishing their first wave,

and Maine starts in Wave 3, which is next week, so that's very, very soon.

North Carolina basically noted that the process is significantly more efficient, about 30 percent more efficient than the process that they were using before. Primarily, because the CATI system does a lot automatically for them that they used to have to do manually, which has been really useful for them.

They've had really high response rates so far through the survey this year. In North Carolina overall response rates in Waves 1 and 2 were 83 percent, and Georgia has been 81 percent on both of those. They are very good for a telephone survey. In 2020, we would be looking at the potential of expanding this to all states, Maine through Georgia in 2020. The idea is, is that this would increase state contact, and build relationships with the fishermen.

North Carolina has noted this, where they actually have the same people interviewing for APAIS as they have making calls per their region, and because they already have a relationship with the Captain, when they go out and they talk to them, and then they give them a call. They know who it is, and they're much more likely to respond. That is part of the reason why they've had such a good response rate so far. They could have more direct vessel directory changes, so it actually gives them a lot of control over the actual vessel directory.

If they're conducting the for-hire telephone survey, they're the only person that is actually going to be, the only entity that is going to be making corrections and updates within that system. Then lastly to Geoff's point that he was talking about before with the Comprehensive For-Hire, once we move forward with that using the system will allow the states a lot more flexibility in moving forward with for-hire logbooks for each state.

COMMERCIAL UPDATE

MR. CAHALL: Then Julie, you're doing the commercial update, no Heather is, okay Heather.

MS. HEATHER KONELL: Hi, Heather Konell, Senior Fisheries Data Coordinator with ACCSP. The 2018 commercial data are now available. We did a public release on April 16, and we did a soft release on the 10th. These data included about 3 million records from 31 data sources. This is an earlier deadline than ever before, and a lot of that has to do with our partner collaboration.

We did our spring data coordination calls, and that was during the federal government shutdown, and I was able to even get federal feedback during those calls, so that was great. Also, it has a lot to do with the staff effort to improve and automate processing and quality checks. For these data we've gotten really positive feedback from our partners. This release also includes the third round of standardizing species common names. With the fourth round underway it should be released in about two weeks.

CHAIRMAN FEGLEY: Great, thank you all for presenting what is an impressive amount of work once again. Does anybody have any questions for anybody? John.

MR. JOHN CLARK: I had a question about the For-hire Telephone Survey, two questions really. One is are we going to get to the point where the Captains don't have to do logbooks and get called, and two, where it said you're expecting all states to take this over. At the last meeting I don't think we were the only state that was not real enthusiastic about taking this on ourselves. The option of having ACCSP do the survey for the state was presented at that time.

MR. CAHALL: That's still the plan. There is no expectation that says yes you will. One way or the other it will be accomplished, and to your first question. We've been working and having

some discussions with the folks at MRIP. Since we should have all the VTRs, we should be able to tell which Captains are reporting. Eventually we're working with them to develop a methodology to exempt them from call.

CHAIRMAN FEGLEY: Anybody else? Okay, so I am going to take a very short moment here to reflect, and as we have just heard about this work that is ongoing and impressive.

ACCSP DIRECTOR RECOGNITION

CHAIRMAN FEGLEY: I want to make everybody aware if you're not that this will be Mike's last meeting as Director. He is retiring, and I want to just extend a heartfelt thank you for all of your exceptional work. This is very difficult, complicated stuff that you work with, and you have done it well and thank you so much. We're going to miss you. (Applause)

MR. CAHALL: Can I say just a couple things before you adjourn? Thank you. First of all, so long and thanks for all the fish. I hope most of you get the reference. Wow, it's been an amazing, amazing ride. I've been working with a lot of you guys from the very first. I can look at Cheri, and actually even Geoff, and others around the table that I've been working with from the very get go, when it was just me and Joe Moran, but God 20 years ago.

We had a computer that I actually built that was sitting in my office that was our first data warehouse. I could not have asked for a better opportunity. I could not have asked for a better people to work with, or a better mission. I take away from this a deep and abiding respect, for the work and dedication that you all have that made what we have done possible. I could not have asked for a better blessing, and I want to thank you all for your support over the years. I will miss you all, thank you. (Applause)

ADJOURNMENT

CHAIRMAN FEGLEY: With that would anybody object to adjourning? Okay.

(Whereupon the meeting adjourned at 5:13
o'clock p.m. on April 30, 2019)

Funding Decision Process
Atlantic Coastal Cooperative Statistics Program
May 2019

The Atlantic Coastal Cooperative Statistics Program (the Program) is a state-federal cooperative initiative to improve recreational and commercial fisheries data collection and data management activities on the Atlantic coast. The program supports further innovation in fisheries-dependent data collection and management technology through its annual funding process.

Each year, ACCSP issues a Request for Proposals (RFP) to its Program Partners. The ACCSP Operations and Advisory Committees review submitted project proposals and make funding recommendations to the Program Director and the Coordinating Council.

This document provides an overview of the funding decision process, guidance for preparing and submitting proposals, and information on funding recipients' post-award responsibilities, including providing reports on project progress.

Overview of the Funding Decision Process

- [Funding Decision Process Timeline](#)
- [Detailed Steps](#)
- [Determination of contingencies for funding adjustments](#)

Funding Decision Process Timeline

April- Operations and Advisory Committees develop annual funding priorities, criteria and allocation targets (maintenance vs. new projects)

May- Coordinating Council issues Request for Proposals (RFP)

June- Partners submit proposals

July- Operations and Advisory Committees review initial proposals; ACCSP staff provide initial review results to submitting Partner

August- Final proposals are submitted. Final proposals must be submitted electronically to the Program Director, and/or designee by close of business on the day of the specified deadline. Final proposals received after the RFP deadline will not be considered for funding.

September- Operations and Advisory Committees review and rank final proposals

October- Funding recommendations presented to Coordinating Council; Coordinating Council makes final funding decision

ACCSP Staff submits notification to submitting Partner of funded projects and notification of approved projects to appropriate grant funding agency (e.g. NOAA Fisheries Regional Grants Program Office, “NOAA Grants”) by Partner

As Needed- Operation and/or Leadership Team and Coordinating Council review and make final decision with contingencies (e.g. scope of work, rescissions, no-cost extensions, returned unused funds, etc.)

Detailed Steps of Funding Decision Process

1. Develop Annual Funding Priorities, Criteria and Allocation Targets (maintenance vs. new projects).

Prior to issuing the Request for Proposals, the Coordinating Council will approve the annual funding criteria and allocation targets. These will be used to rank projects and allocate funding between maintenance and new projects respectively.

In FY16, a long-term funding strategy policy was instituted to limit the duration of maintenance projects. Maintenance projects are now subject to a funding reduction following their fourth year of maintenance funding.

- For maintenance projects entering year 5 of ACCSP funding in FY20, a 33 percent funding cut will be applied to whichever sum is larger: the project’s prior two-year-average base funding set in FY16, or the average annual sum received during the project’s four years of full *maintenance* funding. In year 6, a further 33 percent cut will be applied and funding will cease in year 7. Please see Appendix A for a list of maintenance projects entering year 5 in FY20 and the maximum funds available for these projects in years 5 and 6.
- For more recent maintenance projects (i.e., those entering year 5 of maintenance funding after FY20), the base funding will be calculated as the average of funding received during the project’s two years as a *new* project.

2. Issue Request for Proposals

An RFP will be sent to all Program Partners and Committees no later than the week after the spring Coordinating Council meeting. The RFP will include the ranking criteria, allocation targets approved by the Coordinating Council, and general Program priorities taken from the current Strategic Plan. The RFP and related documents will also be posted on the Program’s website [here](#).

All proposals MUST be submitted either by a Program Partner, jointly by several Program Partners, or through a Program Committee. The public has the ability to work with a Program Partner to develop and submit a proposal. Principle investigators are strongly encouraged to work with their Operations Committee member in the development of any proposal. All proposals must be submitted electronically to the Program Director, and/or designee, in the standard format.

3. Review initial proposals

Proposals will be reviewed by staff and the Operations and Advisory Committees. Committee members are encouraged to coordinate with their offices and/or constituents to provide input to the review process. Operations Committee members are also encouraged to work with staff in their offices who have submitted a proposal in order to represent the proposal during the review. Project PIs will be invited to attend the initial proposal review, held in July. The review and evaluation of all written proposals will take into consideration the ranking criteria, funding allocation targets and the overall Program Priorities as specified in the RFP. Proposals may be forwarded to relevant Program technical committees for further review of the technical feasibility and statistical validity. Proposals that fail to meet the ACCSP standards may be recommended for changes or rejected.

4. Provide initial review results to submitting Partner

Program staff will notify the submitting Partner of suggested changes, requested responses, or questions arising from the review. The submitting Partner will be given an opportunity to submit a final proposal incorporating suggested changes in the same format previously described in Step 2(b) by the final RFP deadline.

5. Review and rank final proposals

The review and ranking of all proposals will take into consideration the ranking criteria, funding allocation targets, and overall Program Priorities as specified in the RFP. The Program Director and the Advisory and Operations Committees will develop a list of prioritized recommended proposals and forward them for discussion, review, and approval by the Coordinating Council.

6. Proposal approval by the Coordinating Council

The Coordinating Council will review a summary of all submitted proposals and prioritized recommended proposals from the Operations and Advisory Committees. Each representative on the Coordinating Council will have one vote during final prioritization of project proposals. Projects to be funded by the Program will be approved by the Coordinating Council by the end of November each year. The Program Director will submit a pre-notification to the appropriate NOAA Grants office of the prioritized proposals to expedite processing when those offices receive Partner grant submissions.

7. Notification to submitting Partner of funded projects and submittal of project documents to appropriate grants agency (e.g. NOAA Grants) by Partner.

Notification detailing the Coordinating Council's actions relevant to a Partner's proposal will be sent to each Partner by Program staff.

- Approved projects from Non-federal Partners must be submitted as full applications (federal forms, project and budget narratives, and other attachments) to NOAA Grants via www.grants.gov. These documents must reflect changes or conditions approved by the Coordinating Council.
- Non-federal Partners must provide the Program Director with an electronic copy of the narrative and either an electronic or hard copy of the budget of the grant application as submitted to the grants agency (e.g. NOAA Grants).
- Federal Partners do not submit applications to NOAA Grants.

8. Operation and/or Leadership Team and Coordinating Council review and final decision with contingencies or emergencies.

Committee(s) review and decide project changes (e.g. scope of work, rescissions, no-cost extensions, returned unused funds, etc.) during the award period.

Determination of contingencies for funding adjustments (e.g. rescissions):

The Program Director will be notified by NOAA Fisheries of any federal grant reduction. Such reductions may include, but are not limited to:

- Lower than anticipated amounts from any source of funding
- Rescission of funding after initial allocations have been made
- Partial or complete withdrawal of funds from any source

If these or other situations arise, the Operations Committee will notify Partners with approved proposals to reduce their requested budgets or to withdraw a proposal entirely. If this does not reduce the overall requested amount sufficiently, the Director, the Operations Committee Chair and Vice-Chair, and the Advisory Committee Chair will develop a final recommendation and forward to the ACCSP Leadership Team of the Coordinating Council. These options to address funding contingencies may include:

- Eliminating the lowest-ranked proposal(s)
 - A fixed percentage cut to all proposals' budgets
 - A directed reduction in a specific proposal(s)
-

Proposal Guidance

- [General Proposal Guidelines](#)
- [Format](#)
- [Budget Template](#)

General Proposal Guidelines

- The Program is predicated upon the most efficient use of available funds. Many jurisdictions have data collection and data management programs which are administered by other fishery management agencies. Detail coordination efforts your agency/Committee has undertaken to demonstrate cost-efficiency and non-duplication of effort.
- All Program Partners conducting projects for implementation of the program standards in their jurisdictions are required to submit data to the Program in prescribed standards, where the module is developed and formats are available. Detail coordination efforts with Program data management staff with projects of a research and/or pilot study nature to submit project information and data for distribution to all Program Partners and archives.
- If appropriate to your project, please detail your agency's data management capability. Include the level of staff support (if any) required to accomplish the proposed work. If contractor services are required, detail the level and costs.
- Before funding will be considered beyond year two of a project, the Partner agency shall detail in writing how the Partner agency plans to assume partial or complete funding or, if not feasible, explain why.
- If appropriate to your project, detail any planned or ongoing outreach initiatives. Provide scope and level of outreach coordinated with either the Outreach Coordinator and/or Outreach Committee.
- Proposals including a collection of aging or other biological samples must clarify Partner processing capabilities (i.e., how processed and by whom).
- Provide details on how the proposal will benefit the Program as a whole, outside of benefits to the Partner or Committee.
- Proposals that request funds for law enforcement should confirm that all funds will be allocated towards reporting compliance.
- Proposals must detail any in-kind effort/resources, and if no in-kind resources are included, state why.

- Proposals must meet the same quality as would be appropriate for a grant proposal for ACFCMA or other federal grant.
- Assistance is available from Program staff, or an Operations Committee member for proposal preparation and to insure that Program standards are addressed in the body of a given proposal.
- Even though a large portion of available resources may be allocated to one or more jurisdictions, new systems (including prototypes) will be selected to serve all Partners' needs.
- Partners submitting pilot or other short-term programs are encouraged to lease large capital budget items (vehicles, etc.) and where possible, hire consultants or contractors rather than hire new permanent personnel.
- The Program will not fund proposals that do not meet Program standards. However, in the absence of approved standards, pilot studies may be funded.
- Proposals will be considered for modules that may be fully developed but have not been through the formal approval process. Pilot proposals will be considered in those cases.
- The Operations Committee may contact Partners concerning discrepancies or inconsistencies in any proposal and may recommend modifications to proposals subject to acceptance by the submitting Partner and approval by the Coordinating Council. The Operations Committee may recommend changes or conditions to proposals. The Coordinating Council may conditionally approve proposals. These contingencies will be documented and forwarded to the submitting Partner in writing by Program staff.
- Any proposal submitted after the initial RFP deadline will not be considered, in addition to any proposal submitted by a Partner which is not current with all reporting obligations.

Proposal Format

Applicant Name: Identify the name of the applicant organization(s).

Project Title: A brief statement to identify the project.

Project Type: Identify whether new or maintenance project.

New Project – Partner project never funded by the Program. New projects may not exceed a duration of two years. Second year funding is not guaranteed; Partners must reapply.

Maintenance Project – Project funded by the Program that conducts the same scope of work as a previously funded new or maintenance project. These proposals may not contain significant changes in scope (e.g., the addition of bycatch data collection to a catch/effort dealer reporting project). Pls must include in the cover letter whether there are any changes in the current proposal from prior years' and, if so, provide a brief summary of those changes. At year 1 of maintenance funding, a project's base funding will be calculated as the average of funding received during the project's two years as a new project.

Requested Award Amount: Provide the total requested amount of proposal. Do not include an estimate of the NOAA grant administration fee.

Requested Award Period: Provide the total time period of the proposed project. The award period typically will be limited to one-year projects.

Objective: Specify succinctly the “why”, “what”, and “when” of the project.

Need: Specify the need for the project and the association to the Program.

Results and Benefits: Identify and document the results or benefits to be expected from the proposed project. Clearly indicate how the proposed work meets various elements outlined in the ACCSP Proposal Ranking Criteria Document (Appendix B). Some potential benefits may include: fundamental in nature to all fisheries; region-wide in scope; answering or addressing region-wide questions or policy issues; required by MSFCMA, ACFCMA, MMPA, ESA, or other acts; transferability; and/or demonstrate a practical application to the Program.

Data Delivery Plan: Include coordinated method of the data delivery plan to the Program in addition to module data elements gathered. The data delivery plan should include the frequency of data delivery (i.e. monthly, semi-annual, annual) and any coordinate delivery to other relevant partners.

Approach: List all procedures necessary to attain each project objective. If a project includes work in more than one module, identify approximately what proportion of effort is comprised within each module (e.g., catch and effort 45%, biological 30% and bycatch 25%).

Geographic Location: The location where the project will be administered and where the scope of the project will be conducted.

Milestone Schedule: An activity schedule in table format for the duration of the project, starting with Month 1 and ending with a three-month report writing period.

Project Accomplishments Measurement: A table showing the project goals and how progress towards those goals will be measured. In some situations the metrics will be numerical such as numbers of anglers contacted, fish measured, and/or otoliths collected, etc.; while in other cases the metrics will be binary such as software tested and software completed. Additional details such as intermediate metrics to achieve overall proposed goals should be included especially if the project seeks additional years of funding.

Cost Summary (Budget): Detail all costs to be incurred in this project in the format outlined in the budget guidance and template at the end of this document. A budget narrative should be included which explains and justifies the expenditures in each category. Provide cost projections for federal and total costs. Provide details on Partner/in-kind contribution (e.g., staff time, facilities, IT support, overhead, etc.). Details should be provided on start-up versus long-term operational costs.

In-kind - ¹Defined as activities that could exist (or could happen) without the grant. ²In-kind contributions are from the grantee organization. In-kind is typically in the form of the value of personnel, equipment and services, including direct and indirect costs.

¹The following are generally accepted as in-kind contributions:

- i. Personnel time given to the project including state and federal employees
- ii. Use of existing state and federal equipment (e.g. data collection and server platforms, Aging equipment, microscopes, boats, vehicles)

Overhead rates may not exceed 25% of total costs unless mandated by law or policy. Program Partners may not be able to control overhead/indirect amounts charged. However, where there is flexibility, the lowest amount of overhead should be charged. When this is accomplished indicate on the 'cost summary' sheet the difference between the overhead that could have been charged and the actual amount charged, if different. If overhead is charged to the Program, it cannot also be listed as in-kind.

Maintenance Projects: Maintenance proposals must provide project history table, description of completed data delivery to the ACCSP and other relevant partners, table of total project cost by year, a summary table of metrics and achieved goals, and the budget narrative from the most recent year's funded proposal.

Principal Investigator: List the principal investigator(s) and attach curriculum vitae (CV) for each. Limit each CV to two pages. Additional information may be requested.

Budget Guidelines & Template

All applications must have a detailed budget narrative explaining and justifying the expenditures by object class. Include in the discussion the requested dollar amounts and how they were derived. A spreadsheet or table detailing expenditures is useful to clarify the costs (see template below). The following are highlights from the NOAA Budget Guidelines document to help Partners formulate their budget narrative. The full Budget Guidelines document is available [here](#).

Object Classes:

Personnel: include salary, wage, and hours committed to project for each person by job title. Identify each individual by name and position, if possible.

Fringe Benefits: should be identified for each individual. Describe in detail if the rate is greater than 35 % of the associated salary.

Travel: all travel costs must be listed here. Provide a detailed breakdown of travel costs for trips over \$5,000 or 5 % of the award. Include destination, duration, type of transportation, estimated cost, number of travelers, lodging, mileage rate and estimated number of miles, and per diem.

Equipment: equipment is any single piece of non-expendable, tangible personal property that costs \$5,000 or more per unit and has a useful life of more than one year. List each piece of equipment, the unit cost, number of units, and its purpose. Include a lease vs. purchase cost analysis. If there are no lease options available, then state that.

Supplies: purchases less than \$5,000 per item are considered by the federal government as supplies. Include a detailed, itemized explanation for total supplies costs over \$5,000 or 5% of the award.

Contractual: list each contract or subgrant as a separate item. Provide a detailed cost breakdown and describe products/services to be provided by the contractor. Include a sole source justification, if applicable.

Other: list items, cost, and justification for each expense.

Total direct charges

Indirect charges: If claiming indirect costs, please submit a copy of the current approved negotiated indirect cost agreement. If expired and/or under review, a copy of the transmittal letter that accompanied the indirect cost agreement application is requested.

Totals of direct and indirect charges

Example. Budget narrative should provide further detail on these costs.

Description	Calculation	Cost
Personnel (a)		
Supervisor	Ex: 500 hrs x \$20/hr	\$10,000
Biologist		
Technician		
Fringe (b)		
Supervisor	Ex: 15% of salary	\$1500
Biologist		
Technician		
Travel (c)		
Mileage for sampling trips	Ex: Estimate 2000 miles x \$0.33/mile	\$660
Travel for meeting		
Equipment (d)		
Boat	Ex: \$7000, based on current market research	\$7000
Supplies (e)		
Safety supplies		\$1200
Sampling supplies		\$1000
Laptop computers	2 laptops @\$1500 each	\$3000
Software		\$500
Contractual (f)		
Data Entry Contract	Ex: 1000 hrs x \$20/hr	\$20,000
Other (h)		
Printing and binding		
Postage		
Telecommunications charges		
Internet Access charges		
Totals		
Total Direct Charges (i)		
Indirect Charges (j)		
Total (sum of Direct and Indirect) (k)		

Post-award Responsibilities

- [Changing the Scope of Work](#)
- [Requesting a No-cost Extension](#)
- [Declaring Unused/Returned Funds](#)
- [Reporting Requirements](#)
- [Report Format](#)
- [Programmatic Review](#)

Changing the Scope of Work

Partners shall submit requests for amendments to approved projects in writing to the Program Director. The Coordinating Council member for that Partner must sign the request.

When Partners request an amendment to an approved project, the Program Director will contact the Chair and Vice Chair of the Operations Committee. The Program Director and Operations Committee Chairs will determine if the requested change is minor or substantial. The Chairs and Program Director may approve minor changes.

For substantial proposed changes, a decision document including the opinions of the Chairs and the Program Director will be sent to the Operations Committee and the ACCSP Leadership Team of the Coordinating Council for review.

The ACCSP Leadership Team will decide to approve or reject the request for change and notify the Program Director, who will send a written notification to the Partner's principal investigator with a copy to the Operations Committee.

When a requested major amendment is submitted shortly before a Coordinating Council meeting, the approval of the amendment will be placed on the Council Agenda.

The Program Director will notify NOAA Grants of any change in scope of work for final approval for non-federal proposals, and the Partner will need to request a Change in Scope through Grants Online. Necessary communications will be maintained between the concerned Partner, the Program and NOAA Grants. Any changes must be approved through the normal NOAA Grants process.

Requesting a No-cost Extension

If additional time is needed to complete the project, Program Partners can request a no-cost extension to their award period. Partners should let the Program know of the need for additional time and then request the extension as an Award Action Request through NOAA Grants Online at least 30 days before the end date of the award.

Necessary communications will be maintained between the concerned Partner, the Program, and NOAA Grants office. Any changes must be approved through the normal NOAA Grants process.

Declaring Unused/Returned Funds

In an effort to limit the instances in which funds are not completely used during the award period, draw down reports from the NOAA Grants offices indicating remaining grant balances will be periodically reviewed during each fiscal year.

While effort should be made to complete the project as proposed, if Program Partners find that they will not be able to make use of their entire award, they should notify the Program and their NOAA Federal Program Officer as soon as possible. Depending on the timing of the action, the funds may be able to be reused within the Program, or they may have to be returned to the U.S. Treasury.

Program Partners must submit a written document to the Program Director outlining unused project funds potentially being returned. The Partner must also notify their Coordinating Council member (if applicable) for approval to return the unused funds. If the funding is available for re-use within the Program, the Director will confer with the Operations Committee Chair and Vice-Chair and the Advisory Committee Chair, and then submit a written recommendation to the ACCSP Leadership Team of the Coordinating Council for final approval on the plan to distribute the returned money.

Necessary communications will be maintained between the concerned Partner, the Program, and NOAA Grants office. Any changes must be approved through the normal NOAA Grants process.

Reporting Requirements

Program staff will assess project performance.

The Partner project recipients must abide by the NOAA Regional Grant Programs reporting requirements and as listed below. All semi-annual and final reports are to include a table showing progress toward each of the progress goals as defined in Step 2b and additional metrics as appropriate. Also, all Partner project recipients will submit the following reports based on the project start date to the Program Director:

- Semi-annual reports (due 30 days after the semi-annual period) throughout the project period including time periods during no-cost extensions,
- One final report (due 90 days after project completion).
- Federal Partners must submit reports to the Program Director, and State Partners must submit reports to both the Program Director and the appropriate NOAA Grants office.

Program staff will conduct an initial assessment of the final report to ensure the report is complete in terms of reporting requirements. Program staff will serve as technical monitors to review submitted reports. NOAA staff also reviews the reports submitted via Grants Online.

A project approved on behalf of a Program Committee will be required to follow the reporting requirements specified above. The principle investigator (if not the Chair of the Committee) will submit the report(s) to the Chair and Vice Chair of the Committee for review and approval. The Committee Chair is responsible for submitting the required report(s) to the Program.

Joint projects will assign one principle investigator responsible for submitting the required reports. The principle investigator will be identified within the project proposal. The submitted reports should be a collaborative effort between all Partners involved in the joint project.

Project recipients will provide all reports to the Program in electronic format.

Partners who receive no-cost extensions must notify the Program Director within 30 days of receiving approval of the extension. Semi-annual and final reports will continue to be required through the extended grant period as previously stated.

Partners that have not met reporting requirements for past/current projects may not submit a new proposal.

A verbal presentation of project results may be requested. Partners will be required to submit copies of project specifications and procedures, software development, etc. to assist other Program Partners with the implementation of similar programs.

Report Format

Semi-Annual(s) – Progress Reports: (3-4 pages)

- Title page - Project name, project dates (semi-annual period covered and complete project period), submitting Partner, and date.
- Objective
- Activities Completed – bulleted list by objective.
- Progress or lack of progress of incomplete activities during the period of semi-annual progress – bulleted list by objective.
- Activities planned during the next reporting period.
- Metrics table
- Milestone Chart – original and revised if changes occurred during the project period.

Final Report:

- Title page – Project name, project dates, submitting Partner, and date.
- Abstract/Executive Summary (including key results)
- Introduction
- Procedures

- Results:
 - Description of data collected.
 - The quality of the data pertaining to the objective of the project (e.g. representative to the scope of the project, quantity collected, etc.).
 - Compiled data results.
 - Summary of statistics.
- Discussion:
 - Discuss the interpretation of results of the project by addressing questions such as, but not limited to:
 - What occurred?
 - What did not occur that was expected to occur?
 - Why did expected results not occur?
 - Applicability of study results to Program goals.
 - Recommendations/Summary/Metrics
- Summarized budget expenditures and deviations (if any).

Programmatic review

Project reports will inform Partners of project outcomes. This will allow the Program as a whole to take advantage of lessons learned and difficulties encountered. Staff will provide final reports to the appropriate Committee(s). The Committees then can discuss the report(s) and make recommendations to modify the Data Collection Standards as appropriate. The recommendations will be submitted through the Program committee(s) review process.

Appendix A: Maximum Funding for Maintenance Projects Entering Year 5 of Funding in FY20

Project Entering Year 5 of Maintenance Funding	Calculated Base (formula used)	Maximum Funding Year 5	Maximum Funding Year 6
ME DMR: Portside commercial catch sampling and bycatch sampling for Atlantic herring, Atlantic mackerel, and Atlantic menhaden	\$133,452.50 (2-year base)	\$88,968.33	\$44,484.17
ME DMR: Managing Mandatory Dealer Reporting in Maine	\$183,934.50 (4-year avg)	\$122,623.00	\$61,311.50
RI DEM: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	\$82,563.50 (2-year base)	\$55,042.33	\$27,521.17
NJ DFW: Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries	\$163,803.75 (4-year avg)	\$109,202.50	\$54,601.25
SC DNR: ACCSP Data Reporting from South Carolina's Commercial Fisheries	\$170,770.00 (2-year base)	\$113,846.67	\$56,923.33
ACCSP RTC: At-sea Headboat Sampling	\$162,114.00 (2-year base)	\$108,076.00	\$54,038.00
SEFSC: Continued processing and ageing of biological samples collected from U.S. South Atlantic commercial and recreational fisheries	\$266,792.00 (4-year avg)	\$177,861.33	\$88,930.67

Appendix B: Ranking Criteria Spreadsheet for Maintenance and New Projects

Ranking Guide – Maintenance Projects:

Primary Program Priority	Point Range	Description of Ranking Consideration
Catch and Effort	0 – 10	Rank based on range within module and level of sampling defined under Program design. When considering biological, bycatch or recreational funding, rank according priority matrices.
Biological Sampling	0 – 10	
Bycatch/Species Interactions	0 – 6	
Social and Economic	0 – 4	
Data Delivery Plan	+ 2	Additional points if a data delivery plan to Program is supplied and defined within the proposal.

Project Quality Factors	Point Range	Description of Ranking Consideration
Multi-Partner/Regional impact including broad applications	0 – 5	Rank based on the number of Partners involved in project OR regional scope of proposal (e.g. geographic range of the stock).
> yr 2 contains funding transition plan and/or justification for continuance	0 – 4	Rank based on defined funding transition plan away from Program funding or viable justification for continued Program funding.
In-kind contribution	0 – 4	1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 99%
Improvement in data quality/quantity/timeliness	0 – 4	1 = Maintain minimum level of needed data collections  4 = Improvements in data collection reflecting 100% of related module as defined within the Program design. Metadata is provided and defined within proposal if applicable.
Potential secondary module as a by-product (In program priority order)	0 – 3 0 – 3 0 – 3 0 – 1	Ranked based on additional module data collection and level of collection as defined within the Program design of individual module.
Impact on stock assessment	0 – 3	Rank based on the level of data collection that leads to new or greatly improved stock assessments.

Other Factors	Point Range	Description of Ranking Consideration
Properly Prepared	-1 – 1	Meets requirements as specified in funding decision document Step 2b and Guidelines
Merit	0 – 3	Ranked based on subjective worthiness

Ranking Guide – Maintenance Projects: (to be used only if funding available exceeds total Maintenance funding requested)

Ranking Factors	Point Range	Description of Ranking Consideration
Achieved Goals	0 – 3	Proposal indicates project has consistently met previous set goals. Current proposal provides project goals and if applicable, intermediate metrics to achieve overall achieved goals.
Data Delivery Plan	0 – 2	Ranked based if a data delivery plan to Program is supplied and defined within the proposal.
Level of Funding	-1 – 1	-1 = Increased funding from previous year 0 = Maintained funding from previous year 1 = Decreased funding from previous year
Properly Prepared	-1 – 1	-1 = Not properly prepared 1 = Properly prepared
Merit	0 – 3	Ranked based on subjective worthiness

Ranking Guide – New Projects:

Primary Program Priority	Point Range	Description of Ranking Consideration
Catch and Effort	0 – 10	Rank based on range within module and level of sampling defined under Program design. When considering biological, bycatch or recreational funding, rank according priority matrices.
Biological Sampling	0 – 10	
Bycatch/Species Interactions	0 – 6	
Social and Economic	0 – 4	
Data Delivery Plan	+ 2	Additional points if a data delivery plan to Program is supplied and defined within the proposal.

Project Quality Factors	Point Range	Description of Ranking Consideration
Multi-Partner/Regional impact including broad applications	0 – 5	Rank based on the number of Partners involved in project OR regional scope of proposal (e.g. fisheries sampled).
Contains funding transition plan / Defined end-point	0 – 4	Rank based on quality of funding transition plan or defined end point.
In-kind contribution	0 – 4	1 = 1% - 25% 2 = 26% - 50% 3 = 51% - 75% 4 = 76% - 99%
Improvement in data quality/quantity/timeliness	0 – 4	1 = Maintain minimum level of needed data collections  4 = Improvements in data collection reflecting 100% of related module as defined within the Program design. Metadata is provided and defined within proposal if applicable.
Potential secondary module as a by-product (In program priority order)	0 – 3 0 – 3 0 – 3 0 – 1	Ranked based on additional module data collection and level of collection as defined within the Program design of individual module.
Impact on stock assessment	0 – 3	Rank based on the level of data collection that leads to new or greatly improved stock assessments.

Other Factors	Point Range	Description of Ranking Consideration
Innovative	0 – 3	Rank based on new technology, methodology, financial savings, etc.
Properly Prepared	-1 – 1	Meets requirements as specified in funding decision document Step 2b and Guidelines
Merit	0 – 3	Ranked based on subjective worthiness



FY2020 Proposal Rankings (Operations)

3.35M	Admin Grant	2,012,744	\$105,931	2,118,675
3.5M	Maint @ 75%	923,494	New @ 25%	307,831
	Maint @ 75%	1,035,994	New @ 25%	345,331

Project Name	Partner	Score	Cost	Cumulative Base Cost	NMFS Fee	Cumulative Cost	3.5M Amt Remaining	3.35M Amt Remaining
ACCSP Data Reporting from South Carolina's Commercial Fisheries (18 pages)	SC DNR	8.69	\$ 113,846	\$ 113,846	\$ -	\$ 113,846	\$ 922,148	\$ 809,648
FY20: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island (18 pages)	RI DEM	8.6	\$ 55,043	\$ 168,889	\$ -	\$ 168,889	\$ 867,105	\$ 754,605
FY2020: Managing Mandatory Dealer Reporting in Maine (39 pages)	ME DMR	8.52	\$ 122,480	\$ 291,369	\$ 6,446	\$ 297,815	\$ 738,179	\$ 625,679
Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast of Florida (12 pages)	ACCSP RTC	8.1	\$ 104,899	\$ 396,268	\$ 5,521	\$ 408,235	\$ 627,759	\$ 515,259
Advancing Fishery Dependent Data Collection for Black Sea Bass (Cetropristis striata) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Vessel Research Fleet Approach (39 pages)	RI DEM	8	\$ 132,097	\$ 528,365	\$ 6,952	\$ 547,284	\$ 488,710	\$ 376,210
Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries (34 pages)	NJ DFW	7.95	\$ 93,408	\$ 621,773	\$ 4,916	\$ 645,608	\$ 390,386	\$ 277,886
Expanding Accountability in Reporting: A Tool for Comprehensive For-Hire Data Collection and Monitoring in Maryland - Year 2	MD DNR	7.52	\$ 103,175	\$ 724,948	\$ 5,430	\$ 754,213	\$ 281,781	\$ 169,281
Continued Processing and Aging of Biological Samples Collected from U.S. South Atlantic Commercial and Recreational Fisheries (24 pages)	SEFSC	7.21	\$ 177,861	\$ 902,809	\$ 9,361	\$ 941,435	\$ 94,559	\$ (17,941)
Portside Commercial Catch Sampling and Comparative Bycatch Sampling for Atlantic Herring, Atlantic Mackerel and Atlantic Menhaden fisheries (52 pages)	ME DMR	4.95	\$ 25,974	\$ 928,783	\$ 1,367	\$ 968,776	\$ 67,218	\$ (45,282)
FY20: SAFIS Expansion of "SAFMC Release" and "NC DMF Catch U Later" Discard Reporting Applications	SAFMC/N C DMF	56.3	\$ 118,500	\$ 118,500	\$ 6,237	\$ 124,737	\$ 220,595	\$ 183,095
Voice Recognition using Dragon Speech within Dockside Interceptor Application (DIA)	RI DEM	51.4	\$ 60,541	\$ 179,041	\$ 3,186	\$ 188,464	\$ 156,868	\$ 119,368
FY20: Use of Geographic Data and SAFIS Data Sources to Evaluate an Aggregate Landings Commercial Fishing Management Program	RI DEM	51	\$ 35,414	\$ 214,455	\$ 1,864	\$ 225,742	\$ 119,590	\$ 82,090
FY20: Managing 100% Lobster Harvester Reporting in Maine	ME DMR	48.8	\$ 837,251	\$ 1,051,706	\$ 44,065	\$ 1,107,057	\$ (761,726)	\$ (799,226)



FY2020 Proposal Rankings (Advisors)

			3.35M		3.5M		Admin Grant		2,012,744		\$105,931		2,118,675	
			Maint @ 75%		Maint @ 75%		New @ 25%		923,494		New @ 25%		307,831	
			3.35M		3.5M		New @ 25%		1,035,994		New @ 25%		345,331	
Project Name	Partner	Score	Cost	Cumulative Base Cost	NMFS Fee	Cumulative Cost	3.5M Amt Remaining	3.35M Amt Remaining						
FY20: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island (18 pages)	RI DEM	8.25	\$ 55,043	\$ 55,043	\$ -	\$ 55,043	\$ 980,951	\$ 868,451						
ACCSP Data Reporting from South Carolina's Commercial Fisheries (18 pages)	SC DNR	8.13	\$ 113,846	\$ 168,889	\$ -	\$ 168,889	\$ 867,105	\$ 754,605						
FY2020: Managing Mandatory Dealer Reporting in Maine (39 pages)	ME DMR	8	\$ 122,480	\$ 291,369	\$ 6,446	\$ 297,815	\$ 738,179	\$ 625,679						
Advancing Fishery Dependent Data Collection for Black Sea Bass (Cetropistis striata) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Vessel Research Fleet Approach (39 pages)	RI DEM	8	\$ 132,097	\$ 423,466	\$ 6,952	\$ 436,864	\$ 599,130	\$ 486,630						
Expanding Accountability in Reporting: A Tool for Comprehensive For-Hire Data Collection and Monitoring in Maryland - Year 2	MD DNR	7.88	\$ 103,175	\$ 526,641	\$ 5,430	\$ 545,469	\$ 490,524	\$ 378,024						
Continued Processing and Aging of Biological Samples Collected from U.S. South Atlantic Commercial and Recreational Fisheries (24 pages)	SEFSC	7.5	\$ 177,861	\$ 704,502	\$ 9,361	\$ 732,691	\$ 303,303	\$ 190,803						
Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast of Florida (12 pages)	ACCSP RTC	7.44	\$ 104,899	\$ 809,401	\$ 5,521	\$ 843,111	\$ 192,883	\$ 80,383						
Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries (34 pages)	NJ DFW	7.25	\$ 93,408	\$ 902,809	\$ 4,916	\$ 941,435	\$ 94,559	\$ (17,941)						
Portside Commercial Catch Sampling and Comparative Bycatch Sampling for Atlantic Herring, Atlantic Mackerel and Atlantic Menhaden fisheries (52 pages)	ME DMR	4.38	\$ 25,974	\$ 928,783	\$ 1,367	\$ 968,776	\$ 67,218	\$ (45,282)						
FY20: SAFIS Expansion of "SAFMC Release" and "NC DMF Catch U Later" Discard Reporting Applications	SAFMC/N C DMF	58	\$ 118,500	\$ 118,500	\$ 6,237	\$ 124,737	\$ 220,595	\$ 183,095						
FY20: Use of Geographic Data and SAFIS Data Sources to Evaluate an Aggregate Landings Commercial Fishing Management Program	RI DEM	55.9	\$ 35,414	\$ 153,914	\$ 1,864	\$ 162,014	\$ 183,317	\$ 145,817						
Voice Recognition using Dragon Speech within Dockside Interceptor Application (DIA)	RI DEM	53.5	\$ 60,541	\$ 214,455	\$ 3,186	\$ 225,742	\$ 119,590	\$ 82,090						
FY20: Managing 100% Lobster Harvester Reporting in Maine	ME DMR	49.9	\$ 837,251	\$ 1,051,706	\$ 44,065	\$ 1,107,057	\$ (761,726)	\$ (799,226)						



FY2020 Proposal Rankings (Average)

			3.35M		3.5M			
					Admin Grant	2,012,744	\$105,931	2,118,675
					Maint @ 75%	923,494	New @ 25%	307,831
					Maint @ 75%	1,035,994	New @ 25%	345,331
Project Name	Partner	Score	Cost	Cumulative Base Cost	NMFS Fee	Cumulative Cost	3.5M Amt Remaining	3.35M Amt Remaining
ACCSP Data Reporting from South Carolina's Commercial Fisheries (18 pages)	SC DNR	8.6	\$ 113,846	\$ 113,846	\$ -	\$ 113,846	\$ 922,148	\$ 809,648
FY20: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island (18 pages)	RI DEM	8.54	\$ 55,043	\$ 168,889	\$ -	\$ 168,889	\$ 867,105	\$ 754,605
FY2020: Managing Mandatory Dealer Reporting in Maine (39 pages)	ME DMR	8.44	\$ 122,480	\$ 291,369	\$ 6,446	\$ 297,815	\$ 738,179	\$ 625,679
Advancing Fishery Dependent Data Collection for Black Sea Bass (Cetropistis striata) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Vessel Research Fleet Approach (39 pages)	RI DEM	8	\$ 132,097	\$ 423,466	\$ 6,952	\$ 436,864	\$ 599,130	\$ 486,630
Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast of Florida (12 pages)	ACCSP RTC	7.99	\$ 104,899	\$ 528,365	\$ 5,521	\$ 547,284	\$ 488,710	\$ 376,210
Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries (34 pages)	NJ DFW	7.84	\$ 93,408	\$ 621,773	\$ 4,916	\$ 645,608	\$ 390,386	\$ 277,886
Expanding Accountability in Reporting: A Tool for Comprehensive For-Hire Data Collection and Monitoring in Maryland - Year 2	MD DNR	7.58	\$ 103,175	\$ 724,948	\$ 5,430	\$ 754,213	\$ 281,781	\$ 169,281
Continued Processing and Aging of Biological Samples Collected from U.S. South Atlantic Commercial and Recreational Fisheries (24 pages)	SEFSC	7.26	\$ 177,861	\$ 902,809	\$ 9,361	\$ 941,435	\$ 94,559	\$ (17,941)
Portside Commercial Catch Sampling and Comparative Bycatch Sampling for Atlantic Herring, Atlantic Mackerel and Atlantic Menhaden fisheries (52 pages)	ME DMR	4.86	\$ 25,974	\$ 928,783	\$ 1,367	\$ 968,776	\$ 67,218	\$ (45,282)
FY20: SAFIS Expansion of "SAFMC Release" and "NC DMF Catch U Later" Discard Reporting Applications	SAFMC/N C DMF	56.5	\$ 118,500	\$ 118,500	\$ 6,237	\$ 124,737	\$ 220,595	\$ 183,095
FY20: Use of Geographic Data and SAFIS Data Sources to Evaluate an Aggregate Landings Commercial Fishing Management Program	RI DEM	51.7	\$ 35,414	\$ 153,914	\$ 1,864	\$ 162,014	\$ 183,317	\$ 145,817
Voice Recognition using Dragon Speech within Dockside Interceptor Application (DIA)	RI DEM	51.6	\$ 60,541	\$ 214,455	\$ 3,186	\$ 225,742	\$ 119,590	\$ 82,090
FY20: Managing 100% Lobster Harvester Reporting in Maine	ME DMR	49	\$ 837,251	\$ 1,051,706	\$ 44,065	\$ 1,107,057	\$ (761,726)	\$ (799,226)

	Partner	Title	Primary Module	Others	Cost	
MAINTENANCE	1	ME DMR	FY2020: Managing Mandatory Dealer Reporting in Maine (39 pages)	Catch/Effort (100%)	\$ 122,480	
	2	ME DMR	Portside Commercial Catch Sampling and Comparative Bycatch Sampling for Atlantic Herring, Atlantic Mackerel and Atlantic Menhaden fisheries (52 pages)	Biological (70%) Bycatch (30%)	\$ 26,116	
	3	RI DEM	FY20: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island (18 pages)	Catch/Effort (100%)	\$ 55,043	
	4	RI DEM	Advancing Fishery Dependent Data Collection for Black Sea Bass (Cetropistis striata) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Vessel Research Fleet Approach (39 pages)	Biological (40%)	Catch/Effort (30%), Bycatch (30%)	\$ 132,097
	5	NJ DFW	Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries (34 pages)	Catch/Effort (55%)	Biological (45%)	\$ 93,408
	6	SC DNR	ACCSP Data Reporting from South Carolina's Commercial Fisheries (18 pages)	Catch/Effort (70%)	Biological (30%)	\$ 113,846
	7	ACCSP RTC	Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast of Florida (12 pages)	Biological (80%)	Catch/Effort (20%)	\$ 104,899
	8	SEFSC	Continued Processing and Aging of Biological Samples Collected from U.S. South Atlantic Commercial and Recreational Fisheries (24 pages)	Biological (100%)		\$ 177,861
	9	MD DNR	Expanding Accountability in Reporting: A Tool for Comprehensive For-Hire Data Collection and Monitoring in Maryland - Year 2	Catch and Effort (80%)	Biological (10%), Socioeconomic(10%)	\$ 103,175
				Total Maintenance	\$ 928,925	
NEW	10	ME DMR	FY20: Managing 100% Lobster Harvester Reporting in Maine	Catch and Effort	\$ 837,251	
	11	RI DEM	FY20: Use of Geographic Data and SAFIS Data Sources to Evaluate an Aggregate Landings Commercial Fishing Management Program	Catch and Effort	\$ 35,414	
	12	SAFMC/NC DMF	FY20: SAFIS Expansion of "SAFMC Release" and "NC DMF Catch U Later" Discard Reporting Applications	Biological (90%)	Catch and Effort (10%)	\$ 118,500
	13	RI DEM	Voice Recognition using Dragon Speech within Dockside Interceptor Application (DIA)	Catch and Effort	Biological, Bycatch	\$ 60,541
				Total New	\$ 1,051,706	
Admin	ACCSP	ACCSP Administrative Budget (23 pages)	Admin		\$ 2,012,744	
				Grand Total Proposed	\$ 3,993,375	



STATE OF MAINE
DEPARTMENT OF
MARINE RESOURCES
MARINE RESOURCES LABORATORY
P.O. BOX 8, 194 MCKOWN POINT RD
W. BOOTHBAY HARBOR, MAINE 04575-0008

PAUL R. LEPAGE
GOVERNOR

PATRICK C. KELIHER
COMMISSIONER

August 6, 2019

Atlantic Coastal Cooperative Statistics Program
1050 N. Highland St. Ste. 200 A-N
Arlington, VA 22201

Dear ACCSP:

We are pleased to submit the **revised** proposal titled “FY20: Managing Mandatory Dealer Reporting in Maine” for your consideration. This is a maintenance proposal which has not changed in the scope of work. The Maine Department of Marine Resources (MEDMR) has required mandatory swipe card reporting for elver dealers since the 2014 season; which the MEDMR fully funded. The MEDMR has required the sea urchin industry to use eDR mobile (ACCSP’s swipe card program) for the past three seasons. This is the swipe card program that MEDMR worked collaboratively with the Massachusetts Division of Marine Fisheries (MADMF), National Marine Fisheries Service Greater Atlantic Regional Office (NMFS GARFO), ACCSP and HarborLight Software LLC. The MEDMR brought its experience with the Elver System swipe card project to this effort in the hope that other partners may benefit from the new swipe card system and we could use our “lessons learned” to make this project a success. The roll-out during the first two seasons did not go as smooth as intended; however, the 2018-19 season was greatly improved. The MEDMR also continued to monitor compliance and suspend those dealers who fail to report on time. The threat of a license suspension has improved the timeliness and quality of data submitted. Please view all graphs in color. This proposal addresses the following 2020 ranking criteria: catch and effort, data delivery plan, regional impact, funding transition plan, in kind contribution, improvement in data quality and timeliness, impact on stock assessment and properly prepared. For a summary of the proposal for ranking purposes, please see page 30. Please contact Robert Watts at the MEDMR with any questions. Thank you for your consideration of this proposal.

In our original proposal, committee members asked that we address the questions below. We are addressing them in this cover letter, but also in the report where applicable.

- + Why the decline in the number of dealers using VESL to report – from 81 in 2017 to 44 in 2018. Move to different reporting system (e.g., eDR), some other change?

The VESL program contains the swipe card system used exclusively for MEDMR’s elver fishery. The number of dealers using VESL are dependent upon the number of elver dealer licenses purchased in a particular year and this past year we had fewer dealers in the fishery.

- + Why is 2018 data incomplete (page 11)?

MEDMR does not consider any data complete until the end of the following year. This is a standard practice we have always worked under. Example: 2018 data will be considered complete in January of 2020.

+ Are there tradeoffs between this proposal and the new 100% lobster proposal?

No, the two proposals are separate and no ACCSP funded positions overlap.. This proposal and staff funded by this proposal only work on dealer reporting and any staff funded by the other MEDMR 100% Lobster Harvester Reporting proposal would work on harvester reporting.

Sincerely,

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Atlantic Coastal Cooperative Statistics Program
1050 N. Highland Street. Suite. 200A-N
Arlington, VA 22201

FY20: Managing Mandatory Dealer Reporting in Maine

Total Cost: \$122,480

Submitted by:

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Applicant Name: Maine Department of Marine Resources (MEDMR)

Principal Investigator: Robert Watts, Marine Resource Scientist

Project Title: FY20: Managing Mandatory Dealer Reporting in Maine

Project Type: Maintenance Project

Requested Award Amount (without the NOAA administration fee): \$122,480

Requested Award Period: One year after receipt of funds

Change in Scope/Cost from Previous Year Project:

This is a maintenance proposal which has not changed its scope from the FY19 proposal. **The dealer reporting objectives have largely remained unchanged since 100% of licensed dealers must report trip level information on 100% species they purchase from harvesters, which meets ACCSP standards.** However, since 2014 the MEDMR required that all elver dealers report daily using a MEDMR initiated and funded swipe card reporting program called the “Elver System” for dealers to report. Elver dealers were required to report daily using the Elver System. Since 2015, the Elver System was modified to start tracking of dealer to dealer transactions. Not only are harvesters required to swipe a card at the initial point of sale, but also dealers are required to swipe a card for any dealer to dealer elver transactions. The MEDMR implemented swipe card reporting in the sea urchin fishery during the 2016-2017 season. The program used for sea urchins was the swipe card program (eDR mobile) that MEDMR worked collaboratively with the Massachusetts Division of Marine Fisheries (MADMF), National Marine Fisheries Service Greater Atlantic Regional Office (NMFS GARFO), ACCSP and HarborLight Software LLC. The MEDMR required all 12 sea urchin dealers to report for the 2018-2019 season through the eDR mobile program for the third season. This was the first season that the program had very few issues within the season. The MEDMR continues to bring its experience with the Elver System and now eDR mobile swipe card projects to the current effort in the hope that other partners may benefit from the new swipe card system. The MEDMR currently does not have any plans to expand swipe card reporting to other fisheries unless there are management needs that swipe cards would justify. The MEDMR staff was again able to present data on this past season within a week of seasons end. Industry was impressed with how fast MEDMR could provide them with accurate data. The use of swipe cards in the sea urchin fishery allowed MEDMR to modify their management approach towards fishing days in the sea urchin fishery. In past years, harvesters were provided with set days they could fish. For the 2017-2018 and 2018-2019 season the MEDMR allowed harvesters to pick their own days from a list of open fishing days. It was the hope of the MEDMR that allowing this flexibility will allow harvesters to stay home on foul weather days. **The MEDMR also continued to suspend dealer licenses for those who fail to report on time which has greatly improved the timeliness and quality of the data submitted.** The MEDMR continues to fund the position that administers this suspension authority. These costs are not included in this grant proposal. See Attachment 1 for a summary of the project history and Attachment 2 (view in color) for a graph of previous grant costs.

Objectives:

The objective of this proposal is to collect trip level landings information from all licensed dealers who buy directly from harvesters. The primary tasks will be regulation compliance, data entry and auditing. Staff will also focus on dealer outreach to help industry understand the importance of the accurate and timely reporting. Electronic reporting will be encouraged for those still opting to report on paper. The continuous expansion of electronic reporting requires the MEDMR to spend a significant amount of time on outreach, explaining each system to dealers and troubleshooting any issues that might arise. In 2014 Maine State Legislature passed a law requiring that all elver dealers report using a swipe card program. Another law was passed in 2015 that provides the MEDMR the authority to require scallop and sea urchin dealers to report with swipe cards. **The results of the Elver System have proven successful and the MEDMR feels that swipe**

cards only be used where there is a fisheries management need. Currently the MEDMR does not anticipate any new fisheries be required to report via swipe card. The MEDMR used their swipe card program experience as a learning process to help create a more complete swipe card program in collaboration with MADMF, NOAA GARFO, ACCSP and HarborLight Software LLC. For the 2016-2017, 2017-2018 and 2018-2019 sea urchin season the MEDMR required all sea urchin dealers to use eDR mobile to report all sea urchin transactions. There is no plan to mandate electronic reporting for all other dealers at this time, as this is not an ACCSP requirement.

Need:

Maine has many dealers who can buy directly from harvesters, and spends significant resources tracking compliance, entering and auditing many records. In 2018, approximately 600 dealers were licensed to buy from harvesters and 197 (33%) of them were required to report to National Marine Fisheries Service (NMFS). Regardless of their federal permit status, MEDMR works with all dealers to ensure all landings are reported either to MEDMR or to SAFIS, and staff audits all records with a state landed of Maine. Of the dealers, 234 (36%) chose to report on paper; 182 (28%) chose Trip Ticket (electronic reporting software developed by Bluefin Data LLC); 109 (17%) chose file upload; 57 (9%) chose key entry SAFIS; 44 (7%) were required to use VESL (swipe card reporting program developed by Bluefin Data LLC **and used exclusively by MEDMR elver dealers, the number of dealers will fluctuate from year to year**); 12 (2%) were required to use eDR mobile (swipe card program created jointly by ACCSP, MADMF, MEDMR and NOAA GARFO) and 5 (1%) would report using the NMFS quahog database (Table 1).

Table 1: Reporting Methods Chosen for the 2018 Primary Buyers in Maine

Reporting Method	Combo Dealers	State Dealers	Total Dealers
Paper	14	220	234
Trip Ticket	118	64	182
VESL Program	0	44	44
eDR Mobile	4	8	12
SAFIS Key Entry	32	25	57
File Upload	61	48	109
Quahog Electronic Logbook	5	0	5
Total Electronic*	220	189	409
Grand Total	234	409	643

*Data submitted via Trip Ticket, SAFIS Key Entry, eDR Mobile, VESL, File Upload and Quahog Electronic Logbook are data electronically reported.

Note: Twenty-three dealers chose multiple methods of reporting, so they were counted two or more times on this table.

Some dealers opted to report using multiple methods, (largely due to the exemption of certain species in the federal reporting requirement). **Of the 1.35 million trips entered for 2018 in the data warehouse, 31% of them were landed in Maine which exceeds any other state (Figure 1 – view in color). These records were submitted by both “state-only” dealers (those that only report to MEDMR) as well as “combo” dealers (those that report to fulfill both NMFS and MEDMR requirements). Because MEDMR cooperatively works with NMFS to collect and audit data from federally permitted dealers, MEDMR staff devotes time and resources to help these “combo” dealers submit data and MEDMR staff audits all these records.**

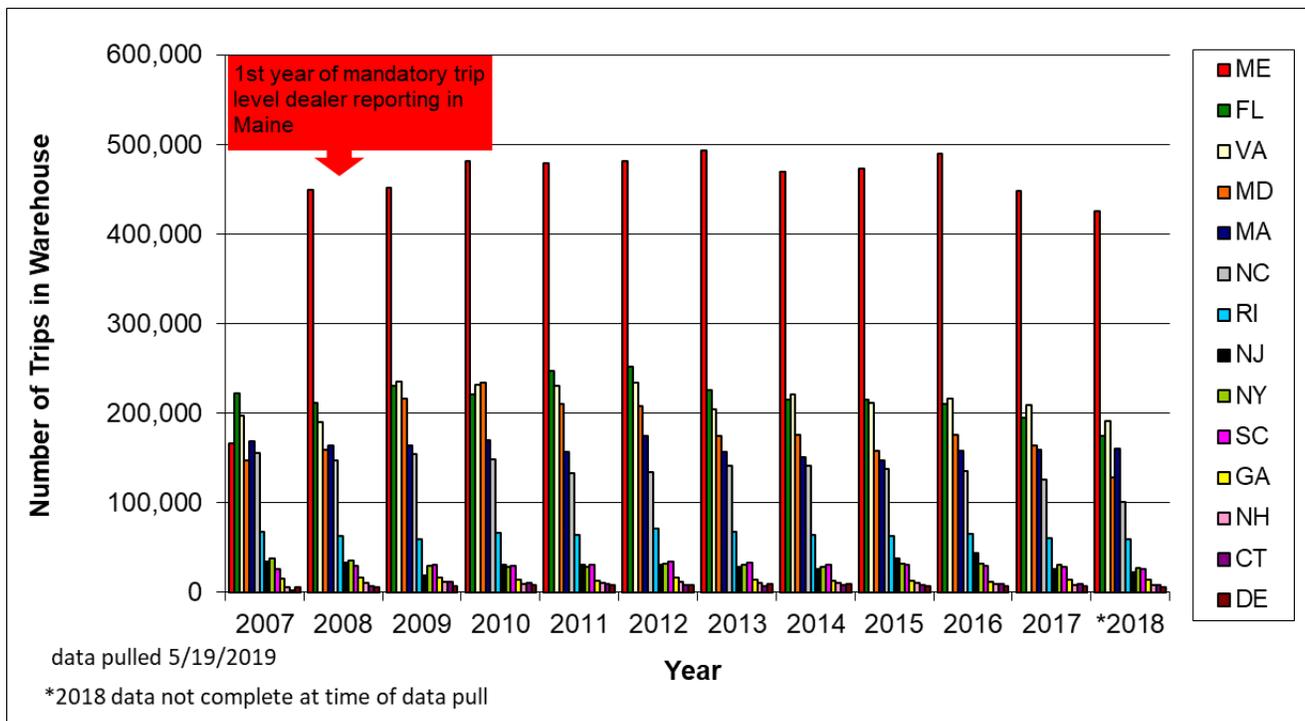


Figure 1: Number of Reported Trip Records by State Landed in ACCSP Data Warehouse

The number of trip records that MEDMR staff uploaded into SAFIS or data entered into MARVIN (MEDMR’s database that contains all sampling, biological and landings data that MEDMR collects) has increased 155% since 2007 (Figure 2 – view in color). When dealers submit reports on paper, they are entered into the MARVIN database. MARVIN is used for reports submitted on paper because it is a faster method of data entry and MEDMR wishes to use this tool to audit the data before sending a copy of it to ACCSP. Routines are configured to convert the MARVIN data to ACCSP codes before they are uploaded to the ACCSP warehouse.

The numbers in Figures 1 and 2 differ because they contain different data sets. Figure 1 shows the Maine-landed data in the warehouse which contains data from: MARVIN dealer data, MARVIN harvester data, SAFIS data, the federal ocean quahog data, and highly migratory species data. Figure 2 only shows Maine-landed records from MARVIN dealer data and SAFIS data.

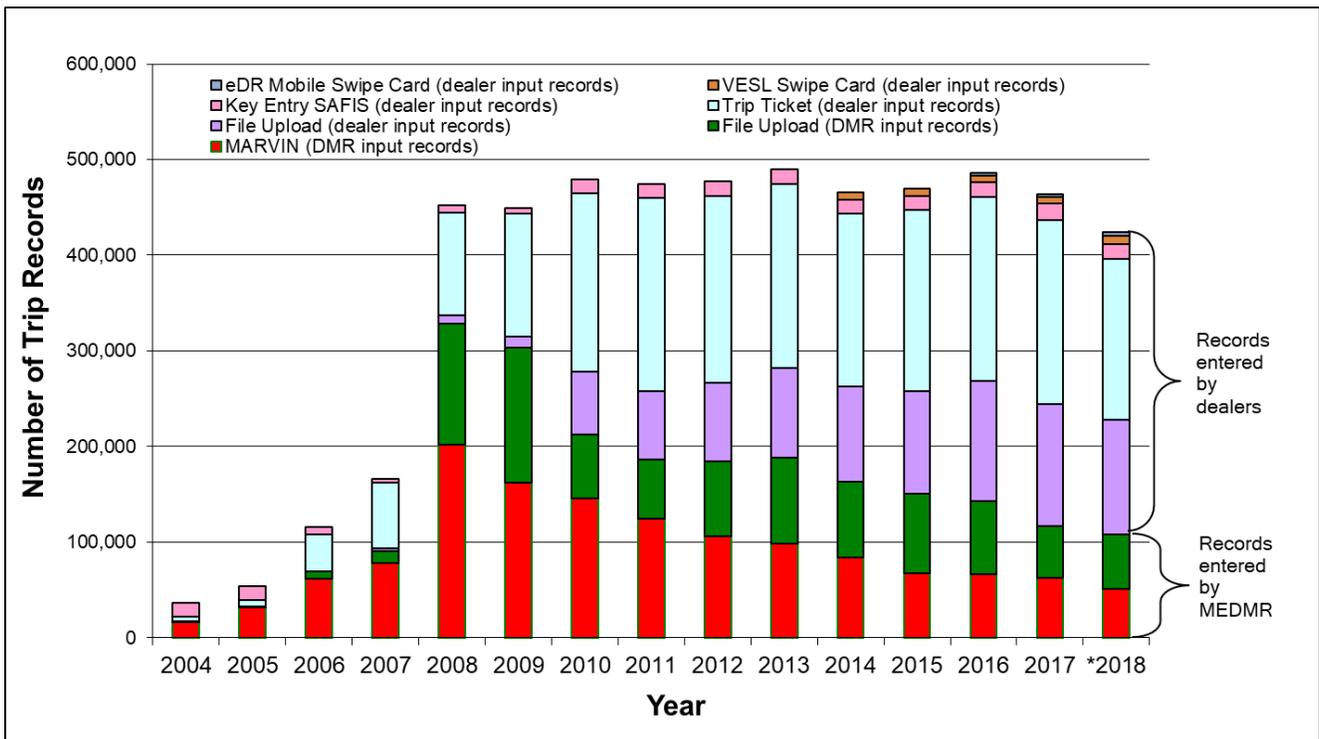


Figure 2: Number of Dealer Reported Trip Records entered in MARVIN and SAFIS

Landings data entered in MARVIN are uploaded to the ACCSP data warehouse. The significant increase in the amount of data entry and auditing is the single greatest challenge for the dealer program staff. Within the past few years, MEDMR absorbed the cost of two of the four positions previously funded by ACCSP grants, and MEDMR is also funding the position who will administer the license suspension process of the program. MEDMR is now requesting funding for one existing position: one Specialist I who audits data, helps set up dealers with electronic reporting (trip ticket, file upload, key entry SAFIS and swipe card programs), uploads data for “state-only” dealers, trains and supports “combo” dealers to report their own data, and provides the personal outreach with industry. It is essential that this dealer reporting program continue as it is an important tool for monitoring Maine’s commercial fisheries which are large and economically important to the U.S. seafood industry. According to the NMFS commercial fisheries database (as of 5/20/2019), Maine was ranked as the second highest state on the Atlantic Coast in commercial value (\$643 million) and fourth highest in whole pounds landed (276.6 million) in 2018. This comprehensive dealer reporting program is also an ASMFC (Atlantic States Marine Fisheries Commission) compliance issue for several fisheries, including for American lobster which is Maine’s largest fishery.

Summary of staffing:

MEDMR Landings Program staff involved in dealer reporting who are fully funded by MEDMR:

- Scientist IV: makes decisions on the general Landings Program direction.
- Scientist III: oversees the Landings Program, participates in ACCSP committees, transfers data to ACCSP; reporting technology development and responds to data requests.
- Scientist II: manages the day-to-day operations of the Landings Program, is responsible for database development, responds to data requests and updates the Landings Program web page. This position also audits data, and monitors licenses and compliance.
- Specialist II: provides one-on-one outreach with the seafood dealers; trains dealers how to report electronically or on paper; follows up on compliance issues; uploads data from “state-only” dealers who choose to file upload; and audits data. This position trains “combo” dealers how to file upload their own data, maintains dealer upload conversion tables, troubleshoots uploading errors, and installs Trip Ticket at dealer locations. This position not only audits data from “state-only” dealers, but also data submitted electronically by “combo” dealers. This position

frequently works with federally permitted dealers because the dealers are also submitting this information in order to fulfill MEDMR reporting requirements. See the *Approach* section below for further details on auditing. This position is also assigned tasks in the harvester-reporting project.

- Office Associate II: corresponds with industry regarding new suspension authority for failure to report on time; identifies and notifies delinquent reporters; follows protocols for suspending licenses; works with the licensing division to ensure licenses are re-issued when reports have been submitted.
- Office Associate I: opens and processes mail and enters data into MARVIN.

MEDMR Landings Program staff currently funded by ACCSP and in need of additional ACCSP funding:

- Specialist I: provides one-on-one outreach with the seafood dealers; trains dealers how to report electronically or on paper; follows up on compliance issues; uploads data from “state-only” dealers who chose to file upload; and audits data. This position trains “combo” dealers how to file upload their own data, maintains dealer upload conversion tables, troubleshoots uploading errors, and installs Trip Ticket at dealer locations. This position not only audits data from “state-only” dealers, but also data submitted electronically by “combo” dealers. This position frequently works with federally permitted dealers because the dealers are also submitting this information in order to fulfill MEDMR reporting requirements. MEDMR staff help federally permitted dealers to submit data and staff audit the data submitted to ensure the data are as accurate as possible, even though the data may have been submitted under the NMFS partner ID. See the *Approach* section below for further details on auditing.

The FY14 through FY19 grant did not include any funding for the elver swipe card program. The MEDMR fully funded the original programming, programmatic updates and maintenance costs associated with this project. The MEDMR will continue to fund the monthly maintenance fees.

Results and Benefits:

The data collected so far have shown how valuable this information is for Maine’s fisheries. In the lobster industry, MEDMR scientists have learned more about the fleet characteristics and number of active full time and part time fishermen involved in this fishery than they have been able to with the current sampling programs. Other fishery managers are now analyzing landings data to learn more about the fishing fleet and the makeup of other fisheries. MEDMR has learned how many harvesters are active in each fishery (Figure 3 – view in color).

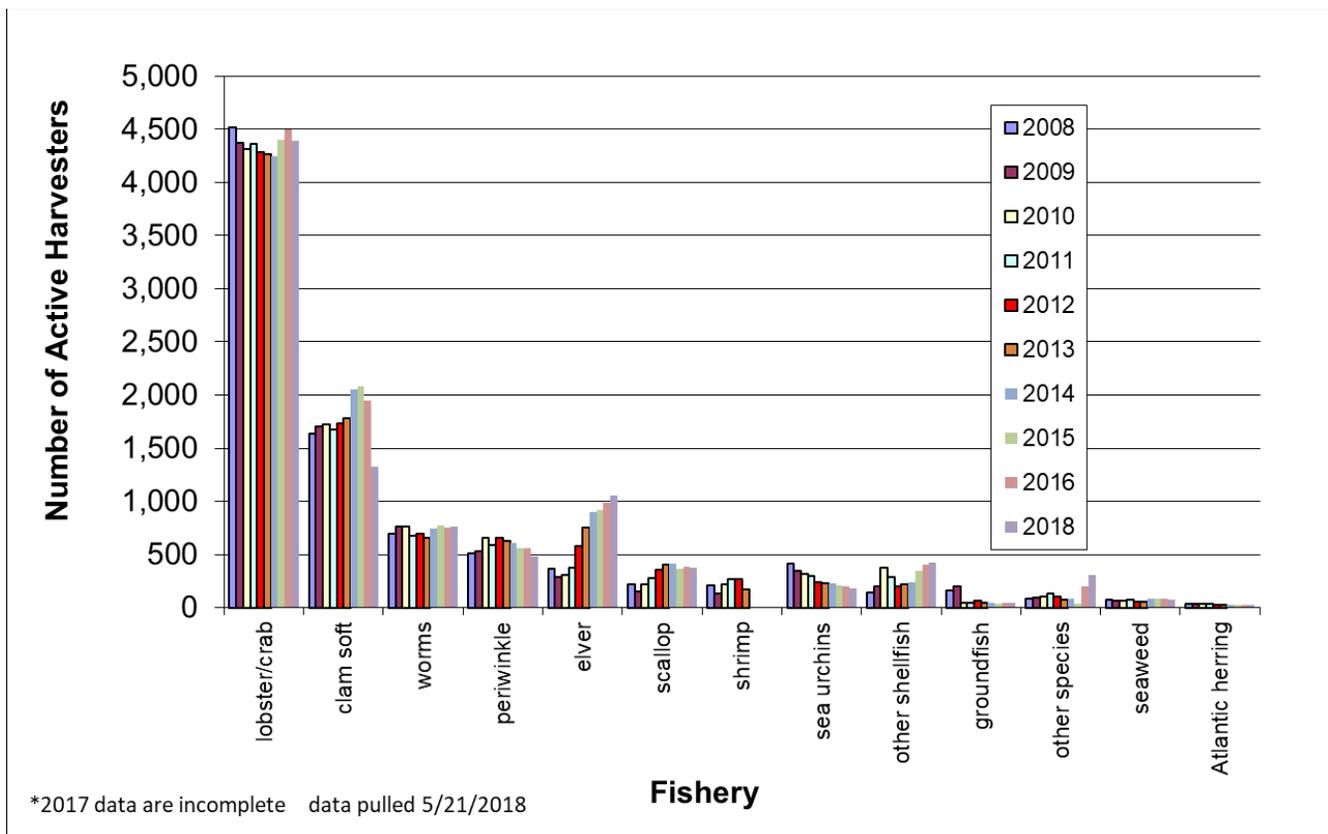


Figure 3: Number of Active Harvesters Reported in Dealer Data

This grant will allow MEDMR to complete an 13th year of mandatory trip level reporting for all dealers. More data auditing and follow up with dealers will help to ensure the data reported are as accurate as possible. MEDMR continues to encourage more dealers to move from paper reporting to electronic reporting as dealers become more comfortable with trip level reporting and will continue to mandate electronic swipe card reporting in the elver and sea urchin fishery. The MEDMR participated in a collaborative effort that created a complete swipe card program with MADMF, NOAA GARFO, ACCSP and HarborLight Software LLC that was used for sea urchin reporting the past two seasons. The MEDMR expects other fisheries will eventually be required to use the swipe card program. MEDMR is already uploading data reported to MARVIN to ACCSP every six months and intends to start uploading every month; which benefits all partners.

Metadata for the dealer program will be updated as needed according to the Federal Geographic Data Committee (FGDC) and the Content Standard for Digital Geospatial Metadata (CSDGM) standards where appropriate. The resulting metadata will be reported to ACCSP as text and XML.

This project will help MEDMR meet the data collection standards of ACCSP. All partners will benefit, as all data will be uploaded to ACCSP and many of the species landed in Maine have a broad geographic range which includes many other agencies in their management. Partners have also benefited from the technologies built and lessons learned from the elver dealer swipe card/mobile app project that was rolled out to elver dealers in 2014 and the ACCSP eDR mobile app project in 2016.

Approach:

1. Enforce compliance

MEDMR staff will enforce compliance of the trip level reporting regulation through these methods:

- Provide initial outreach and technical support needed for dealers to report trip level landings to MEDMR. Meet with dealers individually as needed to explain reporting procedures, load software, troubleshoot problems with reporting, and explain consequences for failing to report.
- Review reports submitted for completeness and log the submissions in the compliance database. If reports are incomplete, MEDMR will contact industry to correct reporting mistakes. If a dealer cannot be contacted by phone, the report will be returned for correction.
- **Complete suspension notices monthly to those dealers that are delinquent enough to meet the minimum notification criteria as outlined in the suspension law (Attachment 4).**
- Complete follow-up suspension notices monthly to those dealers that are delinquent enough to meet the minimum notification criteria as outlined in the suspension law (Attachment 4).
- **MEDMR will suspend dealer licenses for those who fail to report in a timely manner. See Attachment 4 for the law, which dictates suspension procedures MEDMR will follow.**

2. Data entry

Paper reports will be entered into MARVIN. Staff will file upload all data through the SAFIS interface for those “state-only” dealers who choose to report from their own accounting systems.

3. Encourage electronic reporting

MEDMR staff will encourage dealers reporting on paper to report using one of the three electronic reporting methods (SAFIS key entry, Trip Ticket, or file upload). Currently only certain fisheries are required to report using swipe card technology, so the swipe card report type is not counted above. MEDMR staff will train “combo” dealers who are required to report electronically according to NMFS regulation to upload their own data and will help them maintain their conversion tables so the correct fishermen, vessels, ports and species-grade-market-unit combinations are reported. MEDMR staff will install Trip Ticket at those dealer locations where file uploading is not an option. Staff will also customize the Trip Ticket program so that only the correct harvesters, vessels, species, ports and gears pertinent to the dealer can be chosen.

MEDMR believes the electronic reporting can benefit many in the industry as much as it benefits MEDMR by reducing the amount of key entry required of staff. Starting with the 2014 elver season and continuing through 2019 season, the MEDMR required all elver dealers report daily using the “VESL” (formally the “Elver System”), which was created by Bluefin Data LLC. The MEDMR required VESL to be used to record and report all harvester to dealer transactions. In 2015 through 2019, the Elver System and VESL also tracked dealer to dealer transactions. The MEDMR paid for and supplied each dealer with an Elver System or VESL (starting in 2017) program and swipe card reader and training. There was a total of 16 buying stations that could have purchased directly from harvesters in 2019, 36 in 2018, 24 in 2017, 22 in 2016 and 27 in 2015. Starting in September 2016 MEDMR required that all sea urchin dealers use eDR Mobile (created through collaborative effort with MEDMR, MADMF, ACCSP, NOAA GARFO and HarborLight Software) to purchase sea urchins directly from harvesters. During the 2018 – 2019 season, 12 dealer locations were set up and required to use swipe card technology to purchase sea urchins from licensed harvesters. That number remained unchanged from 2017-2018 and down slightly from the 15 that were set up for the 2016 – 2017 season. While the initial roll-out for the first two seasons did not come without glitches, the rollout for the 2018-2019 season was very smooth. **The use of the swipe cards in the elver and sea urchin fishery has eliminated the need of MEDMR staff to manually enter approximately 10,000 transactions between both fisheries each year while also providing staff with the most up to date data available. Dealers were required to report daily which allowed the MEDMR to monitor each harvester’s individual quota (elver only) and the overall quota (elver only). For the past two sea urchin seasons the MEDMR was able to utilize eDR mobile to allow for harvesters to pick which days they fished based off a pre-determined calendar of fishing days. It was the hope to make this fishery safer for all involved by allowing harvesters to stay home on bad weather days.**

4. Continue outreach with industry to promote buy-in.

MEDMR staff will continue to work with dealers to explain the purpose and benefits of this reporting system. Staff will attend the annual Maine Fishermen's Forum and present a Landings Program poster explaining the importance of accurate reporting as well as displaying preliminary data by fishery. Staff will work with established industry organizations, such as the MEDMR advisory councils, lobster zone councils, and dealer and harvester associations to reiterate the program goals and show results of mandatory reporting. Staff will also focus on explaining the new statutory authority for suspending licenses for those who fail to report on time, and how this will help gather more accurate data.

5. Audit of dealer data submitted.

Staff will audit data submitted monthly. Paper data will be audited twice per month; electronic audits sent via email from SAFIS will be corrected weekly. SAFIS audits for "state-only" dealers will be corrected via an ODBC connection to a view of the Maine data. Audits concerning "combo" dealers will also be vetted through the NMFS Northeast Region. MEDMR staff audit data submitted by "combo" dealers because these dealers submit data in order to also fulfill MEDMR reporting requirements. MEDMR performs basic audits of records to catch potential oversights from NMFS audits, audits data exempted from the federal reporting rule (e.g. softshell clams, razor clam, mussels, oysters, quahog, elver, and worm data), and performs additional audits that NMFS does not. For example, MEDMR audits all records to flag those harvesters selling without a license for that species. MEDMR also compares dealer-reported landings with harvester-reported landings and identifies dealers with discrepancies. In these audits, MEDMR contacts dealers when discrepancies are discovered and works to correct records or recover missing data.

6. Transmission of dealer data to ACCSP.

MEDMR will upload dealer data from MARVIN to the ACCSP data warehouse once every two months. In each data feed, the following fields are uploaded to the warehouse according to ACCSP protocols: supplier dr id, supplier dealer id, supplier trip id, supplier cf id, supplier vessel id, unload year, unload month, unload day, state code, county code, port code, primary gear, data source, data supplier, reported quantity, live pounds, dollars, disposition code, grade code, unit measure, species ITIS, market code, supplier action flag, dr seq id, fishing mode. **MEDMR enters data daily and audits data weekly, so the data uploaded to the warehouse are a mix of pre- and post-audited records. MEDMR does not keep track of what percentage of the uploaded records are "reloads" due to errors, but simply reloads all the data in MARVIN to the warehouse once every three months. In addition, the data supplied by the Elver System are sent directly to SAFIS daily during elver season.**

The MEDMR does not upload data from MARVIN to SAFIS because MEDMR staff continually audit data each week, so the data that are uploaded to the warehouse are a mix of pre- and post-audited records. The reloading of data from MARVIN to the Warehouse is an automated process that the MEDMR loads into a temporary table provided by the Warehouse. If we were to perform the same upload method to SAFIS we would need the ability to mass delete records from SAFIS (which we do not have the ability to do at this time) before records are reloaded to avoid creating duplicate records. In addition, quahog data are loaded into the warehouse and not into SAFIS, so all Maine dealer data would still reside in the warehouse and not SAFIS.

7. Report metadata to ACCSP.

Metadata will be created with ESRI ArcCatalog 10 in order to conform to the FGDC (Federal Geographic Data Committee) standards and specifications. As specified by the federal standard, MEDMR metadata will include the following main sections with detailed information on: identification information, data quality information, spatial data organization information, spatial reference information, entity and attribute information, distribution information, metadata reference

information, citation information, time period information and contact information. Created metadata will be available in text and XML formats.

Geographic Location: Operations will be based out of Boothbay Harbor, Maine and the project will take place throughout Maine.

Milestone Schedule:

	<u>Months</u>											
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
1. Enforce dealer compliance	X	X	X	X	X	X	X	X	X	X	X	X
2. Data enter dealer reports	X	X	X	X	X	X	X	X	X	X	X	X
3. Encourage electronic dealer reporting	X	X	X	X	X	X	X	X	X	X	X	X
4. Industry outreach to promote dealer buy-in	X	X	X	X	X	X	X	X	X	X	X	X
5. Audit dealer data	X	X	X	X	X	X	X	X	X	X	X	X
6. Upload dealer data to ACCSP		X		X		X		X		X		X
7. Report metadata to ACCSP												X
8. Semi-annual reports							X					X
9. Annual reports												X

Project Accomplishments Measurement:

*2018 and 2019 data are incomplete at the time of proposal submission

Goal	Measurement	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018*	2019*
Enforce Dealer Compliance	Number of dealer licenses rejected due to failure to report	43	155	48	56	66	81	16	35	15	115	407	-	-	-	-	-
Enforce Dealer Compliance	Frequency of referrals to Marine Patrol due to missing reports	-	-	-	-	-	4X per yr	4X per yr through 6/1/14	-	-	-	-	-				
Enforce Dealer Compliance	Number of compliance calls to delinquent dealers	-	-	-	-	166	297	259	451	523	420	269	208	45	37	25	25
Enforce Dealer Compliance	Number of suspension letters to delinquent dealers	-	-	-	-	-	-	-	-	-	-	407	567	177	876	532	25
Enforce Dealer Compliance	Number of dealers suspended for failing to report timely	-	-	-	-	-	-	-	-	-	-	27	57	38	32	29	35
Dealer Data Entry	Number of trip records by year landed in data warehouse	15,858	27,455	126,559	166,468	449,216	451,056	481,668	478,819	481,116	493,314	469,430	473,400	489,367	447,626	425,040	15,231
Dealer Data Entry	Number of positive trip records by year landed in MARVIN	15,824	31,486	61,656	76,744	197,289	159,437	143,766	124,057	105,760	98,195	83,942	67,798	66,594	62,350	51,018	7,693
Dealer Data Entry	Number of positive trip records by year landed in SAFIS	21,602	26,382	59,452	91,551	250,656	290,155	333,132	350,232	371,391	391,192	381,413	401,522	418,956	383,043	372,996	43,746
Encourage Electronic Reporting	Number of dealers submitting positive reports in SAFIS	69	78	98	142	204	230	275	291	312	328	342	330	339	329	339	222
Transmit Dealer Data to Data Warehouse	Frequency of data submitted by year landed	Yearly	Yearly	Yearly	Yearly	yearly to twice per month	bi-monthly	once every 6 months									
Outreach	Number of custom data requests	-	11	95	155	204	269	275	281	302	419	434	569	806	720	531	365

MEDMR does not consider any data complete until the end of the following year. This is a standard practice we have always worked under. Example: 2018 data will be considered complete in January of 2020.

Cost Summary: FY20 Managing Mandatory Dealer Reporting in Maine

10/1/2020 - 9/30/2021

Personnel^A	Description	Cost
1 Specialist I (Eileen Greenleaf)	full time position for 12 months	\$46,207
	Subtotal	\$46,207
Fringe Benefits^A		
1 Specialist I (Eileen Greenleaf)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$29,289
	Subtotal	\$29,289
	Total Personnel	\$75,496
Travel		
Mileage Reimbursement	2500 miles @ \$0.44/mile	\$1,100
5 Overnight stays ^C	5* \$150/night	\$750
Per diem (includes extended days)	(5 overnights + 5 extended days) * \$65/day	\$650
	Total Travel	\$2,500
Supplies		
Filing Supplies	folders, folder labels, year labels	\$300
Other		
Printing and binding of dealer report forms	500 logbooks * \$2.50 per logbook	\$1,250
Postage for logbooks	Mail 500 logbooks * \$4.00 per logbook	\$2,000
Postage for info packets and letters	(\$0.50*600 compliance letters)	\$300
Technology (computer programs, equipment)		\$250
Telecommunication charges ^D	4 phones * \$40/mo * 12 mo	\$1,920
	Total Supplies	\$6,020
Contractual		
Trip Ticket 1 yr maintenance	\$850/mo fee * 12 mo	\$10,200
(Software support and upgrades)		
	Total Contractual	\$10,200
	Subtotal	\$18,720
Total Direct Costs		\$94,216
Indirect Costs (30%)		\$28,265
Total Award to DMR		\$122,480

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train dealers how to electronically report to DMR and/or NMFS.

D: One cell phone for each of the two specialists and one each for the two scientists working on the project.

Partner Contribution For ACCSP Purposes

Scientist IV (7% time)	\$9,115
Scientist III (50% time)	\$51,837
Scientist II (50% time)	\$57,484
Specialist II (75% time)	\$59,364
Office Associate I (15% time)	\$11,704
Office Associate II (100%)	\$78,417
<u>Elver Mobile Swipe Card Project</u>	<u>\$21,900</u>

\$289,821

Budget Narrative for FY2020 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Greenleaf. The position is funded full time (100%) by this award and are a Department of Marine Resources' employee. Salary and benefits for this employee are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

Travel: The Specialists are the employees who will be travelling. The travel is for visiting dealers to install reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provide dealers with one-on-one training on these reporting systems and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software to submit their landings information.

The mileage reimbursement rate is set by the State of Maine and are not negotiable.

Occasional extended day travel or overnight stays are necessary. If multiple dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary. The rates were calculated through the GSA website for posted rates.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance and this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management.

Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement.

Cost Summary: FY19 Managing Mandatory Dealer Reporting in Maine				
10/1/2019 - 9/30/2020				
Personnel ^A		Description	Cost	
1	Specialist I (Eileen Greenleaf)	full time position for 12 months		\$44,893
1	Office Associate I (Susan Kelley)	full time position for 12 months		\$39,007
			Subtotal	\$83,900
Fringe Benefits ^A				
1	Specialist I (Eileen Greenleaf)	Includes health, dental, workers comp, FICA, life insurance and retirement		\$28,282
1	Office Associate I (Susan Kelley)	Includes health, dental, workers comp, FICA, life insurance and retirement		\$27,957
			Subtotal	\$56,239
			Total Personnel	\$140,139
Travel				
1	seasonal vehicle ^B	1 car * \$188.67/mo * 12 mo		\$2,264
	Mileage fee	1 car * 1,000 mi per mo * \$.1533/mi * 12 mo		\$1,840
	Toll allowance	Estimated		\$100
5	Overnight stays ^C	5* \$150/night		\$750
	Per diem (includes extended days)	(5 overnights + 5 extended days) * \$65/day		\$650
			Total Travel	\$5,604
Supplies				
	Filing Supplies	folders, folder labels, year labels		\$500
Other				
	Printing and binding of dealer report forms	500 logbooks * \$2.50 per logbook		\$1,250
	Postage for logbooks	Mail 500 logbooks * \$4.75 per logbook		\$2,375
	Postage for info packets and letters	(\$0.48*1200 compliance letters)+(\$6.47*200 certified letters to delinquent dealers)		\$1,870
	Telecommunication charges ^D	4 phones * \$55/mo * 12 mo		\$2,640
			Total Supplies	\$8,635
Contractual				
	Trip Ticket 1 yr maintenance (Software support and upgrades)	\$850/mo fee * 12 mo		\$10,200
			Total Contractual	\$10,200
			Subtotal	\$24,439
Total Direct Costs				\$164,578
Indirect Costs (30%)				\$49,373
Total Award to DMR				\$213,951

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.
B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.
C: DMR staff meet with and train dealers how to electronically report to DMR and/or NMFS.
D: One cell phone for each of the two specialists and one each for the two scientists working on the project.

Partner Contribution for ACCSP Purposes

Scientist IV (15% time)	\$17,699
Scientist III (50% time)	\$50,327
Scientist II (50% time)	\$55,810
Specialist II (75% time)	\$57,635
Office Associate I (15% time)	\$11,363
Office Associate II (100%)	\$76,133
Elver Mobile Swipe Card Project	\$19,300

\$288,267

Text in bold indicate where proposal hit on ranking criteria.

Budget Narrative for FY2019 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Greenleaf and the Office Associate I is Susan Kelley. These positions are funded full time (100%) by this award and they are Department of Marine Resources' employees. Salaries and benefits for these employees are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects. The increase in Personal and Fringe benefits reflects one of these staff members decision to collect the State of Maine medical and dental benefits whereas the previous employee in the position elected not to take these benefits.

Travel: The Specialists are the employees who will be travelling. The travel is for visiting dealers to install reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provide dealers with one-on-one training on these reporting systems and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software to submit their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Nissan Rogue SUV which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary. The rates were calculated through the GSA website for posted rates.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance, and this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management.

Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement.

Cost Summary: FY18 Managing Mandatory Dealer Reporting in Maine				
10/1/2018 - 9/30/2019				
Personnel^A		Description		Cost
	1 Specialist I (Eileen Greenleaf)	full time position for 12 months		\$42,795
	1 Office Associate I (Susan Kelley)	full time position for 12 months		\$35,383
			Subtotal	\$78,178
Fringe Benefits^A				
	1 Specialist I (Eileen Greenleaf)	Includes health, dental, workers comp, FICA, life insurance and retirement		\$27,515
	1 Office Associate I (Susan Kelley)	Includes health, dental, workers comp, FICA, life insurance and retirement		\$23,656
			Subtotal	\$51,171
			Total Personnel	\$129,349
Travel				
	1 seasonal vehicle ^B	1 car * \$108.65/mo * 12 mo		\$1,304
	Mileage fee	1 car * 1,000 mi per mo * \$.12/mi * 12 mo		\$1,440
	Toll allowance	Estimated		\$74
	5 Overnight stays ^C	5* \$100/night		\$500
	Per diem (includes extended days)	(5 overnights + 5 extended days) * \$50/day		\$500
			Total Travel	\$3,818
Supplies				
	Filing Supplies	folders, folder labels, year labels		\$500
Other				
	Printing and binding of dealer report forms	500 logbooks * \$2.50 per logbook		\$1,250
	Postage for logbooks	Mail 500 logbooks * \$4.75 per logbook		\$2,375
	Postage for info packets and letters	(.48*1200 compliance letters)+(5.75*200 certified letters to delinquent dealers)		\$1,726
	Telecommunication charges ^D	4 phones * \$55/mo * 12 mo		\$2,640
			Total Supplies	\$8,491
Contractual				
	Trip Ticket 1 yr maintenance	\$600/mo fee * 12 mo		\$7,200
	(Software support and upgrades)		Total Contractual	\$7,200
			Subtotal	\$19,509
	Total Direct Costs			\$148,858
	Indirect Costs (30%)			\$44,657
	Total Award to DMR			\$193,516

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train dealers how to electronically report to DMR and/or NMFS.

D: One cell phone for each of the two specialists and one each for the two scientists working on the project.

Partner Contribution – For ACCSP Purposes

Scientist IV (15% time)	\$15,975
Scientist III (50% time)	\$45,971
Scientist II (50% time)	\$51,397
Specialist II (75% time)	\$60,558
Office Associate I (15% time)	\$10,768
Office Associate II (100%)	\$76,148
Elver Mobile Swipe Card Project	\$12,000

Total **\$272,816**

Text in bold indicate where proposal hit on ranking criteria.

Budget Narrative for FY2018 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Greenleaf and the Office Associate I is Susan Kelley. These positions are funded full time (100%) by this award and they are Department of Marine Resources' employees. Salaries and benefits for these employees are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects. The increase in Personal and Fringe benefits reflects one of these staff members decision to collect the State of Maine medical and dental benefits whereas the previous employee in the position elected not to take these benefits.

Travel: The Specialists are the employees who will be travelling. The travel is for visiting dealers to install reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provides dealers with one-on-one training on these reporting systems and helps troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software to submit their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Chevy Cobalt car which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance, and this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management.

Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement.

Cost Summary: FY17 Managing Mandatory Dealer Reporting in Maine

Personnel^A	Description	Cost
1 Specialist I (Eileen Greenleaf)	full time position for 12 months	\$42,806
1 Office Associate I (Currently Vacant)	full time position for 12 months	\$31,772
	Subtotal	\$74,578
Fringe Benefits^A		
1 Specialist I (Eileen Greenleaf)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$25,756
1 Office Associate I (Currently Vacant)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$12,575
	Subtotal	\$38,331
	Total Personnel	\$112,909
Travel		
1 seasonal vehicle ^B	1 car * \$108.65/mo * 12 mo	\$1,304
Mileage fee	1 car * 1,000 mi per mo * \$.12/mi * 12 mo	\$1,440
Toll allowance	Estimated	\$75
5 Overnight stays ^C	5* \$100/night	\$500
Per diem (includes extended days)	(5 overnights + 5 extended days) * \$50/day	\$500
Supplies		
Filing Supplies	folders, folder labels, year labels	\$500
Contractual		
Trip Ticket 1 yr maintenance (Software support and upgrades)	\$500/mo fee * 12 mo	\$6,000
Other		
Printing and binding of dealer report forms	500 logbooks * \$2.50 per logbook	\$1,250
Postage for logbooks	Mail 500 logbooks * \$4.75 per logbook	\$2,375
Postage for info packets and letters	(.465*1200 compliance letters)+(5.75*200 certified letters to delinquent dealers)	\$1,708
Telecommunication charges ^D	4 phones * \$55/mo * 12 mo	\$2,640
	Subtotal	\$18,292
Total Direct Costs		\$131,201
Indirect Costs (25%)		\$32,800
Total Award to DMR		\$164,001

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train dealers how to electronically report to DMR and/or NMFS.

D: One cell phone for each of the two specialists and one each for the two scientists working on the project.

FY 2017 Partner Contribution – For ACCSP Purposes

Scientist IV (15% time)	\$16,392
Scientist III (50% time)	\$61,576
Scientist II (50% time)	\$38,861
Specialist II (75% time)	\$51,402
Office Associate I (15% time)	\$6,911
Office Associate II (100%)	\$61,438
Elver Swipe Card Program	\$11,950

Total \$248,746

Budget Narrative for FY2017 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Greenleaf and the Office Associate I is Susan Kelley. These positions are funded full time (100%) by this award and they are Department of Marine Resources' employees. Salaries and benefits for these employees are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

Travel: The Specialists are the employees who will be travelling. The travel is for visiting dealers to install reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provides dealers with one-on-one training on these reporting systems and helps troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software to submit their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Chevy Cobalt car which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance, and this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management.

Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. The Specialist I do not have an office phone, so the cell phones also serve as the only phone through which dealers can contact them with questions.

Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 25%. See Attachment 3 for the Negotiated Indirect Cost Agreement.

Cost Summary: FY16 Managing Mandatory Dealer Reporting in Maine

Personnel^A	Description	Cost
1 Specialist I (Eileen Greenleaf)	full time position for 12 months	\$42,806
1 Office Associate I (Rebecca Barter)	full time position for 12 months	\$32,084
	Subtotal	\$74,890
Fringe Benefits^A		
1 Specialist I (Eileen Burk)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$26,285
1 Office Associate I (Rebecca Barter)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$12,454
	Subtotal	\$38,739
	Total Personnel	\$113,629
Travel		
1 seasonal vehicle ^B	1 car * \$108.65/mo * 12 mo	\$1,304
Mileage fee	1 car * 1,000 mi per mo * \$.1254/mi * 12 mo	\$1,505
Toll allowance	Estimated	\$75
5 Overnight stays ^C	5* \$100/night	\$500
Per diem (includes extended days)	(5 overnights + 5 extended days) * \$50/day	\$500
Supplies		
Filing Supplies	folders, folder labels, year labels	\$500
Contractual		
Trip Ticket 1 yr maintenance (Software support and upgrades)	\$450/mo fee * 12 mo	\$5,400
Other		
Printing and binding of dealer report forms	500 logbooks * \$2.50 per logbook	\$1,250
Postage for logbooks	Mail 500 logbooks * \$4.75 per logbook	\$2,375
Postage for info packets and letters	(.49*1200 compliance letters)+(5.75*200 certified letters to delinquent dealers)	\$1,738
Telecommunication charges ^D	4 phones * \$55/mo * 12 mo	\$2,640
	Subtotal	\$17,787
Total Direct Costs		\$131,416
Indirect Costs (25%)		\$32,854
Total Award to DMR		\$164,270

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train dealers how to electronically report to DMR and/or NMFS.

D: One cell phone for each of the two specialists and one each for the two scientists working on the project.

FY 2016 Partner Contribution – For ACCSP Purposes

Scientist IV (15% time)	\$16,392
Scientist III (50% time)	\$51,363
Scientist II (50% time)	\$44,599
Specialist II (75% time)	\$51,402
Office Associate I (15% time)	\$6,911
Office Associate II (100%)	\$61,438

Total	\$232,105
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Budget Narrative for FY2016 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Burk and the Office Associate I is Rebeca Barter. These positions are funded full time (100%) by this award and they are Department of Marine Resources' employees. Salaries and benefits for these employees are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

Travel: The Specialists are the employees who will be travelling. The travel is for visiting dealers to install reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provides dealers with one-on-one training on these reporting systems and helps troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software to submit their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Chevy Cobalt car which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance, and this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management.

Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. The Specialist I do not have an office phone, so the cell phones also serve as the only phone through which dealers can contact them with questions.

Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 25%. See Attachment 3 for the Negotiated Indirect Cost Agreement.

Cost Summary: FY15 Managing Mandatory Dealer Reporting in Maine

Personnel^A	Calculation	Cost
1 Specialist I (Eileen Burk)	full time position for 12 months	\$42,382
1 Office Associate I (Currently Vacant)	full time position for 12 months	\$37,063
	Subtotal	\$79,445
Fringe Benefits^A		
1 Specialist I (Eileen Burk)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$22,928
1 Office Associate I (Currently Vacant)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$21,989
	Subtotal	\$44,917
	Total Personnel	\$124,362
Travel		
1 seasonal vehicle ^B	1 car * \$108.65/mo * 12 mo	\$1,304
Mileage fee	1 car * 1,000 mi per mo * \$.1525/mi * 12 mo	\$1,830
Toll allowance	Estimated	\$75
5 Overnight stays ^C	5* \$100/night	\$500
Per diem (includes extended days)	(5 overnights + 5 extended days) * \$50/day	\$500
Supplies		
Filing Supplies	folders, folder labels, year labels	\$500
Contractual		
Trip Ticket 1 yr maintenance (Software support and upgrades)	\$350/mo fee * 12 mo	\$4,200
Other		
Printing and binding of dealer report forms	500 logbooks * \$2.50 per logbook	\$1,250
Postage for logbooks	Mail 500 logbooks * \$4.75 per logbook	\$2,375
Postage for info packets and letters	(.48*680 compliance letters)+(.48*680 letters explaining compliance enforcement)+(5.75*200 certified letters to delinquent dealers)	\$1,803
Telecommunication charges ^D	4 phones * \$50/mo * 12 mo	\$2,400
	Subtotal	\$16,737
Total Direct Costs		\$141,099
Indirect Costs (25%)		\$35,275
Total Award to DMR		\$176,373

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train dealers how to electronically report to DMR and/or NMFS.

D: One cell phone for each of the two specialists and one each for the two scientists working on the project.

FY 2015 Partner Contribution – For ACCSP Purposes

Scientist IV (15% time)	\$16,240
Scientist III (50% time)	\$47,597
Scientist I (50% time)	\$42,565
Specialist II (75% time)	\$48,937
Office Associate I (15% time)	\$9,240
Office Associate II (100%)	\$60,591

Total \$225,171

Budget Narrative for FY2015 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Burk and the Office Associate I position is currently vacant and open for recruitment. These positions are funded full time (100%) by this award and they are Department of Marine Resources' employees. Salaries and benefits for these employees are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

Travel: The Specialists are the employees who will be travelling. The travel is for visiting dealers to install reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provides dealers with one-on-one training on these reporting systems and helps troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software in order to submit their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Chevy Cobalt car which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance, and this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management.

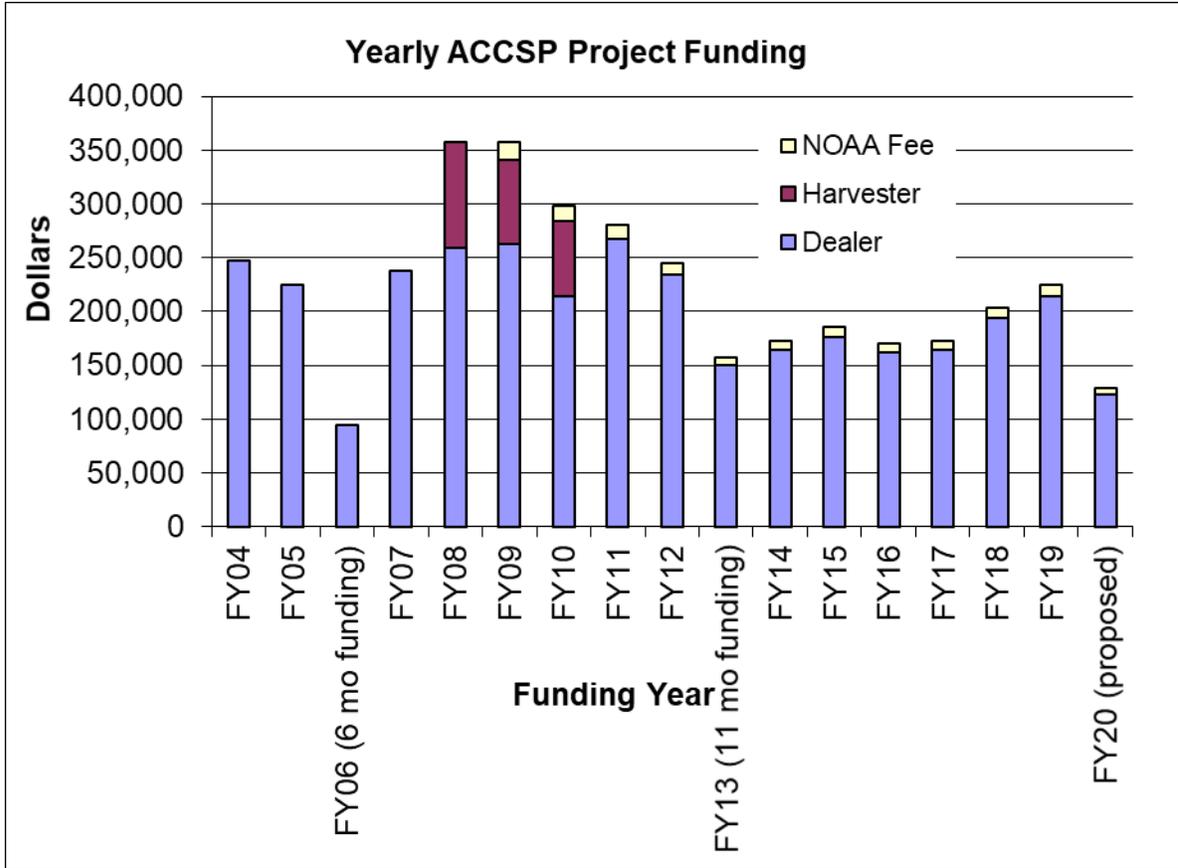
Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. The Specialists do not have office phones, so the cell phones also serve as the only phone through which dealers can contact them with questions.

Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Attachment 1: Project History

Fund Year	Title	Cost	Extension through	Actual dates funding covered	Results
2004	Implementation of a Mandatory Dealer Reporting System for Maine Commercial Landings According to ACCSP Standards	246,965	Apr-06	Jul 2004-Apr 2006 (extension required when Ops Committee asked MEDMR not to hire Office Associate I with this grant and salary savings when Specialist I quit)	Established Reporting Advisory Committee; drafted trip level reporting regulation; extensive outreach with industry including 10 state-wide meetings and 11 industry-specific meeting; worked with SCBI to develop and deploy "Trip Ticket" to state dealers; 1174 dealer visits; recruited dealers to report voluntarily; defeated a legislative bill to stop MEDMR's reporting program; see Completion Report for more info.
2005	Continuation of Implementation of a Mandatory Dealer Reporting System for Maine Commercial Landings According to ACCSP Standards	224,749	Jun-07	May 2006-Jun 2007 (extension required because FY04 was extended and a Specialist I was promoted in MEDMR, leaving vacant position for a number of months)	Worked with ACCSP to make SAFIS usable for Maine state dealers; began file uploading voluntary dealer data; began collecting voluntary paper trip tickets; 380 dealer visits; 67 dealers actively reporting; worked to modify report options in "Trip Ticket" software to benefit dealers; began phasing out duplicative reporting by dealers; passed comprehensive trip level reporting regulation for all dealers in June 2007 which will give momentum to project.
2006	Interim Support for Mandatory Dealer Reporting in Maine	94,093	Dec-07	Jun 2007-Dec 2007	Worked to get remaining 404 dealers set up with a trip level reporting method. Notified dealers to begin reporting trip level data as of Jan 1, 2008. Began uploading harvester license & vessel data weekly to SAFIS.
2007	FY07 – Mandatory Dealer Reporting for Maine Commercial Landings	237,548	8-Oct	Jan 2008 -Oct 2008	Began enforcing trip level reporting; begin audit dealer data; began monthly compliance calls to delinquent dealers; encouraged more electronic reporting; staff entering paper data from 433 dealers and uploading electronic data from 58 dealers.
2008	FY08- Managing Mandatory Dealer and Harvester Reporting in Maine	357,574	9-Oct	Nov 2008-Sept 2009	Complete 1 st year of mandatory dealer reporting regulation; enter, audit and transmit data to ACCSP; year 1 of 10% lobster and dogfish harvester reporting; begin to implement scallop harvester reporting.
2009	FY09 – Managing Mandatory Dealer and Harvester Reporting in Maine	357,415	10-Nov	Oct 2009-Sept 2010	Complete 2 nd year of mandatory dealer reporting; enter, audit and transmit data to ACCSP; year 2 of 10% lobster and dogfish harvester reporting; year 2 of scallop harvester reporting. Enter, audit and transmit data to ACCSP.
2010	FY10- Managing Mandatory Dealer and Harvester Reporting in Maine	298,129	11-Nov	Oct 2010-Oct 2011	Complete 3 rd year of mandatory dealer reporting; enter, audit and transmit data to ACCSP; year 3 of 10% lobster and dogfish harvester reporting; year 3 of scallop harvester reporting. Enter, audit and transmit data to ACCSP.
2011	FY11- Managing Mandatory Dealer Reporting in Maine	280,605	12-Nov	Aug 2011 – July 2012	Complete 4 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Work on more audits, including dealer data vs. harvester data submitted.
2012	FY12 – Managing Mandatory Dealer Reporting in Maine	245,303	13-Nov	Aug 2012-July 2013	Complete 5 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Expanding audits, including dealer data vs. harvester data submitted.
2013	FY13- Managing Mandatory Dealer Reporting in Maine	156,966	14-Oct	Aug 2013-June 2014	Complete 6 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Expanding audits, including dealer data vs. harvester data submitted for different fisheries.
2014	FY14- Managing Mandatory Dealer Reporting in Maine	164,663		July 2014 – Sep 2015	Complete 7 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and implement new swipe card program for elver dealers.
2015	FY15- Managing Mandatory Dealer Reporting in Maine	176,373		Oct 2015 – Sep 2016	Complete 8 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and help develop new swipe card program for multiple fisheries.
2016	FY16- Managing Mandatory Dealer Reporting in Maine	161,558		Oct 2016 – Sep 2017	Complete 9 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and implement new swipe card program for sea urchin dealers.
2017	FY17- Managing Mandatory Dealer Reporting in Maine	161,001		Oct 2016 – Sep 2017	Complete 10 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and continue swipe card reporting for sea urchin and elver dealers.
2018	FY18- Managing Mandatory Dealer Reporting in Maine	193,516		Oct 2017 – Sep 2018	Complete 11 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and continue swipe card reporting for sea urchin and elver dealers.
2019	FY19- Managing Mandatory Dealer Reporting in Maine	213,951		Oct 2018 – Sep 2019	Complete 12 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and continue swipe card reporting for sea urchin and elver dealers.

Attachment 2: Yearly Breakdown of ACCSP Funding



Attachment 3: Negotiated Indirect Cost Agreement

MAXIMUS
Cost Allocation Methodology and Process

Office of Acquisition Management – Grants Management Division
1401 Constitution Ave., NW, HCHB Rm 6412
Washington, DC 20230, Attn: Indirect Cost Program

CERTIFICATE OF INDIRECT COSTS

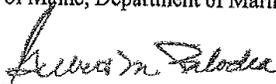
This is to certify that I have reviewed the indirect cost rate proposal prepared and maintained herewith and to the best of my knowledge and belief:

- (1) All costs included in this proposal dated Jan 9, 2019 to establish indirect cost billing rates for July 1, 2018 through June 30, 2019 are allowable in accordance with the requirements of the federal awards to which they apply and 2 CFR Part 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards". This proposal does not include any costs which are unallowable as identified in the applicable federal cost principles. For example, advertising contributions and donations, bad debts, entertainment costs or fines and penalties.
- (2) All costs included in this proposal are properly allocable to federal awards on the basis of a beneficial or causal relationship between the expenses incurred and the agreements to which they are allocated in accordance with applicable requirements. Further, the same costs that have been treated as indirect costs have not been claimed as direct costs. Similar types of costs have been accounted for consistently and the Federal Government will be notified of any accounting changes that could affect the rate.
- (3) The indirect cost rate calculated within the proposal is 30.71%, which was calculated using an indirect cost rate base type of Modified Total Direct Costs. The calculations were based on actual costs from fiscal year July 1, 2017 thru June 30, 2018 to obtain a federal indirect cost billing rate for fiscal year beginning July 1, 2018.

Subject to the provisions of the Program Fraud Civil Remedies Act of 1986, (31 USC 3801 et seq.), the False Claims Act (18 USC 287 and 31 USC 3729); and the False Statement Act (18 USC 1001), I declare to the best of my knowledge that the foregoing is true and correct.

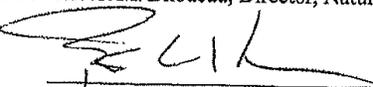
Organization Name: State of Maine, Department of Marine Resources

CFO Signature:

 Date: 1/10/19

Name/Title Authorized Official: Gilbert M. Bilodeau, Director, Natural Res Ser Ctr

Dept Head Signature:

 Date: 1/9/19

Name/Title Authorized Official: Patrick Keliher, Commissioner

MAXIMUS

All Monetary Values are US Dollars
MAXCAP 2019 MAXIMUS Consulting Services, Inc.
Prepared By MAXIMUS Consulting Services, Inc.

Page A-2



Department of Marine Resources

INTEROFFICE MEMORANDUM

TO: FILE
FROM: PATRICK KELIHER, COMMISSIONER
SUBJECT: RATE USED FOR COST ALLOCATION
DATE: 5/23/19

In accordance with OMB Circular A-87, the Department of Marine Resources has submitted to the U.S. Department of Commerce a departmental cost allocation plan for use during state fiscal year 2018 ending June 30, 2018. The indirect cost rate proposal is 30.71%. I am authorizing the use of the lesser rate of 30% to be used during this period.

ACCSP

"FY20: Managing Mandatory Dealer Reporting in Maine"

(Oct. 1, 2020- Sept. 30, 2021)

A handwritten signature in black ink, appearing to read "P. Keliher".

Patrick Keliher, Commissioner

Attachment 4: Authority to Suspension Licenses for Delinquent Reporters

An Act to Improve the Quality of the Data Used in the Management of Maine's Fisheries

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 12 MRSA §6301, sub-§6 is enacted to read:

6. Ownership identified. If a license issued under chapter 625 is issued to a firm, corporation or partnership, the individual who owns the highest percentage of that firm, corporation or partnership must be identified on the license application. When 2 or more individuals own in equal proportion the highest percentages of a firm, corporation or partnership, each of those owners must be identified.

Sec. 2. 12 MRSA §6412 is enacted to read:

§ 6412. Suspension of license or certificate for failure to comply with reporting requirements

1. Authority to suspend. The commissioner, in accordance with this section, may suspend a license or certificate issued under this Part if the holder of the license or certificate fails to comply with reporting requirements established by rule pursuant to section 6173. A license or certificate suspended under this section remains suspended until the suspension is rescinded by the commissioner. The commissioner shall rescind a suspension when:

A. The commissioner determines and provides notice to the holder of the suspended license or certificate that the holder has come into compliance with the reporting requirements established by rule pursuant to section 6173; and

B. The holder pays to the department a \$25 administrative fee.

When a suspension is rescinded, the license or certificate is reinstated. Until the suspension is rescinded, the holder of the suspended license or certificate is not eligible to hold, apply for or obtain that license or certificate.

2. Process for suspension for failing to comply with weekly reporting. If the commissioner determines that a person who holds a license or certificate under this Part has failed to comply with a weekly reporting requirement established by rule pursuant to section 6173, the commissioner shall notify the person at the telephone number provided on the application for the license or certificate and by e-mail if an e-mail address is provided on the application. If the license or certificate holder has not complied with the reporting requirements within 2 days after the commissioner has provided the notice, the commissioner shall mail a notice of suspension to the license or certificate holder by certified mail or the notice must be served in hand. The notice must:

A. Describe the information that the license or certificate holder is required to provide pursuant to this Part that the department has not received; and

B. State that, unless all the information described in paragraph A is provided to the department or the license or certificate holder requests a hearing, the license or certificate will be suspended in 3 business days after the license or certificate holder's receipt of the notice.

If the license or certificate holder has not complied with the reporting requirements or requested a hearing within 3 business days after receipt of the notice, the commissioner shall suspend the license or certificate.

3. Process for suspension for failing to comply with monthly reporting. If the commissioner determines that a person who holds a license or certificate under this Part has failed to comply with a monthly reporting requirement established by rule pursuant to section 6173, the commissioner shall notify the person at the telephone number provided on the application for the license or certificate and by e-mail if an e-mail address is provided on the application. If the license or certificate holder has not complied with the reporting requirements within 45 days after the commissioner has provided the notice,

the commissioner shall mail a notice of suspension to the license or certificate holder by certified mail or the notice must be served in hand. The notice must:

A. Describe the information that the license or certificate holder is required to provide pursuant to this Part that the department has not received; and

B. State that, unless all the information described in paragraph A is provided to the department or the license or certificate holder requests a hearing, the license or certificate will be suspended in 3 business days after the license or certificate holder's receipt of the notice.

If the license or certificate holder has not complied with the reporting requirements or requested a hearing within 3 business days after receipt of the notice, the commissioner shall suspend the license or certificate.

4. **Hearing.** A license or certificate holder receiving a written notice of suspension pursuant to this section may request a hearing on the suspension by contacting the department within 3 business days of receipt of the notice. If a hearing is requested, the suspension is stayed until a decision is issued following the hearing. The hearing must be held within 3 business days of the request, unless another time is agreed to by both the department and the license or certificate holder. The hearing must be conducted in the Augusta area. The hearing must be held in accordance with:

A. Title 5, section 9057, regarding evidence, except the issues are limited to whether the license or certificate holder has complied with reporting requirements established by rule pursuant to section 6173;

B. Title 5, section 9058, regarding notice;

C. Title 5, section 9059, regarding records;

D. Title 5, section 9061, regarding decisions, except the deadline for making a decision is one business day after completion of the hearing; and

E. Title 5, section 9062, subsections 3 and 4, regarding a presiding officer's duties and reporting requirements, except that notwithstanding Title 5, section 9062, subsection 1, the presiding officer must be the commissioner or the commissioner's designee.

Summary of Proposal for ACCSP Ranking

Proposal Type: Maintenance

Primary Program Priority and Percentage of Effort to ACCSP modules:

Catch and Effort (10 points): 100% of licensed dealers must report trip level information on 100% species they purchase from harvesters.

Data Delivery Plan (2 Points): All electronic data are submitted into SAFIS daily. All data reported on paper reports are entered into MEDMR's MARVIN database and will be sent to the ACCSP Data Warehouse on at least a bi-annual basis after all data have been thoroughly audited.

Project Quality Factors:

Regional Impact (5 Points): all partners will benefit, as all the data collected will be uploaded to ACCSP. Regional management organizations, such as ASMFC, will benefit from the trip level information from Maine. Partners may also benefit from the technologies/procedures tested in the elver swipe card/mobile app reporting project. MEDMR contracted to have a mobile app built for dealers to use in conjunction with swipe card technology and required elver dealers to use since the 2014 season. MEDMR paid for all start-up costs associated with this project and shared findings with ACCSP.

Funding transition plan (4 Points): through MEDMR's reorganization, the cost of two positions was absorbed by state and MEDMR is no longer asking for funding for salary and benefits. MEDMR also funds the Office Associate II that is responsible for license suspensions for those who fail to report, and all costs associated with that additional position. MEDMR paid for the development of a "limited species" version of the Trip Ticket software and a mobile app that will be used in conjunction with harvester swipe cards for elver dealers to report with swipe card technology. MEDMR will pay for the ongoing monthly maintenance fee associated with this program. Currently, the MEDMR does not have any plans to require electronic reporting for all fisheries. Geographical restrictions prevent all dealers from having reliable high-speed internet access at this time.

In-kind Contribution (4 Points): the partner contribution is listed on page 12.

Improvement in Data Quality/Timeliness (4 Points): MEDMR can audit data at a more detailed level, including checking dealer reported data against harvester reported data. MEDMR encourages reporting timeliness through outreach with dealers and is working with Marine Patrol to ensure industry understands the importance of submitting accurate and timely information. The Maine State Legislature also passed a new law that authorizes license suspensions for those who fail to report on time which will improve the timeliness and quality of the data submitted. MEDMR mandated electronic reporting through a swipe card system for the elver fishery starting with the 2014 season and in 2015 started requiring dealer to dealer transactions. In 2016 MEDMR required sea urchin dealers to report through swipe cards, which improved timeliness and data quality.

Potential secondary module as a by-product (in program priority order) (3 points): This project has led to the development of swipe card reporting which has proven to be a great data collection tool. This project helped develop eDR mobile which was used to successfully collect timely data and change how the MEDMR manages a fishery.

Impact on Stock Assessment (3 Points): Regional management organizations which carry out stock assessments will benefit from the detailed landings data reported from Maine. This information is used in stock assessments for many species that are managed by regional agencies.

Properly Prepared (1 Points): MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Merit (3 points): This proposal allows MEDMR to comply with mandatory ASMFC requirements. The MEDMR currently provides more data to the data warehouse than any other state

and accounts for over 31% of all records landed in the Data Warehouse. MEDMR are always looking for ways to collect data in a timely and efficient manner.

Maintenance Project Special Ranking:

Achieved Goals (3 points): The MEDMR has always achieved the goals they have outlined in their proposals. Current goals for this grant cycle have been clearly outlined and how MEDMR intends to achieve have been discussed within this proposal.

Data Delivery Plan (2 Points): All electronic data are submitted into SAFIS daily. All data reported on paper reports are entered into MEDMR's MARVIN database and will be sent to the ACCSP Data Warehouse on at least a bi-annual basis after all data have been thoroughly audited.

Level of Funding (1 Point): The MEDMR are asking for less than the mandated 33% cut. The decrease was achieved by removing one full-time position from the grant. The MEDMR still has a larger in-kind contribution than what is being asked for in this grant proposal.

Properly Prepared (1 Points): MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Merit (3 points): This proposal allows MEDMR to comply with mandatory ASMFC requirements. The MEDMR currently provides more data to the data warehouse than any other state and accounts for over 21% of all records landed in the Data Warehouse. MEDMR are always looking for ways to collect data in a timely and efficient manner.

Robert B. Watts II
Maine Department of Marine Resources
(207) 633-9412
rob.watts@maine.gov

June, 2019

PROFILE:

- Knowledge of Maine and federal regulations pertaining to commercial fishing and associated reporting requirements through working with the Department of Marine Resources and the National Marine Fisheries Service.
- Knowledgeable of Maine's fishing industries and how they operate.

EDUCATION:

B.S. Marine Science, Maine Maritime Academy, Castine, ME 2002

EMPLOYMENT EXPERIENCE:

May 2016 – Present **Marine Resource Scientist III**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.
- Oversees DMR's landings suspension authority and process.
- Oversees DMR's swipe card reporting program.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Oversees Maine's Environmental Monitoring Program.
- Serves as key contact for Maine commercial landings information.
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP), serving on the Operations Committee, Commercial Technical Committee, Information Systems Technical Committee, Standard Codes Committee and Outreach Committee; working to bring the Landings Program into compliance with ACCSP standards.

Jan 2014 – Jan 2016 **Marine Resource Scientist III (Acting Capacity)**

June 2015 – Apr 2016 **Marine Resource Scientist II**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.

- Oversees DMR's landings suspension authority and process.
- Oversees DMR's swipe card reporting program.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Serves as key contact for Maine commercial landings information.
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP) through serving on the Commercial Technical Committee, Information Systems Technical Committee and Outreach Committee; working to bring the Landings Program into compliance with ACCSP standards.

**Feb 2012 – Apr 2015 Marine Resource Scientist I
Maine Department of Marine Resources**

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises five Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.
- Oversees outreach to industry.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Serves as key contact for Maine commercial landings.

**Oct 2007 – Jan 2012 Marine Resource Specialist II
Maine Department of Marine Resources**

- Oversee daily operations of the harvester landings program.
- Notify new harvesters about reporting requirements.
- Maintain databases used for data audits and data entry.
- Monitor reporting compliance database and notifies harvesters if they are delinquent.
- Supervise two Landings Program personnel.
- Oversees IVR reporting.
- Prepare data requests from various sources

**Jul 2005 – Oct 2007 Marine Resource Specialist I
Maine Department of Marine Resources**

- Interviewed marine recreational anglers all over the Maine coast to help determine fish stocks. Identified, weighed, measured and recorded fish caught by anglers.
- Created publications, updated regulation handouts and updated the recreational fishing website as needed.

**May 2001 – Jun 2005 Conservation Aid
Maine Department of Marine Resources**

- Interviewed marine recreational anglers all over the Maine coast to help determine fish stocks. Identified, weighed, measured and recorded fish caught by anglers.
- Acted as a liaison between the State of Maine and the recreational anglers, answered anglers questions about fishing regulations.

Lessie White Jr.
Maine Department of Marine Resources
(207) 633-9412
lessie.l.white@maine.gov

June, 2019

PROFILE:

- Knowledge of tracking systems and applications to retrieve fishing intensity.
- Knowledge of and working relationship with many fishing industries in Maine.

EDUCATION:

M.S. Marine Biology, University of Maine/Orono Campus, Orono, ME 2000

B.S. Marine Science/Biology, Long Island University/Southampton Campus, Southampton, NY 1997

EMPLOYMENT EXPERIENCE:

Jul 2016 – Present **Marine Resource Scientist II**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Manages daily operations of Maine’s Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine’s commercial fisheries.
- Supervises Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.
- Oversees DMR’s landings suspension authority and process.
- Oversees DMR’s swipe card reporting program.
- Maintains dealer and harvester auditing databases.
- Oversees Maine’s Interactive Voice Response (IVR) reporting program.
- Serves as key contact for Maine commercial landings information.

Jul 2000 – Jul 2016 **Marine Resource Scientist I**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Implemented the RockSeven tracker project; Tracked boats using GPS trackers to determine fishing activity; Worked with Rock Seven to develop application to show fishing intensity at different speed ranges; Managed the funds;
- Participated in Locus Traxx project; Tracked boats using GPS trackers to determine daily movement and fishing activity; Checked for daily trip reports of fishing activity; Called fishermen to confirm fishing activity; Constructed a spreadsheet to show the performance of the on board reporting system.
- Responsible for implementation of the sea urchin and shrimp port sampling programs; Coordinating sampling schedule; Supervised employee during winter months; Conduct interviews; Collect samples; Process samples in the field and in the lab; Run data quality checks; Maintaining sampling gear; Train other scientists in urchin and shrimp procedures for working up sample; Data analysis on Maine, Massachusetts and New Hampshire’s shrimp data; Participate in the stock assessment for shrimp.

- Participated in scallop, quahog and sea cucumber port sampling program; Sample catches at the docks; Interview the vessel captains for fishing and effort information; Process samples.
- Participated in a Fishing Gear Technology Working Group trying to look at all gear technology advancements for all fisheries; my primary focus was shrimp and lobsters.
- Participated in a Trawl Gear Workshop entitled “Working Together to Improve Fishing Technology”. This workshop looked at different ways to improve otter trawl selectivity through technological advances in materials and trawl designs.
- Participated in Bycatch in Northeast Fisheries: Moving Forward Workshop, where I participated at observing the roadblocks facing researchers and fishermen in trying to get new gear technology into fisheries management.
- Was responsible for shrimp logbook program; Distributing logbook forms; Developing a database to track compliance; Direct contact with fishermen to obtain correct entries; Answer any question the fishermen may have related to the logbook program.
- Participate in lobster sea sampling and ventless survey trips; Measure carapace length; Determine sex; Determine cull code; Determine V notch code; Determine egg classification code; Determine molt; Determine shell disease prevalence; Interviewing the vessel captains for fishing and effort information; Enter data into database.
- Participate in the summer shrimp trawl survey as lead shrimp biologist to assess the status of the stock; Train other scientists in shrimp identification, sex and stage identification, and procedures for working up samples; Work on a limited basis with FSCS (Fisheries Scientific Computing System).
- Implemented whiting gear research; supervised two contract positions; Observed and sorted the catch; Processed catch; analyzed data.
- Acted as DMR liaison and lead scientist on the NEC New Generation Trawl groundfish gear project. This included supervising four contract positions and two observer positions, overseeing data collection, collecting data, data entry, data checking, data analysis and writing the final report.
- Implemented the shrimp combination grate and cod end research; Sorted, identified, and measured the catches; Data analysis; Partial report writing; used underwater camera to video shrimp grate in action. Supervised one contract position.
- Participated as a member of the New England Fishery Management Council’s Plan Development Team for deep-sea red crabs; Assisting in the initial development of a Fishery Management Plan for deep-sea red crabs.
- Participated as an observer in the experimental Atlantic halibut fishery; conducted a literature search on the tagging methods in the halibut fishery.
- Implemented a green crab trapping experiment looking at catchability, retention and cost of five different traps; Looked at converting current gear with the least amount of effort and cost; Set up sampling schedule and area; obtained the equipment; ran the experiments; partial data analysis.

Oct 1997 – Dec 2000

**Graduate Student Research
University of Maine/Orono Campus
Orono, ME**

- Graduate research project on cod energetics; Ran a small closed water aquaculture system; Raised larval and juvenile cod; Raised live food for larval cod; Conducted water quality tests; Gave presentations; Analyzed data; Did minor repairs and cleaned system; Gave tours.

Erin L. Summers
Maine Department of Marine Resources
(207) 633-9556
erin.l.summers@maine.gov

June, 2019

Profile:

- Work collaboratively with state, federal, academic, conservation, and industry partners to reduce whale entanglements and mortality in marine mammals and sea turtles through bodies such as the Atlantic Large Whale Take Reduction team and Atlantic Large Whale Disentanglement Network.
- Build research programs to provide baseline data on large whale life history, ecology, and habitat use in Maine's coastal rocky bottom habitats. Design new and emerging methodologies to inform management decisions.
- Oversee research and monitoring programs within the Division of Biological Monitoring at DMR, including the lobster programs, surveys for scallops, sea urchin, shrimp, and herring, recreational fisheries program, inshore trawl survey, and the landings and reporting group.
- Represent the Department of Marine Resources in stakeholder meetings, including those for wind energy permitting, Natural Resource Damage Assessments, department wide research and priority setting, etc.
- Member of the Atlantic Scientific Review Group advising NOAA Fisheries on marine mammal stock assessments

Education:

MA Biology: Boston University Marine Program Woods Hole, Ma. 5/02
BA Biology, Spanish minor: Truman State University Kirksville, Mo. 5/00

Employment:

Jan 2017 – present: **Marine Resource Scientist IV**
 Maine Department of Marine Resources
 West Boothbay Harbor, Me

- Oversee Division of Biological Monitoring, including Commercial Landings Program, Benthic group (lobster, scallops, urchins), and Pelagic group (herring, groundfish, shrimp, and recreational fishing)
- Lead Scientist for DMR's Large Whale Conservation Program
- Member of the Atlantic Large Whale Take Reduction Team

Feb 2006 – Jan 2017: **Marine Resource Scientist II**
 Maine Department of Marine Resources

- Lead scientist for DMR's Large Whale Conservation Program
- Secured grant funding, wrote reports, tracked budgets to support research projects
- Completed projects to support management decisions for the Atlantic Large Whale Take Reduction Plan, including tagging humpback whales, right whale habitat surveys, passive acoustic surveys, gear density surveys, testing alternative fishing gear, characterizing fishing practices, etc.
- Oil Spill Response Coordinator
- Assist with GIS coordination

Jan 2010 – May 2010: **Adjunct Faculty**
Unity College
Unity, Me

- Taught upper level course in the biology of Marine Mammals

Feb 2004 – Feb 2006: **Marine Mammal Research Specialist**
University of New England
Biddeford, Me

- Lead Research technician on project to track and predict right whale habitat use and distribution
- Analysis of remotely sensed data and right whale sightings in the Bay of Fundy Critical Habitat
- Assisted with report writing and budget tracking
- Completed project and published paper analyzing right baleen using stable isotope analysis
- Completed project and published papers satellite tagging and tracking basking sharks off the coast of New England

Sept 2002 – Feb 2004: **Research Technician**
Cetacean and Sea Turtle Team, NOAA Fisheries Service
Beaufort, NC

- Lead technician tracking and analyzing movements of satellite tagged dolphins
- Perform field work including fishing gear and dolphin aerial surveys, boat-based dolphin biopsy and photo-identification surveys, satellite tagging dolphins, responding to standings, etc.
- Participate in necropsies as needed

Oct 2000 – June 2002: **Laboratory Technician**
Marine Biological Laboratories
Woods Hole, Ma

- Manage daily operations of the laboratory of marine veterinarian, Roxanna Smolowitz
- Run experiments and document methodologies and results
- Prepare media, samples, histology slides, and other lab bench work



STATE OF MAINE
DEPARTMENT OF
MARINE RESOURCES
MARINE RESOURCES LABORATORY
P.O. BOX 8, 194 MCKOWN POINT RD
W. BOOTHBAY HARBOR, MAINE 04575-0008

PAUL R. LEPAGE
GOVERNOR

PATRICK C. KELIHER
COMMISSIONER

Atlantic Coastal Cooperative Statistics Program
Operation and Advisory Committee
1050 N. Highland Street, Suite 200A-N
Arlington, VA 22201

August 13, 2018

We are pleased to submit the revised proposal entitled **“Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries”**

This is a maintenance proposal which has not changed its scope from the previously funded project in 2018. The top priority is the biological sampling of the Atlantic herring commercial fishery because the information derived has critical value that shows the health of the east coast herring meta population.

We have addressed all the general comments (below). Changes from the original proposal are highlighted in yellow as directed. In addition, specific comments were made (below). Our responses to these comments are also included.

Please note there has been a cost change to \$26,115.86 due to a recent change in the indirect rate.

Dr. Matthew Cieri and Erin Summers

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland Street, Suite 200A-N
Arlington, VA 22201

Portside commercial catch sampling and bycatch sampling for Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries

Total Cost: \$26,116.

Submitted by:

Dr. Matthew. Cieri
Maine Department of Marine Resources
P.O. Box 8, McKown Point Road
West Boothbay Harbor, ME 04575
matthew.cieri@maine.gov
(207) 633-9520

Erin L. Summers
Maine Department of Marine Resources
P.O. Box 8, McKown Point Road
West Boothbay Harbor, ME 04575
Erin.L.Summers@maine.gov
(207) 633-9556

Portside Commercial Catch Sampling and Comparative Bycatch Sampling for Atlantic Herring, Atlantic Mackerel and Atlantic Menhaden fisheries

Questions

- p.6 - When is the final FY16 completion report due? Will more information/final analyses be available to include in updated proposal?
- This proposal has been changed to a 5-year cycle with Grants online. The authors agree that this is likely to long to wait for initial results, and so a report has been appended (Attachment 7)
- Will the likely significant changes in the Atlantic herring quotas have an impact on the sampling scheme/schedule of this proposal given the potential shifts and changes in the fishery?
- Currently it is not known how the NEFMC or ASMFC will respond to the most recent assessment. Sampling is based on the number of trips by gear, area, and month. While it is likely that there will be a reduction in the amount of catch, and thus trips, we currently do not know how the fleet will respond. Further while herring landings may decline, menhaden sampling is expected to continue or increase during the period.

Recommendations

- Proposal states none of the species involved in study has been declared overfished and as of June 2018; however, the Atlantic mackerel benchmark assessment indicates the stock is overfished and overfishing is occurring.
- Corrected
- Given the low catches of Atlantic mackerel recently, not sure if this fishery is one of the top three commercial volume fisheries on the east coast as mentioned in proposal.
- Corrected
- p.5 – Additional justification for the continued collection of Atlantic mackerel samples could include the recently approved age-structured mackerel stock assessment; Mid-Atlantic SSC noted/recommended the continued collection of biological and bycatch samples; rebuilding plan now in place and greater need to continue bio sampling programs in order to track rebuilding progress.
- Justification added
- p.9 - 10: NMFS NEFMC at bottom of page 9 should be changed to NMFS NEFSC. Also it seems like coordination with NJDFW would be listed agency.
- Corrected

Applicant Name: Maine Department of Marine Resources (MEDMR)

Principal Investigator: Matthew Cieri, Marine Resource Scientist

Project Title: Portside commercial catch sampling and bycatch sampling for Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries

Project Type: Maintenance Project

Requested Award Period: One year after receipt of funds

Change in Scope/Cost from Previous Year Project:

This is a maintenance proposal which has not changed its scope from the previously funded project in 2018. The overall cost is slightly lower than the FY18 final award amount anticipated savings in supplies.

Objectives:

To maintain and expand the biological sampling of primarily the Atlantic herring commercial fishery including Atlantic menhaden and mackerel and other incidentally retained species of interest.

A secondary objective is to continue the portside bycatch sampling for trips targeting Atlantic herring.

Need:

Each of the species involved in this study has been declared not overfished and not subject to overfishing, as of June 2018, with the exception of mackerel. However, each of these principle pelagic fisheries has recently become the focus of management action because of their status as forage species and because of potential bycatch problems associated with the directed fishery. In particular, Atlantic herring and Atlantic menhaden have been the focus of the emerging trend towards ecosystem management. Additionally, the commercial catch sampling portion of this project cover four important species listed in ACCSP FY 2017 Biological Sampling Priority Matrix; River herring (*Alosa sp.*), Atlantic menhaden (*Brevoortia tyrannus*), Spiny dogfish (*Squalus acanthias*), and Shad (*Alosa sapidissima*)

Atlantic herring (*Clupea harengus*), Atlantic menhaden (*Brevoortia tyrannus*) and Atlantic mackerel (*Scomber scombrus*) are three of the most ecologically and economically important fish species in the western Atlantic. All three are high volume, low value species utilized for bait, reduction, or human consumption. The three species are oceanic plankton-feeding fish that occur in large schools, inhabiting coastal and continental shelf waters from Labrador to Florida. With an estimated complex-wide biomass of 1.8 million metric tons (mt) of herring, 1+ million mt of mackerel, and 2.5+ million mt of menhaden, these species provide a significant forage base for other fish species, marine mammals, and birds. Additionally, they support the first, second largest commercial fisheries on the east coast in terms of volume. Atlantic herring landings in 2016 (the last year that NMFS data was available) were reported at approximately 65,000 mt with an estimated value in excess of \$37 million. In addition to the direct economic contribution of herring landings, this fishery supports a domestic value-added industry worth

approximately \$65 million and the North Atlantic lobster fishery estimated at over \$500 million. Atlantic mackerel landings in 2016 were reported at approximately 5,300 mt with an estimated value in excess of \$4 million. The domestic value added industry (frozen whole fish) for mackerel, based in Cape May, NJ, and Fall River, New Bedford and Gloucester, MA, is estimated at \$20 million. The Atlantic menhaden 2016 catch was ~180,000 mt valued at ~\$50 million. Generally, 25-30% of all menhaden are landed for bait

This study will continue the biological commercial catch sampling of Atlantic herring, Atlantic mackerel, and Atlantic menhaden. Additionally, other species of interest, such as dogfish, both river herring species, and shad will be sampled as they are routinely encountered in this study.

This proposal will also continue to survey bycatch during trips targeting Atlantic herring using the protocols developed over the last decade of sampling.

Approximately seventy percent (70%) of project resources are needed to carry out the first and prime objective (or module) of the concurrent sampling portion of the project while thirty percent (30%) of resources are needed for the bycatch module.

Commercial catch sampling of Atlantic herring, Atlantic mackerel and Atlantic menhaden

MEDMR has collected and processed Atlantic herring commercial catch samples since 1960. A significant focus of this proposal is a continuation of the commercial catch sampling program for Atlantic herring along the east coast. MEDMR maintains primary responsibility for fishery dependent sampling of the east coast Atlantic herring fishery. Duties include, processing biological samples, compiling catch data, and constructing the catch at age matrix for the age structured model. Currently, staffing and financial limitations prevent MEDMR from providing adequate commercial catch sampling coverage without ACCSP support. Furthermore, NMFS has reduced port agents and other staff, such that biological sampling of herring has become a lower priority. In an effort to improve the commercial catch sampling program, MEDMR has supported a dedicated northeast herring sampler.

The Atlantic herring fishery has recently undergone significant management changes as a result of federal and state action. Recent implementation of River herring and Shad bycatch quotas will dramatically change fleet behavior, which in turn may alter size and location of where fish are caught. Also, a recent update to the Atlantic herring assessment has revealed the re-immersion of a retrospective pattern. Such a pattern for Atlantic herring tends to overestimate spawning stock biomass and under estimate fishing mortality in the terminal year. While changes to selectivity and natural mortality may be the cause of this pattern, age discrepancies between fishery dependent and commercial catch sampling may also play a role. As such continued commercial catch sampling will be vital in potential resolution of this issue

Without ACCSP support, samples would not be collected or aged, resulting in no catch-at-age information for the assessment. Atlantic herring would move from an age-structured stock assessment to one developed for data-poor species, and would be categorized as a data-poor species in need of sampling. Because ACCSP has funded this project, however, Atlantic herring are currently adequately sampled and are not scored by ACCSP. Given the most recent management changes, changes in the most recent stock assessment, ongoing litigation, and the importance to both state and federal partners, Atlantic herring would have scored very high in the process had it been part of the scoring.

Although ACCSP has not identified Atlantic mackerel as a priority, commercial catch sampling should be important given recent changes to the Squid, Mackerel, and Butterfish Plan as implemented by the Mid-Atlantic Council. Further mackerel has transitioned to a new age-structured assessment, further increasing the importance of fishery dependent sampling for this stock. Like Atlantic herring, fleet behavior may change markedly, as a result of bycatch quotas recently implemented for River herring. Traditionally the commercial mackerel catch was sampled by NMFS; however, due to the closure of port offices and limited personnel, current mackerel sampling is limited. With the existing and predicted growth in the domestic mackerel harvest, additional sampling is necessary to adequately cover the fishery.

Recently (since 2016) Atlantic menhaden have been increasing in numbers in Maine state waters. As a result of this, and a lack of herring being landed from Georges Bank, Maine landings have increased for this important baitfish. Because of this, Maine has increased its biological sampling program for this species to both fulfill ASMFC sampling objectives and to provide valuable fishery dependent data for the stock assessment.

Continued commercial catch sampling has been put forth as an imperative research need in the most recent menhaden assessment. Further importance has been placed on increased commercial catch sampling in the northern portions of the stock's range and in the bait fishery in general. This is particularly important as the menhaden assessment team analyzes the possibility of a dome, rather than the existing logistic function in selectivity for the northern bait fishery.

Because the Atlantic herring, Mackerel, and Menhaden fisheries encounter bycatch, this project also samples all species encountered during either the bycatch or commercial catch sampling modules. In particular, four species River herring (*Alosa sp.*), Atlantic menhaden (*Brevoortia tyrannus*), Spiny dogfish (*Squalus acanthias*), and Shad (*Alosa sapidissima*), are routinely encountered and samples for length, weight, and otolith/scales are forwarded to other institutions for age analysis. These four species represent 20% of the top quartile of ACCSP's FY 2016 Biological Sampling Priority Matrix.

Continued bycatch sampling

During at-sea operations NMFS observers use basket sampling to document occurrence of other species during targeted Atlantic herring and mackerel trips. These non-target species are then included in the data as retained or "Kept"

(http://www.nefsc.noaa.gov/fsb/manuals/2013/NEFSC_Observer_Program_Manual.pdf).

Normally, ten 50 lb. basket sub-samples are taken at regular intervals during the pumping process from net to hold. These samples are then checked for bycatch and the results expanded. Because the Atlantic herring fishery is a high volume fishery much of the bycatch is retained during the pumping process, particularly for co-occurring pelagic species such as river herring.

Until the spring of 2011 MEDMR port sampling procedure measured bycatch using a "lot" (~40,000 lbs) approach. Lot sampling involves looking intensively at a portion of a vessel's landings, and then extrapolating those results to the entire offload. This sort of sampling contrasts that done by NMFS and MADMF, which takes regularly spaced basket subsamples during pumping.

Analysis of more than ten years (2005-2014) of both portside and at sea bycatch data and results from the DMR, DMF and NMFS databases revealed that “lot” sampling, as MEDMR had been conducting it, was not useful when comparing the portside and at-sea programs. The reasoning behind this stems from variability of catch composition in vessels with multiple fish holds. Fish being partitioned into separate holds may be from the same, different, or a mixture of multiple tows or sets. While lot sampling has provided valuable spatial and temporal insights to bycatch distribution and frequency, it is unable to resolve variability between vessel holds. Sampling entire vessel offloads allows that variability to be reflected in the data.

In an attempt to more closely align our data with both the at-sea observer data and DMF portside data, we (DMR) have moved away from the practice of “lot” sampling in 2011 and instead now use a protocol similar to DMF and NMFS.

In 2012 MEDMR, with ACCSP funding, implemented concurrent sampling of Atlantic herring trips portside that had also been sampled by at sea observers. After 4 years, MEDMR had the required number of trips, by gear, area season, and year, to analyze the data and statistically determine if portside and at-sea sampling give similar results. Further analysis will be provided in the FY2016 completion report, but preliminary analysis suggests that since institution of lot sampling by MEDMR, results between portside and at-sea sampling are statistically similar for small bodied species in high volume fisheries.

Given the encouraging, but preliminary results, MEDMR is now proposing to use this newly revamped protocol and during routine portside bycatch monitoring of the Atlantic herring fishery. DMR’s efforts, coupled with ongoing work by MA DMF and the NEFOPS program will help to increase sample sizes for determining bycatch amounts in the Atlantic herring fishery. While neither MEDMR or MA DMF portside programs are used to monitor bycatch quotas for haddock or River herring, data from both programs were used to set the River herring quotas by gear type (<http://s3.amazonaws.com/nefmc.org/160301-2016-2018-Herring-Specs-Formal-Submission.pdf>)

Results and Benefits:

Commercial catch sampling

This program collects all the Atlantic herring directed samples from the U.S East coast fishery and a portion of all the collected mackerel and menhaden samples use in assessments of the stocks and management of the fisheries. Regarding the need for the work as stated above, if this project was not funded there are currently no other resources that would or could be shifted to collect samples of Atlantic herring, Atlantic mackerel, or Atlantic menhaden. There are also limited resources to perform Atlantic herring, Atlantic mackerel, or Atlantic menhaden bycatch studies. The catch at age analysis for all three species would lack coverage for the full range of the fishery without this project.

Annually collected samples of Atlantic herring from the commercial fishery provide the cohort catch at age data for the SARC’s periodic assessment of the herring population and are used to predict and define the ASMFC’s (Atlantic States Marine Fisheries Commission) rolling spawning area closures and give evidence of overall health of the Coastal Stock Complex. All Atlantic herring sample data is uploaded to the ACCSP data warehouse. Commercial catch sampling can also provide insight into the biological and management processes that drive the stock and fishery. Recently an analysis was performed to

examine changes in length at spawning for Atlantic herring. Results were presented to the ASMFC Atlantic Herring Section that is in the process of finalizing spawning relationship changes to account for a decrease in herring length at full maturation.

Maine DMR processes all commercial catch herring samples for the east coast fishery. DMR maintains a lab facility with the equipment and staffing necessary for processing more than 200 commercial herring samples a year. In addition, DMR provides staff oversight of the field sampling program and scientific analysis of the data generated from the program which is then fed directly into the assessment. Without the ACCSP funded program, samples would not be collected or aged, resulting in no catch-at-age information to inform the assessment. As such, Atlantic herring would move from an age-structured stock assessment to one developed for data-poor species, and would be categorized as a data-poor species in need of sampling. Because ACCSP has funded this project, however, Atlantic herring are current adequately sampled and are not scored by ACCSP.

In addition to sampling Atlantic herring and mackerel for the purposes of developing catch-at-age matrices, this program has provided biological samples for multiple research projects. Herring have been collected for the Gulf of Maine Research Institute acoustics project, the NEFSC's (North East Fishery Science Center) morphometrics study, genetics studies, and most recently stomach and fat content samples have been provided to various organizations to examine the role of climate change in nutritional content of herring. The commercial catch samples also provide the basis for determining the start date for the three Atlantic States Marine Fisheries Commission herring spawning closure areas (two along the Maine coast and one along the NH/MA coast).

Atlantic menhaden were added as a sample species in 2010. Menhaden can be collected as bycatch during herring operations as well as from a growing purse seine directed fishery for lobster bait in the Northeast. While the bulk of this fishery occurs in the Mid-Atlantic, there is a growing interest in menhaden as a result of recent management changes in the Atlantic herring fishery. Bait landings of menhaden in Southern New England and the Mid-Atlantic have tripled in the past two years. Even more recently, Maine landings have risen sharply as the stock has entered state of Maine waters. Because menhaden stratify in latitude by age, a more complete sampling of the menhaden catch in the northern parts of its range may improve our understanding of the population dynamics of this important forage species.

The commercial catch sampling program funded historically by ACCSP has proven extremely successful and has provided important information to the fishery managers. The biological information on size, age, and maturation of herring feeds directly into the stock assessments for Atlantic herring, Atlantic mackerel, and Atlantic menhaden. ASMFC has routinely used the data collected from this project to implement management changes to herring spawning regulations, as well as to make other decisions with regards to allocation of quota among management areas.

Bycatch sampling

The data collected through the bycatch survey supplements the federal at-sea observer coverage program, as well as the MA DMF River Herring Avoidance Program, has vastly increases the amount of information available on bycatch in the herring fishery. This project will maintain and expand an effective and scalable method for the long-term monitoring of bycatch in the Atlantic herring fishery. A portside bycatch sampling methodology has been developed and tested, and has demonstrated the

ability to observe high volumes of landed herring catch. Portside efforts will complement but not replace the NMFS at-sea observer coverage. This proposed bycatch survey represents a unique opportunity to collect data in an inexpensive but efficient and accurate way. Given this in 2018 NMFS has started the process of incorporating Maine DMR and MA DMF portside sampling into the quota monitoring system for Haddock and river herring bycatch quotas.

Beyond the immediate benefit to the NMFS, MA DMF, and MEDMR bycatch sampling in this fishery, the proposed project may provide guidance to other bycatch sampling programs in other fisheries. More importantly DMR's proposed portside sampling will augment the MA DMF and NEFOP efforts allowing for better estimation of River herring, haddock, and potentially other species caught as bycatch in the directed Atlantic herring fishery

Review of Previous Results:

This proposal is a continuation of an ACCSP funded herring sampling and combined portside bycatch survey. The project has evolved over the past several years in order to maximize the use of funds. Project history is shown in Attachment 2 and explains the evolution of the project, including the transition to an emphasis on portside bycatch sampling in conjunction to biological sampling along with a review of project costs. The Project for FY 2017 has just ended so full analysis has yet to be completed, but the most recent semi-annual report is in Attachment 3.

Approach:

Commercial catch sampling of Atlantic herring, Atlantic mackerel and Atlantic menhaden

Commercial catch sampling will be conducted at herring and mackerel pumping and processing sites along the east coast. As a general rule commercial catch sampling occurs such that there is at least one sample per statistical area, per week, per gear type and generally meets NMFS protocols of one sample per 500 mt.

The samplers will follow the existing protocol developed for commercial catch sampling of Atlantic herring (Attachment 4). This protocol complies with the guidelines laid out by ACCSP. Sample will be processed and aged by in-house staff, primarily Lisa Pinkham. Samples are processed for length; weight, maturity, and aged per NMFS protocols (please see www.nefsc.noaa.gov/publications/crd/crd0406/crd0406.pdf Page 22). This information is uploaded to the ACCSP warehouse and is used for the assessment of Atlantic herring.

The same vessels that harvest Atlantic herring primarily pursue Atlantic mackerel on the east coast. Traditionally, when markets are available the pelagic fishing fleet transfers some of their effort from herring to mackerel in the winter and early spring. The samplers funded by this grant can easily collect mackerel by keeping in touch with the herring vessels that enter the mackerel fishery. Most of the ports where significant mackerel landings occur overlap with major herring ports; this is largely due to the fact that herring processing facilities are also capable of freezing mackerel. Sampling will follow the existing NMFS protocol for mackerel and the guidelines established by ACCSP (Attachment 4).

Atlantic menhaden sampling

Support for port sampling for Atlantic menhaden (*Brevoortia tyrannus*) is also requested. Currently, there have been increased menhaden catches in the New England Area, particularly Maine, when compared to previous years. This trend is expected to continue for the next several years. National

Marine Fisheries Service in Beaufort, North Carolina has requested commercial samples from the northern extent of this stock's range (north of Cape Cod). Such sampling of the "snapper rig bait fishery" (Northeast purse seine) is also listed as a priority research initiative in the most recent menhaden assessment. Such samples are critical to the assessment process for Atlantic menhaden and in accurately estimating the catch at age. During our normal sampling of the Atlantic herring bait fishery, we will collect Atlantic menhaden samples primarily from purse seines using the protocols outlined by NMFS, Beaufort (Attachment 4) and forward scales and measurements for use in the next assessment. Sampling targets for menhaden could not be derived because of the exploratory nature of this sampling and the uncertainty in the effort placed on this stock north of Cape Cod; where our sampling effort will be directed.

Bycatch sampling

The herring industry has changed tremendously in the last five years resulting in a much more centralized distribution structure. Generally, the herring used for bait goes through a wholesale dealer to smaller dealers and lobster wharfs along the coast. The wholesale dealers have facilities where they sort, barrel, freeze and store bait for redistribution. It is at these sites where effective bycatch surveys can also be done, thereby including the bait sector in this study. Herring is also landed at larger centralized processing plants which may process for a food grade market for export or for direct sale into the regional bait market.

The sampling takes place at centralized processing plants and bait dealers. A goal of observing 2 trips per month January through May and one or two trip per week during the June-Oct time period (when the fishery is most active) is proposed. Trip selection will be hap hazard, with an overall goal of sampling multiple gears and management areas each month and to scale bycatch sampled trips with the activity of the fishery.

The samplers will quantify bycatch from individual off-loadings that enter the processing and bait plants according to a NMFS specified protocol. The total weight of any observed bycatch will be recorded along with species identification, total species weight, individual lengths and weights of all fish or a representative sub-sample. The total estimated bycatch weight by species will then be compared to census sampling by MA DMF and/or at sea basket sampling conducted by NEFOP as appropriate.

Using existing MEDMR protocols (Attachment 5) and in close concert with NMFS observers and MA DMF portside samplers, staff will directly target trips that have been observed by either of those two programs. Where possible, and as practicable, staff will also conduct a full census of landed bycatch from full offloading events (trips) which have also been sampled at-sea; thereby allowing a direct analysis and validation of current at-sea bycatch monitoring methods. Particular emphasis will be placed on sampling those trips, using current MEDMR methods that had both NMFS and MA DMF bycatch sampling.

Once the data are collected, they will be housed and archived in a MEDMR relational database. Data requests and queries will be performed to assist in monitoring quotas, should the need arise, as well as to provide bycatch information to the NEFMC Plan Development Team, NMFS, and other interested parties.

Geographic Location and Temporal Distribution of Effort:

Sampling will occur in ports from Prospect Harbor, ME to Cape May, NJ, and reflect landings and effort from NC, through ME. Efforts will be coordinated with the NMFS NEFSC in Woods Hole, NMFS, Beaufort, NC, NJ, MA, MA DMF, NH F&G, and RI, DEM, and other state agencies throughout the range of the herring and mackerel fisheries. Staff will be based out of the MEDMR Boothbay Harbor lab facility. Because of herring and mackerel availability to the fishery, market conditions, and other factors, it is difficult to pinpoint where the fleet maybe landing at any given time. Sampling will thus occur after direct contact with vessel captains and plant managers to identify were sampling should take place.

In general herring, biological and bycatch sampling is primarily conducted spring, summer, and fall, with some effort during winter months. Mackerel sampling occurs primarily in the winter months; and it's anticipated that menhaden sampling will occur in the late summer to early fall. Bycatch sampling and commercial sampling become more infrequent in the winter months, while travel to get to the landing sites increases. Report writing and data analysis occur between regular commercial and bycatch sampling.

Data Management:

Data collected through this study are regularly entered into the MARVIN biological database housed at MEDMR. Data are first entered into MARVIN and run through Quality Assurance/ Quality Control (QA/QC) routines to insure accurate reporting.

Metadata will be created with ArcCatalog in order to conform to the (Federal Geographic Data Committee (FGDC) standards and specifications. Created metadata will be available in text and XML formats.

Milestone Schedule:

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Catch Sampling-HERR	x	x	x	x	x	x	x	x	x	x	x	x
Catch Sampling-MACK	x	x	x	x	x							x
Bycatch Sampling-co-occurring NMFS	x	x	x	x	x	x	x	x	x	x	x	x
Analysis	x	x	x	x	x	x	x	x	x	x	x	x

* - Upon request, MEDMR will provide bycatch sampling data on a state by state basis three times a year.

Project Accomplishment Measurement

Commercial Catch Sampling

Atlantic herring

At Least 10% sampled trips by gear type and month

Atlantic mackerel

At Least 10% sampled trips by gear type and month

Bycatch Sampling

Atlantic herring

At least 40 trips sampled by area, gear type and quarter

FY 2019 Budget & Narrative

FY2020 Budget (State FY21)		
7/1/20 - 6/30/21		
Cost Summary: Portside bycatch sampling		
Personnel Services	Description	ACCSP
None		
All Other		
Travel Expenses		
PROJECT VEHICLE 12 months	\$295/mo	\$ 3,600.00
Mileage fee	31000 @ \$.21/mi	\$ 6,510.00
Toll allowance		\$ 150.00
35 Overnight stays	\$102/night	\$ 3,570.00
Per diem (includes extended days)	\$50/day	\$ 2,750.00
		\$ 16,580.00
Office Supplies & Minor Equipment		
2 Cell Phones	2 @ \$50/month	\$ 1,200.00
1 air card	1 @ \$75/month	\$ 900.00
Sampling Gear		\$ 500.00
Lab Supplies		\$ 800.00
		\$ 3,400.00
Total Direct Costs		\$ 19,980.00
Indirect Costs (30%)		\$ 6,135.86
Award to DMR		\$ 26,115.86

Partner Contribution – For ACCSP Purposes

Scientist IV (10% time)	\$10,000
Scientist III (25% time)	\$15,000
Specialist II 100% time)	\$84,000
Specialist I (25%)	\$12,000
Total	\$121,000

Future Project Needs:

This project is designed to benefit all states from Maine to New Jersey, ASMFC and federal management agencies including the NEFMC and NMFS. While accessory funding is available for FY 19 to cover all personnel costs, MEDMR continues to pursue long-term and permanent funding for this project through a commitment made by the participating states and the federal government. Additionally, the New England Fishery Management Council is examining industry funded at-sea observer monitoring in herring and other fisheries. Part of the discussion has included the possibility of industry funding port-side monitoring. MEDMR is engaged in these discussions.

Budget Narrative:

Personnel and Fringe Benefits: Because of state funding resources, we are not requesting to fund either the Specialist II (James Becker) or the Specialist I (Lisa Pinkham) as we have in past years. This represents shift in the project from mostly ACCSP funded, to mostly State funded.

Travel and vehicles

Travel is requested for 35 trips overnight. The exact number of trips will depend of fleet activity and port of landing. A small utility 4x4 truck is proposed for safety reasons during winter sampling in remote locations, as well as to haul equipment from time to time. Central fleet for the State of Maine stipulates rates, and private rentals are prohibited by state policies. Current request reflects a recent policy change by Central Fleet to charging less per month, but increasing the mileage rate for trucks.

Office Supplies & Minor Equipment

Two cell phones and an “Air card” are requested. One cell phone is for the sampler to contact vessels and to coordinate with NEFOP and MA DMF personnel. A second phone is requested for the supervisor to provide direction if needed and to allow for communication in case of an emergency. An air card is also requested which allows the user to connect to the State network from any location with cell phone coverage. Air cards allow for the efficient entry of data while waiting for vessels to land, along with allowing access to the VMS system to better pin point landing events.

Other Lab and Sampling supplies include baskets for sampling, scale calibration, rain gear, water proof paper, sample boxes, safety equipment, and other items

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 6 for the Negotiated Indirect Cost Agreement. Note this is a 5% increase from FY2017

Attachment 1: FY 2018 Budget & Narrative

As proposed

**FY2018 Budget (State FY20)
7/1/18 - 6/30/19**

Cost Summary: Portside bycatch sampling

<u>Personnel Services</u>	Description	ACCSP
No Personnel Services		
 <u>All Other</u>		
Travel Expenses		
PROJECT VEHICLE 12 months	\$295/mo	\$ 3,600.00
Mileage fee	31000 @ \$.21/mi	\$ 6,510.00
Toll allowance		\$ 150.00
35 Overnight stays	\$102/night	\$ 3,570.00
Per diem (includes extended days)	\$50/day	\$ 2,750.00
		\$ 16,580.00
 Office Supplies & Minor Equipment		
2 Cell Phones	2 @ \$50/month	\$ 1,200.00
1 air card	1 @ \$75/month	\$ 900.00
Sampling Gear		\$ 800.00
Lab Supplies		\$ 500.00
		\$ 3,400.00
Total Direct Costs		\$ 19,980.00
Indirect Costs (30%)		\$ 5,994.00
Award to DMR		\$ 25,974.00

Partner Contribution – For ACCSP Purposes

Scientist IV (20% time)	\$20,000
Scientist III (25% time)	\$15,000
Specialist II 100% time)	\$84,000
Specialist I (25%)	\$12,000
Total	\$131,000

Budget Narrative: 2018

Personnel and Fringe Benefits: Because of state funding resources, we are not requesting to fund either the Specialist II (James Becker) or the Specialist I (Lisa Pinkham) as we have in past years. This represents shift in the project from mostly ACCSP funded, to mostly State funded.

Travel and vehicles

Travel is requested for 35 trips overnight. The exact number of trips will depend of fleet activity and port of landing. A small utility 4x4 truck is proposed for safety reasons during winter sampling in remote locations, as well as to haul equipment from time to time. Central fleet for the State of Maine stipulates rates, and private rentals are prohibited by state policies. Current request reflects a recent policy change by Central Fleet to charging less per month, but increasing the mileage rate for trucks.

Office Supplies & Minor Equipment

Two cell phones and an “Air card” are requested. One cell phone is for the sampler to contact vessels and to coordinate with NEFOP and MA DMF personnel. A second phone is requested for the supervisor to provide direction if needed and to allow for communication in case of an emergency. An air card is also requested which allows the user to connect to the State network from any location with cell phone coverage. Air cards allow for the efficient entry of data while waiting for vessels to land, along with allowing access to the VMS system to better pin point landing events.

Other Lab and Sampling supplies include baskets for sampling, scale calibration, rain gear, water proof paper, sample boxes, safety equipment, and other items

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 6 for the Negotiated Indirect Cost Agreement. Note this is a 5% increase from FY2017

Attachment 2: Project history

YEAR	TITLE	COST	Rational/Emphasis	RESULTS
2001	Commercial catch sampling of Atlantic herring	\$52,299	catch sampling, herring	expanded sampling of herring
2002	Commercial catch sampling of Atlantic herring	\$67,168	catch sampling, herring	herring and mackerel sampling
2003	Commercial catch sampling of Atlantic herring and other northeast fisheries	\$67,168	catch sampling, herring	herring, mackerel and halibut
2004	Commercial catch sampling and bycatch survey of the northeast Atlantic herring fishery	\$70,441	catch sampling, herring and mackerel	herring, halibut, mackerel and pilot portside bycatch sampling
2005	Commercial catch sampling and bycatch survey of two pelagic fisheries	\$69,949	catch sampling, herring and mackerel	herring, halibut, mackerel and pilot portside bycatch sampling
2006	Portside bycatch sampling and commercial catch sampling of the Atlantic herring and Atlantic mackerel fisheries	\$104,633	portside bycatch survey herring and mackerel catch sampling	herring and mackerel portside bycatch at 5% level and catch sampling
2007	Portside bycatch sampling and commercial catch sampling of the Atlantic herring and Atlantic mackerel fisheries	\$108,891	portside bycatch survey herring and mackerel catch sampling	herring and mackerel portside bycatch at 5% level
2008	Portside bycatch sampling and commercial catch sampling of the Atlantic herring and Atlantic mackerel fisheries	\$116,300	portside bycatch survey herring and mackerel catch sampling	herring and mackerel portside bycatch at 5% level
2009	Portside bycatch sampling and commercial catch sampling of the Atlantic herring, Atlantic mackerel, and Atlantic menhaden fisheries	\$105,985	portside bycatch survey herring menhaden and mackerel catch sampling	herring and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2010	Portside bycatch sampling and	\$84,451	portside bycatch survey	

	commercial catch sampling of the Atlantic herring, Atlantic mackerel, and Atlantic menhaden fisheries		herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2011	Portside bycatch sampling and commercial catch sampling of the Atlantic herring, Atlantic mackerel, and Atlantic menhaden fisheries	\$174,778	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2012	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$0	portside bycatch survey herring menhaden and mackerel catch sampling	Funds were not requested because of previous cost saving measures; allowing for the continuation of the previous work with no added costs.
2013	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$113,774	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2014	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$130,599	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2015	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$136,306	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level. Final analysis Ongoing
2016	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$23,606	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level. Final analysis Ongoing
2017	Portside commercial catch sampling and bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$24,975	portside bycatch survey herring menhaden and mackerel catch sampling	Ongoing
2018	Portside commercial catch sampling and bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$25,974	portside bycatch survey herring menhaden and mackerel catch sampling	Not yet started

Proposed ACCSP Ranking

Proposal Type: Maintenance

Primary Program Priority and Percentage of Effort to ACCSP modules:

Biological Sampling (8 Points): Although Atlantic herring is missing from the top quartile of the Biological Matrix a correct scoring would certainly adjust it to that level. The score would rise to the top of the matrix with the elimination of biological sampling.

Bycatch/Species Interaction (6 Points): Mid-Water trawl gear targeting Atlantic herring and mackerel is currently the most scrutinized for bycatch of river herring and groundfish. Amendment 5 of the Atlantic herring FMP is calling for added increase in bycatch monitoring.

Metadata (2 Points): will be created with ESRI ArcCatalog 10 in order to conform to the FGDC standards and specifications. Created metadata will be submitted to ACCSP in text and XML formats.

Project Quality Factors:

Regional Impact (5 Points): all partners will benefit, as the all data collected will be uploaded to ACCSP. Regional management organizations, such as ASMFC, will benefit from the biological and bycatch information from the proposed project.

Funding transition plan (4 Points): MEDMR will continue to seek alternative sources of funding in order to further transition from ACCSP grant money.

In-kind Contribution (4 Points): the partner contribution is listed below the budget.

Improvement in Data Quality/Timeliness (4 Points): Data collected through this study are regularly entered into the MARVIN biological database housed at MEDMR. Data are first entered into MARVIN and run through QA/QC routines to insure accurate reporting. The biological sampling data is uploaded to the ACCSP data warehouse on a regular basis.

Potential secondary model (4 Points) Data collected through this proposed project is used in assessment and management of river herring, Atlantic herring, Mackerel, and menhaden as outlined to the expected benefits section

Impact on Stock Assessment (3 Points): Regional management organizations which carry out stock assessments would benefit from the detailed biological sampling and bycatch data. This information could be used in stock assessments for many species that are managed by regional agencies.

Properly Prepared (5 Points): MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Attachment 3: FY2017 semi Report

**Maine Department of Marine Resources
Bureau of Resource Management
West Boothbay Harbor, Maine**

**Atlantic Coastal Cooperative Statistics Program
Grant No. NA14NMF4740360
(DMR#4077)**

**Portside Bycatch Sampling and Comparative Sampling
for Atlantic Herring (*Clupea harengus*), Atlantic
Atlantic Mackerel (*Scomber scombrus*),
and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries**

Semi-annual Report

July 1, 2017 – December 31, 2017

Submitted by:

**James Becker
Maine Department of Marine Resources
P.O. Box 8, 194 McKown Point Road
West Boothbay Harbor, ME 04575
james.becker@maine.gov
(207)-633-9545**

January 15, 2018

Project Background

The Atlantic herring (*Clupea harengus*) (Linnaeus, 1758) is one of the most biologically and economically important species in the Northwest Atlantic. With an estimated biomass of one million metric tons, Atlantic herring (hereinafter “herring”) are an important food source for many species of fish, mammals, and seabirds, and therefore play a crucial trophic role as a forage fish (Power and Iles, 2001; TRAC, 2009).

Herring are a migratory species, which aggregate in large schools, feed on plankton, and are found between Labrador and Cape Hatteras, along coastal and continental shelf waters (Colette and Klein-MacPhee, 2002). Migration patterns are seasonally based with adults (≥ 3 years) moving south during the autumn from the Gulf of Maine (GOM) spawning grounds to spend the winter off southern New England and the Mid-Atlantic. During the spring, adult herring return to the GOM, where they spend the summer months (Kanwit and Libby, 2009).

Since the 17th century juvenile herring have been part of a significant commercial fishery from New Brunswick to Massachusetts. During the 1980s the emergence of a large-scale fishery occurred across the entire range of the fishery (Overholtz, 2002). Commercial landings are currently around 70,000 metric tons annually with 90 percent supporting the lobster (*Homarus americanus*) bait market. Herring is the primary bait of the approximately \$600 million per year New England lobster industry (National Marine Fisheries Service, 2016).

The Maine Department of Marine Resources (DMR) has collected and processed herring commercial catch samples since 1960. Sampling was historically carried out with the cooperation of processors and the National Marine Fisheries Service (NMFS). This system of sampling the commercial catch resulted in incomplete coverage of the fishery and insufficient collection of population data. Therefore, DMR secured funding to hire a dedicated sampler to improve the commercial catch sampling program.

After the completion of a successful pilot study in late 2003, the DMR initiated an exploratory portside bycatch survey of the herring fishery in 2004. This project was created in response to the lack of bycatch data available for the directed herring fishery. Moreover, in 2004, NMFS received funding to expand the at-sea observer coverage of the herring fishery. Interestingly, in 2008, following in suit, Massachusetts Department of Marine Fisheries (MADMF) began their own portside bycatch program. Still, in a large volume fishery, statistically significant sampling levels are hard to achieve. The Maine DMR portside bycatch program now complements both the MADMF portside program and the NMFS at-sea observer program by providing expanded coverage of the herring fishery, and validation of the at-sea observer data via our co-occurring trip analysis.

In an attempt to more closely align our data with MADMF’s portside bycatch program and NMFS at-sea observer data, we moved away from the practice of “lot” sampling, or looking intensively at a portion of a vessel’s landings. The reasoning behind this stems from variability of the catch composition in vessels with multiple fish holds. Fish being partitioned into separate holds may be from the same,

different, or a mixture of multiple tows or sets. While lot sampling has provided valuable spatial and temporal insights to bycatch distribution and frequency, it is unable to resolve variability between vessel holds. Sampling entire vessel offloads eliminates that variability.

In accordance with these changes, our sampling efforts have shifted to sampling direct vessel offloads, targeting sites with suitable infrastructure and accessible dewatering boxes, or offload pipes (used to distribute fish into a processing facility). This was problematic at first, as few sites offered adequate working space, and concerns over safety eliminated some options. We currently have 11 sampling sites.

In Maine, sites are in Jonesport, Prospect Harbor, Rockland, Phippsburg, and Portland, in Massachusetts, sites are in Gloucester, New Bedford, and Fall River, in Rhode Island, two sites are in Point Judith, and in New Jersey, one site is in Cape May.

Due to the mandate of river herring bycatch quotas within the herring fishery via the New England Fishery Management Council (NEFMC), an analysis and comparison between overlapping trips from the at-sea Northeast Fisheries Observer Program (NEFOP) and portside observed trips (co-occurring trips) was added in 2012, looking exclusively for significance of the presence of river herring and to a minor extent haddock. This test and comparison was also useful to examine methodologies between the two programs and addressing which methods could be aligned to better document bycatch of many species. As of January 2017, the co-occurring analysis is complete, and therefore no longer part of this project. Now, the goal is to focus on sampling unobserved trips to increase the bycatch sampling coverage across all three of the fisheries within this project.

Objectives

1. Continuation of the portside bycatch survey
 - a. Expand the coverage of landed herring, mackerel, and menhaden monitored for bycatch.
 - b. Increase the number of unobserved at-sea sampling offloads.
2. Continuation of commercial catch sampling and species collection upon request

Methods

All bycatch sampling events were arranged with the participating sites along with a request of their processing schedule. A sampling event started when the fish were delivered either by boat or truck, to the dewatering tower and or facility. As the fish were sorted, the bycatch was removed and set aside. Each boat load was processed separately, with the collection of catch amount, gear type, NMFS Statistical Area, date of capture, presence/absence of an observer, and the VTR number.

After the bycatch was sorted, all species were identified and separated. Each species was then weighed and a random sub-sample ($n=50$) was taken if necessary. All individuals (of the entire sample or sub-sample) were measured and recorded on a length frequency log.

It is important to note that for this progress report all non-targeted species (i.e. any species, but Atlantic herring) are referred to as bycatch. This includes species such as shad, alewives and blueback herring (river herring), Atlantic mackerel, and squid, that are classified as incidental catch in the herring fishery.

Herring commercial catch samples that were collected during either portside bycatch surveys or directly from the fishing vessel's hold were transported to DMR where they were processed for length, weight, age (using otoliths), gender, gonad stage/maturity, and stomach contents/weight. Data are then entered into a database and are available for statistical analysis as part of an ongoing NOAA interstate fisheries grant.

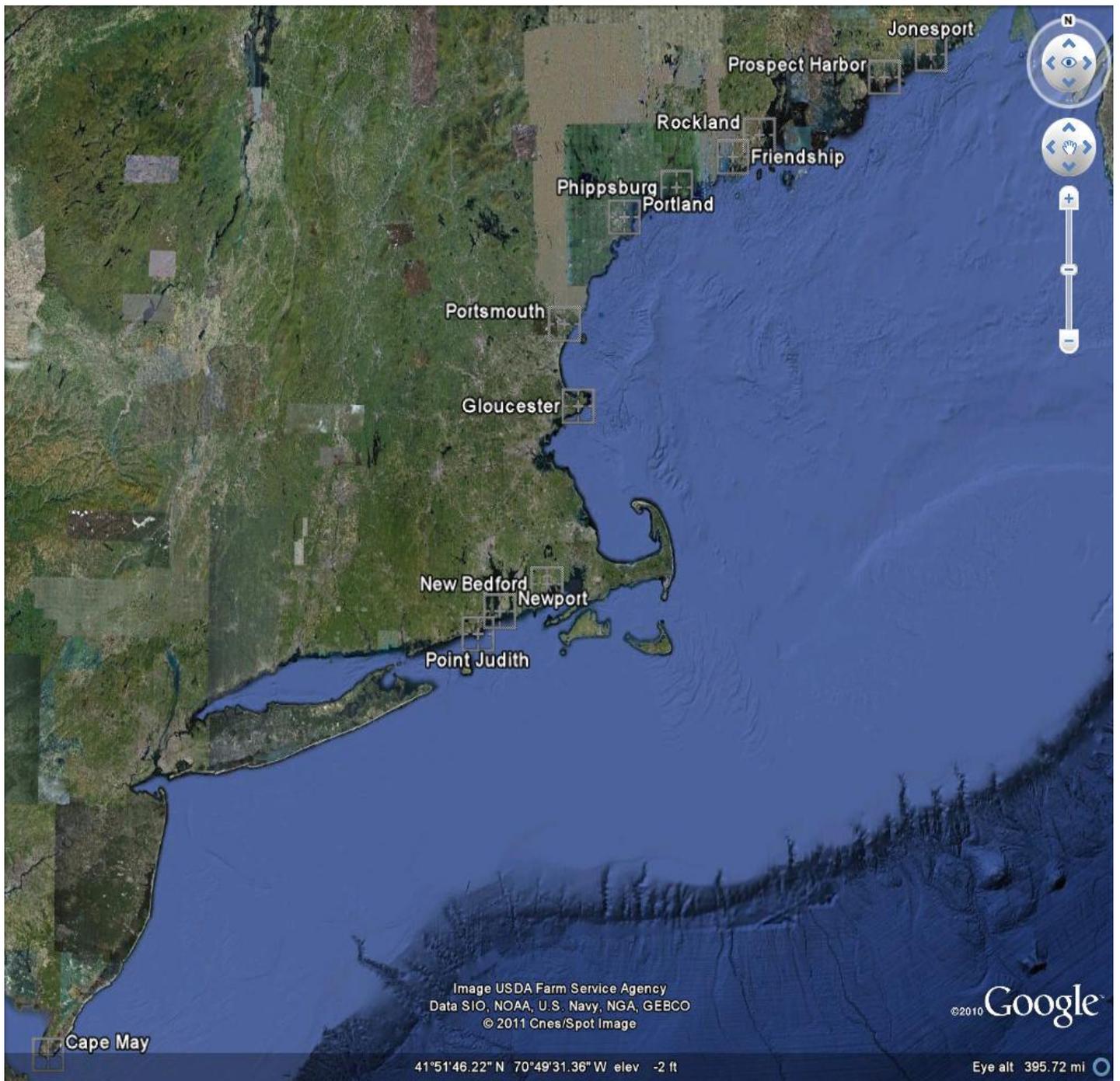


Figure 1: Range and locations of sampling and portside bycatch studies.

Results

Objective 1a: Portside Bycatch sampling of Atlantic Herring, Mackerel and Menhaden

Atlantic herring

Nine portside bycatch studies were conducted on US Atlantic herring landings from July 1, 2017–December 31, 2017. Six were conducted on purse seiners (PS), 2 on single mid-water trawlers (SMWT) and 1 on a pair mid-water trawler (PMWT) (Figure 2). For this period the US Atlantic herring fishery landings were approximately 31,464 t (NOAA Quota Monitoring Website 2018) and a total of 538 t of herring was sampled for bycatch, equating to 1.71% sampling coverage (Table 1a). The total weight of documented bycatch was 29 t. The total percent of documented bycatch was 5.39%. The overall mean percentage of bycatch per individual study was 6.88%, with a standard deviation of 11.87%, a minimum of 0.27% and a maximum 36.28% (Table 1b). Nine species of bycatch were documented (Table 2).

Four NMFS Statistical Areas were sampled for Atlantic herring bycatch for this timeframe. Area 539, off southern New England, contained the largest portion of bycatch, approximately 84.85% of the total documented bycatch. Area 512, off mid-coast Maine, contained the least, about 1.54% (Figures 3 and 5).

River herring (RH) a category of anadromous fish, containing both Alewife (*Alosa pseudoharengus*) and Blueback herring (*A. aestivalis*) made up the bulk of the documented bycatch, about 79.52% and 4.23% of the total sampled herring, up from 1.34% and 0.06%, respectively, for this time frame in 2016 (Table 2).

Atlantic mackerel (*Scomber scombrus*), made about 8.04% of the bycatch and about 0.43% of the sampled herring, down from 42% and 1.74%, for this time frame in 2016 (Table 2).

Silver hake (*Merluccius bilinearis*) accounted for approximately 4.81% of the documented bycatch, and about 0.26% of herring sampled, down from 7.45% and 0.31% in 2016 (Table 2).

American shad (*Alosa sapidissima*) accounted for approximately 3.68% of the total bycatch, and 0.20% of the herring sampled, up from 1.21% and 0.05% in 2016 (Table 2).

Atlantic menhaden (*Brevoortia tyrannus*) made up 3.39% of the bycatch composition and about 0.18% of the herring sampled, up from 1.07% and 0.04% in 2016 (Table 2).

The remaining three species that individually comprised less than 1.00% of the total bycatch were pooled together into a category called “All other species”, which combined, made up the remaining 0.56% of the total bycatch and about 0.03% of the entire sampled herring (Table 2).

Note that spatial information and all length frequencies for all species, other than squids, will be provided in this years annual report.

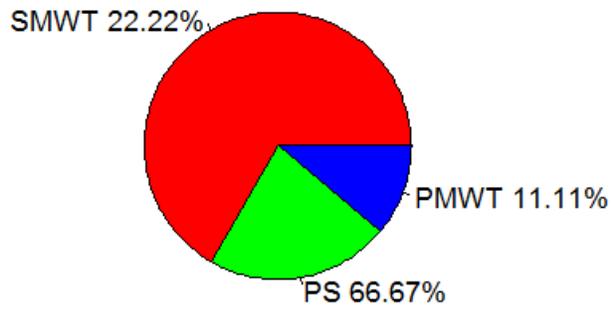


Figure 2. Percentage of herring bycatch studies by trip, per gear type, July 1, 2017–December 31, 2017.

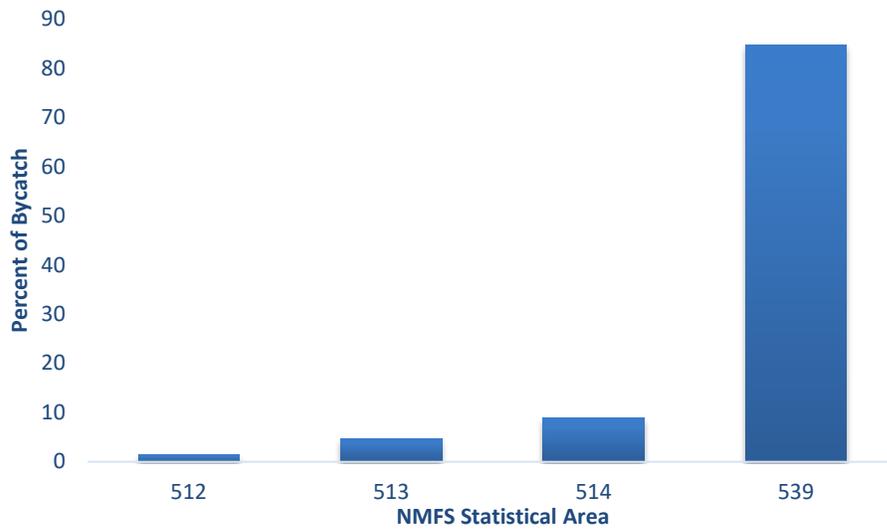


Figure 3. Percentage of bycatch by NMFS Statistical Area, July 1, 2017–, December 31, 2017.

Table 1. Atlantic herring bycatch data, July 1, 2017–December 31, 2017.

a. Bycatch Data by Total Landings and Total Sampled	
Total Landings (t)	31,464
Total Sampled (t)	538.28
% of Total Landings Studied	1.71
Total Bycatch (t)	29.00
% Bycatch in Total Sample	5.39
b. Bycatch Data per Sampling Event	
Mean % Bycatch	6.88
Maximum % Bycatch	36.28
Minimum % Bycatch	0.27
Standard Deviation	11.87

Table 2. Documented herring bycatch, including incidental species, July 1, 2017–December 31, 2017

Species	Total Weight (kg)	% Total Bycatch	% Bycatch in Herring
*River Herring	23,062.75	79.52	4.285
Atlantic Mackerel	2,331.35	8.04	0.433
Silver Hake	1,394.20	4.81	0.259
American Shad	1,068.32	3.68	0.198
Atlantic Menhaden	981.76	3.39	0.182
**All Other Species	162.93	0.56	0.03
Total	29,001.30	100.00	5.388

*A category of anadromous fish containing both Alewife (*A. pseudoharengus*) and Blueback herring (*A. aestivalis*).

**A combination of species whose individual total bycatch was <1.00%.

Atlantic mackerel

The US Atlantic mackerel season is a winter fishery that usually starts in December and ends in late spring. It is important to note that over the past ten years US Atlantic mackerel landings have been significantly low (Fisheries of the U.S, NMFS, 2017). Thus, due to the time frame of this report and historically low mackerel landings, no mackerel bycatch studies were conducted.

Atlantic menhaden

Other than personal landings in Maine of Atlantic menhaden, state and federal landings stopped at the end of June, therefore, zero bycatch studies were conducted between July 1, 2017 and December, 31, 2017.

Objective 1b: Increase the number of unobserved at-sea sampling offloads.

None of the herring bycatch studies during this time frame had an onboard observer, giving 100% unobserved portside bycatch studies and meeting this objective.

Objective 2: Commercial catch sampling of herring, mackerel and menhaden

Atlantic Herring Sampling

Fifty-six herring samples were collected from July 1, 2017 and December 31, 2017 from catches in the GOM, offshore on GB, and off southern New England. Approximately 75% of the herring samples were acquired from Maine ports, 12.50% from NH, 7.14% from RI, and 5.36% from MA (Figure 4). These samples were transported to DMR where they were processed for length, weight, age (using otoliths), gender, gonad stage/maturity, and stomach fullness.

Note that length, weight, and age structures will be provided in the next annual report.

Sampling for the Atlantic herring fishery occurs routinely during bycatch sampling at many of the same locations, plus sites specific for the collection of commercial catch samples only. Data are entered into a database and are available for statistical analysis as part of an ongoing NOAA interstate fisheries grant.

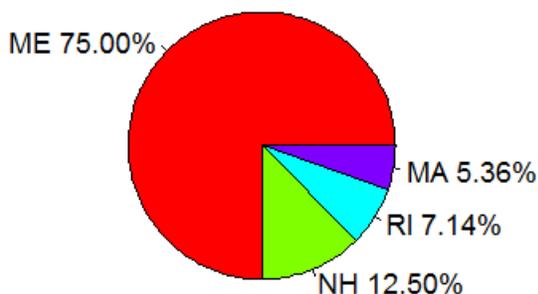


Figure 4. Percentage of herring samples collected by state, July 1, 2017–December 31, 2017.

Atlantic Mackerel Sampling

The DMR has sampled mackerel since 2005 for the NMFS Northeast Fisheries Science Center (NEFSC) because the most recent stock assessment uncovered a severe lack of large mackerel in their biological samples. This expansion of mackerel sampling will continue as requested by the NEFSC to provide broader coverage of this resource in time and space. Due to the extremely low amount of Atlantic mackerel landings in 2017 and for the time frame of this report, one sample was collected from a PMWT fishing in Area 521 (Figure 5).

Atlantic Menhaden Sampling

As requested by the NMFS office in Beaufort, NC, menhaden samples are to be collected when this species is landed in significant numbers within the GOM. During the time frame of this report, zero menhaden landings occurred (as mentioned above in the menhaden bycatch section), thus no samples were collected.

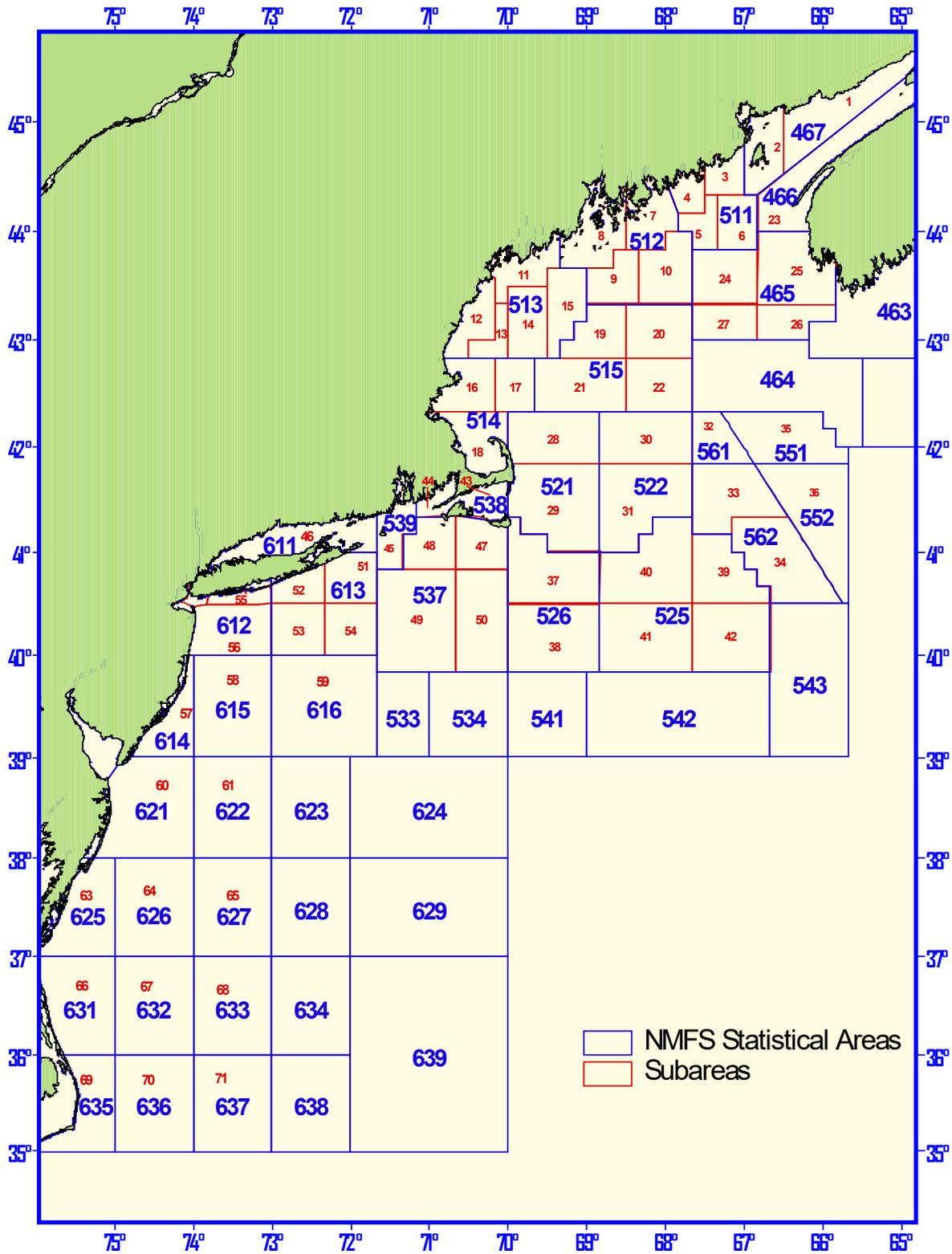


Figure 5. NMFS Statistical Areas.

Conclusions

The portside bycatch survey has continued to prove very successful since its inception in August of 2003. The results of this survey have revealed extremely small levels of bycatch in the directed herring fishery, and minor levels of bycatch in the Atlantic mackerel and menhaden fisheries for all gear types sampled. The results of this project are useful in quantifying and understanding the extent of retained bycatch in the Atlantic herring fishery and should prove as useful in the Atlantic mackerel and menhaden fisheries. However, the species encountered as bycatch varied spatially by NMFS Statistical Area, and conclusions drawn from this regarding the spatial nature of the bycatch encountered should be interpreted cautiously due to the small sample size. It is important to remember that bycatch in these fisheries can be episodic, and can be isolated to one fishing event in one specific spatial location.

Atlantic herring, mackerel, and menhaden are harvested as large volume fisheries, which results in mass handling techniques, like pumping the catch from the nets into the vessel holds and again into the processing facilities. Because of the nature of these fisheries there are limited opportunities to observe and/or sample bycatch at-sea. However, vessels can discard some or all of the catch at-sea and there are some methods of sorting out large bycatch, i.e. mammals, before or during the pumping process. For these reasons the portside component is not designed to quantify all bycatch in these fisheries, but only retained and landed bycatch.

Since the spring of 2011 the portside bycatch sampling protocol shifted towards analyzing entire boat loads only, and eliminating partial boat or lot sampling. This change in approach and the results of the co-occurring trip analyses have revealed that aligning portside data between Maine DMR, Massachusetts DMF, and NEFOP, leads to statistically more sound bycatch estimates and an increase in coverage of the herring fishery. These efforts will continue to complement and supplement, but not replace the NEFOP at-sea observer coverage. Furthermore, this bycatch survey continues to offer a unique opportunity to collect data in an inexpensive, but efficient and accurate way.

The data collected from both the Portside Bycatch Program and Commercial Catch Sampling Program were useful for the herring stock assessment in June of 2011, the most recent update during 2015, and the upcoming benchmark assessment in 2018. Moreover, the Atlantic herring samples used for the catch-at-age matrix helped to determine spawning stock biomass, the 2014 and 2015 area fishing quotas, and spawn closure management changes in 2016. In addition, portside bycatch data from this project was used in conjunction with the at-sea data to calculate the river herring and haddock bycatch quotas for the 2016/2017 herring fishery. As of Sept 2015, data from both MA DMF and ME DMR portside bycatch sampling were used in the ongoing specifications for herring for 2016-2018.

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National Oceanic and Atmospheric Administration. 2013. Endangered and Threatened Wildlife and Plants; Endangered Species Act Listing Determination for Alewife and Blueback Herring; Notice. Federal Register / Vol. 78, No. 155.

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Power, M.J., and Iles, T.D. 2001. Biological Characteristics of Atlantic Herring as Described by a Long-Term Sampling Program. Herring Expectations for a New Millennium, 135-154.

TRAC. 2009. Gulf of Maine-Georges Bank Herring Stock complex,

Instructions for Sampling Atlantic Menhaden from the Maine Bait Fisheries

Acquiring the 'Sample'

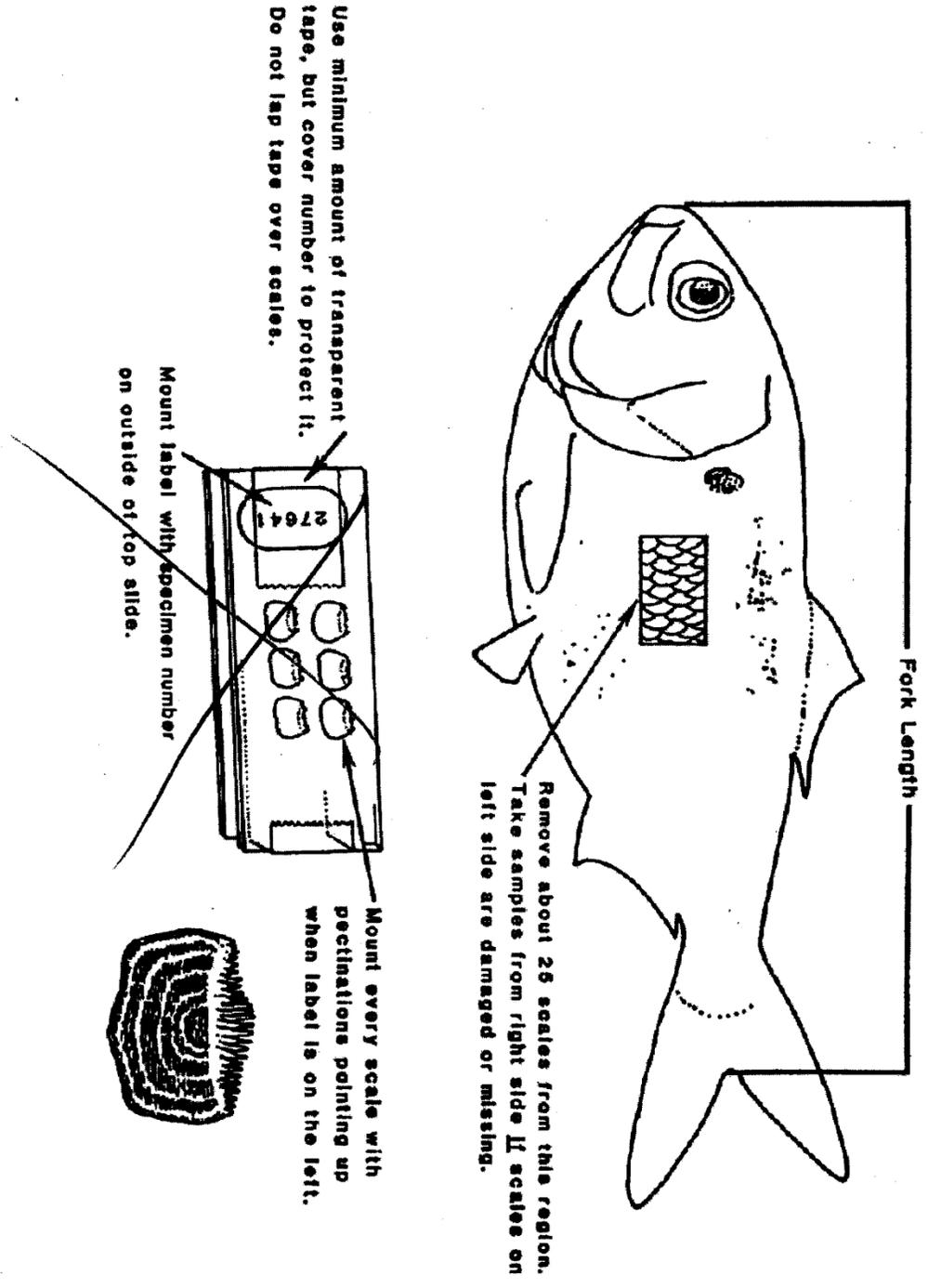
- Ideally, scoop a bucket of menhaden at random from the top of the fish hold.
- If the menhaden have already been packed out in flats or fish boxes, take 15-20 fish at random from the container.
- If available, record date of capture, location of capture, and vessel name. Usually we write this info on a waterproof tag and toss it in with the bagged menhaden sample.

Processing the 'Sample'

- Select a data sheet from the top of the pile. Write-in pertinent sample info on left half of data sheet:
 - Year Caught - last two digits
 - Vessel Name - just a name; we'll assign a vessel number at Beaufort
 - Location Caught - write location above the boxes; we'll assign a location code at Beaufort
 - Month and Day
 - LEAVE BLANK - Species and Scale Reader
 - Initial the data sheet (bottom right), and write any miscellaneous comments in the 'Remarks' box of the data sheet, eg, gear type, port of landing.
- Before you begin to handle the fish for lengths and weights, lay out ten coin envelopes on the counter-top and label each on the back with the unique 5-digit 'Specimen Number' found on the right side of the data sheet.
- From the plastic bag, bucket, etc. holding the menhaden sample, randomly draw out 10 fish. Process each of these 10 fish for fork length (in mm), weight (to the nearest whole gram), and remove a scale patch. Write fork lengths and weights for each of the 10 sample fish in the appropriate boxes on the right side of the data sheet.
- Scale patches are removed from mid-body, just below the start of the dorsal fin. See illustration in sampling manual.
 - Place scale patches in the appropriately labeled coin envelope, ie, scale patch from the first fish in the sample goes in the coin envelope labeled with the specimen number ending in '1'; scales from second fish go in coin envelope ending with specimen number ending in '2', etc.
- Re-bind ten coin envelopes with a rubber band. Paper-clip the coin envelopes to the top of the data sheet.
- Mail data sheets and coin envelopes to Beaufort via Dr. Matt Cieri.

Questions?? - Call Joseph W. Smith, NMFS Beaufort, 252-728-8765

FIGURE 2



Attachment 5

**COMMERCIAL
PORTSIDE BYCATCH
SURVEY PROTOCOL**



EXPLANATION:

The bycatch survey represents a unique opportunity to collect data in an inexpensive but efficient and accurate way. The program takes advantage of normal processing plant operations by quantifying bycatch that enters the facilities. Processing plants have to manually remove other species from the production line before the fish are sorted and cut or frozen. In normal operations, bycatch removed from the product is segregated into xactix bins or totes and removed from the processing floor at the end of each lot. Plants process one lot (fish caught by one vessel on a particular trip, delivered by truck or boat) at a time and then reset the plant in preparation for the next lot. Therefore, the bycatch removed from each lot can be documented and assigned to a catch location, gear type, date and a total lot amount. Additionally, the plants generally buy herring from vessels throughout the fishery and therefore cover multiple gear types, vessel sizes and individual fishing practices.

The bait industry has changed tremendously in the last five years resulting in a much more centralized distribution structure. Generally the herring used for bait goes through a large wholesale dealer to smaller dealers and lobster wharfs along the coast. The wholesale dealers generally have facilities where they sort, barrel, freeze and store bait for redistribution. It is at these sites where effective bycatch surveys can also be done, thereby including the bait sector in this study.

The sampling takes place at processing plants and bait dealers in Maine, New Hampshire, Massachusetts, Rhode Island and New Jersey. Sampling sites are selected by targeting Tier 1 locations first and then relying on Tier 2 locations to meet weekly goals. A sampling level of five percent of the entire herring fishery is targeted (Table 1). The mackerel fishery will be sampled if the target levels for the herring fishery are being reached or when herring samples are not available. This scenario is most likely to occur in the winter months when many of the herring vessels switch to the mackerel fishery. The samplers quantify bycatch from individual lots that enter the processing and bait plants according to a NMFS specified protocol. The total weight of any observed bycatch are recorded along with species identification, total species weight, individual lengths and weights of all fish or a representative sub-sample.

From 2004 thru 2008 the average annual herring landings were 91,803 metric tons. Over this five year period, April averaged the lowest landings of 2,033 metric tons, yielding about 2% of the annual landings (Figure 1). August averaged the highest landings of 13,438 metric tons, and yielded about 15% of the annual landings.

Table 1: Target sampling levels for herring

Month	5% Herring landings
January	319.82
February	270.91
March	144.92
April	101.63
May	346.8
June	355.3
July	544.18
August	671.9
September	502.18
October	646.28
November	386.65
December	299.61
Totals MT	4590.18

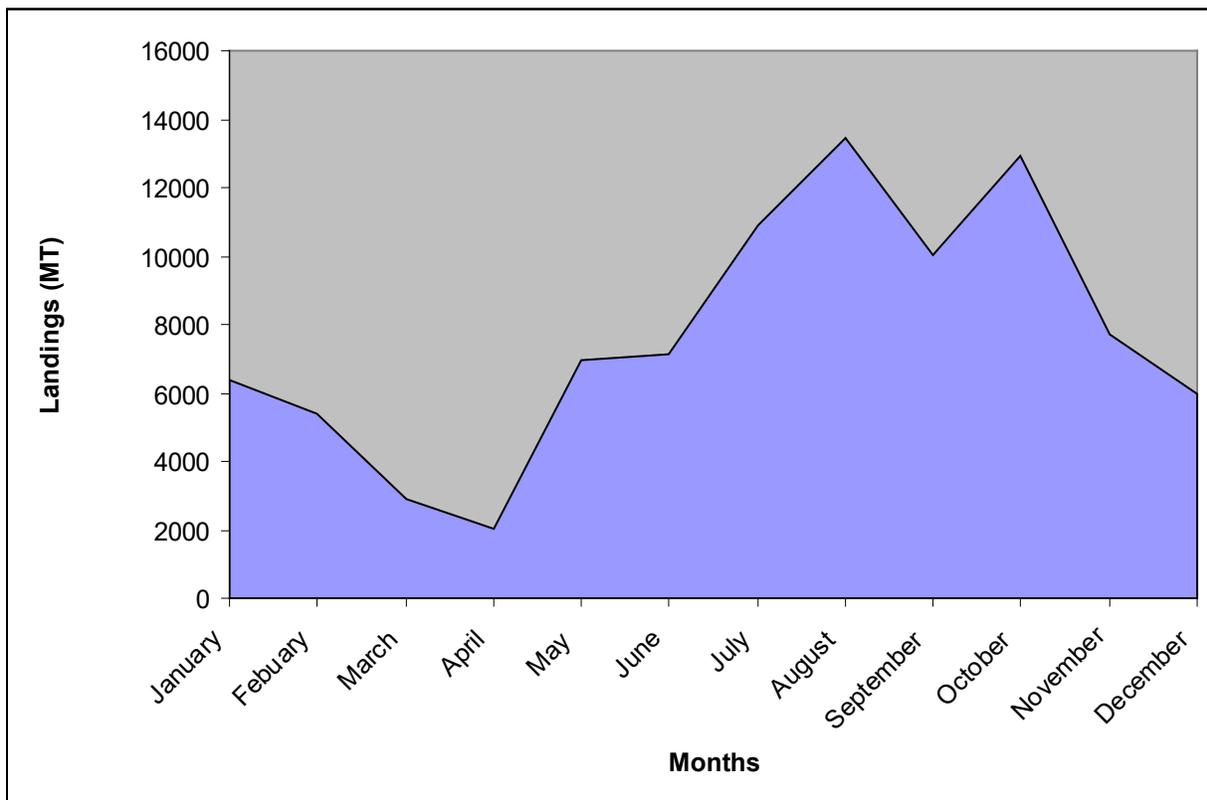


Figure 1: Five year average (2004-2008) of monthly herring landings

COMPLETE SAMPLING PROTOCOL:

The samplers collect and quantify all bycatch from individual lots of fish (transported by trucks or vessels) that enter the processing facilities. Samplers position themselves at the point of entry into the facility along an assembly line or at the base of the hoppers where the fish are unloaded. Sampling is conducted before grading or sorting of the catch occurs. All bycatch is removed from the assembly line or hopper and placed in bushel baskets or buckets specific to each species. Species identification is accomplished by examination and the use of identification keys when appropriate as outlined in NMFS and NEFOP protocols. The total weight of any observed bycatch is recorded along with species identification, total species weight, individual lengths and weights of all fish according to a NMFS and ACCSP specified protocol. If there is a large amount of one species, the total weight is recorded and then length frequencies and weight are gathered from a sub sample of n=50. The information collected for each bycatch study is recorded on the data sheets (see “Data Sheets” section of packet) and entered into the MEDMR biological database.

SUB-SAMPLING PROTOCOL:

A sub-sampling protocol is utilized when sampling a large volume of catch, determined as greater than 80,000 lbs (~40 mt). Instances where this is likely to occur include sampling sites where vessels land an entire catch (as much as one million pounds) to a single facility. Sub-sampling is also appropriate in instances when there is an overwhelming amount of bycatch and/or non targeted species mixed in with the lot of fish. In these cases it can be impossible to use the complete sampling protocol regardless of the amount inspected (< 80,000 lbs.). These situations are likely to occur when vessels are fishing mixed groups of herring and mackerel, some of which have a 50-50 composition.

Sub-samples are to be collected using bushel baskets at timed intervals during the pumping or unloading process following the NMFS at-sea observer sampling protocol. To accomplish this type of sub-sampling one needs to know the total lot weight and the duration of time it will take to unload the catch. After sampling the bushel basket of fish should be sorted by species, and total weight of each species and length frequencies should be recorded (sub sample n=50, for length frequencies if more than fifty of any species occurs).

Example:

Lot size = 120,000 lbs (3 Trucks)

Pumping or unloading time = 3 hours (180 minutes)

If a sample basket is to be collected for every 10,000 lbs of fish, then **12 sample baskets** need to be collected over the entire pumping or unloading process.

$$120,000 \text{ lbs} / 10,000 \text{ lbs} = 12$$

If the entire pumping or unloading process takes an estimated 180 minutes, then **a basket sample needs to be taken every 15 mins.**

If the catch composition from the bushel baskets is 99% Atlantic herring, then one can extrapolate that out of the 120,000 lbs unloaded, then 118,800lbs is Atlantic herring.

$$99\% \text{ Atlantic herring} = 120,000 \text{ lbs} \times 0.99 = 118,800\text{lbs of Atlantic herring}$$

If the remaining 1% of the catch composition is Atlantic mackerel, then one can extrapolate that out of the 120,000 lbs unloaded, 1,200lbs is Atlantic mackerel

$$1\% \text{ Atlantic mackerel} = 120,000\text{lbs} \times 0.01 = 1,200\text{lbs of Atlantic mackerel}$$

Attachment 6: Negotiated Indirect Cost Agreement

MAXIMUS
Cost Allocation Methodology and Process

Office of Acquisition Management – Grants Management Division
1401 Constitution Ave., NW, HCHB Rm 6412
Washington, DC 20230, Attn: Indirect Cost Program

CERTIFICATE OF INDIRECT COSTS

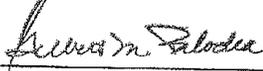
This is to certify that I have reviewed the indirect cost rate proposal prepared and maintained herewith and to the best of my knowledge and belief:

- (1) All costs included in this proposal dated Jan 9, 2019 to establish indirect cost billing rates for July 1, 2018 through June 30, 2019 are allowable in accordance with the requirements of the federal awards to which they apply and 2 CFR Part 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards". This proposal does not include any costs which are unallowable as identified in the applicable federal cost principles. For example, advertising contributions and donations, bad debts, entertainment costs or fines and penalties.
- (2) All costs included in this proposal are properly allocable to federal awards on the basis of a beneficial or causal relationship between the expenses incurred and the agreements to which they are allocated in accordance with applicable requirements. Further, the same costs that have been treated as indirect costs have not been claimed as direct costs. Similar types of costs have been accounted for consistently and the Federal Government will be notified of any accounting changes that could affect the rate.
- (3) The indirect cost rate calculated within the proposal is 30.71%, which was calculated using an indirect cost rate base type of Modified Total Direct Costs. The calculations were based on actual costs from fiscal year July 1, 2017 thru June 30, 2018 to obtain a federal indirect cost billing rate for fiscal year beginning July 1, 2018.

Subject to the provisions of the Program Fraud Civil Remedies Act of 1986, (31 USC 3801 et seq.), the False Claims Act (18 USC 287 and 31 USC 3729); and the False Statement Act (18 USC 1001), I declare to the best of my knowledge that the foregoing is true and correct.

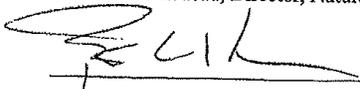
Organization Name: State of Maine, Department of Marine Resources

CFO Signature:

 Date: 1/10/19

Name/Title Authorized Official: Gilbert M. Bilodeau, Director, Natural Res Ser Ctr

Dept Head Signature:

 Date: 1/9/19

Name/Title Authorized Official: Patrick Keliher, Commissioner

MAXIMUS

All Monetary Values are US Dollars
MAXCAP 2019 MAXIMUS Consulting Services, Inc.
Prepared By MAXIMUS Consulting Services, Inc.

Page A-2

Attachment 7:

**Atlantic Coastal Cooperative Statistics Program
Grant No. NA13NMF4740203
(DMR#4077)**

Comparative Analysis of Two Bycatch Programs within the U.S. Atlantic Herring (*Clupea harengus*) Fishery

Supplementary Report

Submitted by:

**James Becker
Maine Department of Marine Resources
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2/10/2017

Introduction

Bycatch estimates in the U.S. Atlantic herring fishery are primarily calculated by an at-sea sampling program conducted within the National Marine Fisheries Service (NMFS) by the Northeast Fisheries Observer Program (NEFOP). However, in recent years due to high costs and lack of appropriate funds, NEFOP decreased its overall coverage, leaving a larger portion of herring trips unobserved (NMFS, 2015). Moreover, in 2005 the Maine Department of Marine Resources (ME DMR) began a portside bycatch program of the herring fishery that offered the ability to estimate bycatch at a safer and cheaper cost, allowing access to high volume offloads without placing observers at-sea. However, unlike NEFOP, the portside program has yet to be used for bycatch quota estimation. This report attempts to validate the bycatch estimates derived between the at-sea and portside bycatch programs from co-occurring trips (trips that were sampled both at-sea and portside). If the methodologies and bycatch estimates are compatible, combined, both programs could offer increased sampled trips, and decrease the variability associated with the current low coverage.

To date, there are five species with bycatch caps within the U.S. Atlantic herring fishery. Bycatch caps for haddock (*Melanogrammus aeglefinus*) were mandated in 2006, and in 2014 for river herring and shad (RHS), a combination of alewife and blueback herring (*Alosa pseudoharengus* and *A. aestivalis*), and american and hickory shad (*Alosa sapidissima* and *A. mediocris*), respectively (NMFS, 2016). The bulk of the focus of this report is on river herring, but looks at other bycatch species as well. The past decade has shown an increasing concern for river herring bycatch within the U.S. Atlantic herring fishery, thus, minimizing and grasping the extent of this bycatch and assessing the status of the population have become paramount (NMFS, 2012).

Prior to the implementation of these bycatch quotas, NOAA conducted a series of workshops to gather more information on the status of river herring in the northwest Atlantic. In May of 2012, NOAA worked closely with the Atlantic States Marine Fisheries Commission (ASMFC) to use information contained in their river herring stock assessment and the best available information to determine whether these two species should be listed under the Endangered Species Act (ESA). Several areas where additional information was needed included stock structure, extinction risk, and the impact of climate change on these species (NOAA Fisheries Northeast Regional Office: Protected Resource Division, 2013).

Due to the growing concern of the health of the river herring population and its interactions with the Atlantic herring fishery, facilitation of bycatch quotas, and the potential for an ESA listing, lead to an analysis and comparison of co-occurring trips between at-sea observed and portside observed, looking for, but not limited to, the significance of bycatch estimates of river herring. These tests and comparisons were also useful for examining other bycatch species estimates, methodologies, and for addressing which methods could be tweaked to better estimate bycatch landings.

The objective of this report is to assess whether the portside and at-sea observer programs are compatible, and can estimate statistically sound and similar bycatch estimates within the US Atlantic herring fishery.

Methods

For the analysis and comparison of the co-occurring trips three methods were initially used, (for more detail, see the 2016 proposal for ACCSP Grant No. NA13NMF4740203). However, after accessing the data and the sampling protocol for the at-sea program, it became evident that Method 3 was the most statistically sound approach for determining significance between programs of bycatch estimates.

Typically at-sea sampling requires 10 bushel baskets to be systematically collected per haul (tow) per trip. Bycatch species are removed and weighed, and then the proportions of each species are multiplied by the estimate of each haul weight. The overall bycatch estimate per trip is the sum of each bycatch estimate per haul. Due to the variance associated with each individual haul, Method 3 offered the most viable approach for comparing bycatch estimates between co-occurring trips.

Portside sampling requires the collection of a bushel basket from the offload delivery system (dewatering box or pre-graded assembly line) every 5 minutes until the entire herring trip has been pumped from the vessel. Bycatch species are sorted and weighed from each basket, and the overall proportion is multiplied by the total haul weight of the catch.

Method 3, (Dean, 2011), involved calculation of composition and variance of bycatch species per haul, per at-sea trip, combining the individual variances into a single array representing the entire catch, then conducting a modified two sample two tailed t-test to look for significance between both programs ($P < 0.05$). Since this particular method needed a customized significance test to compensate for the individual haul compositions at-sea per trip, the sample means and variances were replaced with the total estimated bycatch per trip (w), and the variance of those estimates ($V(w)$) written as:

$$t = \frac{w_1 - w_2}{\sqrt{V(w_1) + V(w_2)}}$$

With

$$H_0 : w_1 - w_2 = 0$$

$$H_A : w_1 - w_2 \neq 0$$

Calculations for the pooled degrees of freedom for each at-sea trip were written as:

$$\text{Pooled At-sea DF} = (N_1 - 1) + (N_2 - 1) + (N_3 - 1) = (N_1 + N_2 + N_3) - g$$

Where N_i is the total haul weight divided by the average basket weight per haul, and g is the number of hauls per trip, in this case 3 (<https://www.isixsigma.com/topic/degree-of-freedom-pooled-estimate-of-variance/>).

Calculations for the degrees of freedom for each portside trip were written as:

$$\text{Portside DF} = N-1$$

Where N is the total trip haul weight divided by the average basket weight.

In both cases, N is estimated and scaled up to establish the number of possible baskets that could be taken from the entire catch.

For this analysis of co-occurring trips three universal criteria were used. The first was used if a specific bycatch species was absent in the sample baskets between both programs for the same trip. For example, if a certain trip lacked alewife in the sample baskets for the portside data and the at-sea data, then the results would state there was no significant difference between the two trips, noted as (-,-) or denoted a “zero” trip. The second was if a bycatch species was found only in one of the programs, noted as (+,-) for presence at-sea only, and (-,+) for portside only, deeming that specific trip significantly different. Lastly, on occasion a scenario arose where the at-sea program was unable to identify what type of river herring species was landed (either an alewife or blueback herring), therefore nullifying the possibility of a comparison, noted as (NK,+) NK standing for “not known”.

Results

To meet the necessary criteria for this type of analyses, i.e., a co-occurring trip that contained the presence of the same species both at-sea and portside, the filtering process mentioned above was implemented which limited and reduced the useable data. Thus, sixty one co-occurring trips were conducted, of which 38 were accessed for significance testing (Table 1 and 2). Currently seven trips were used for statistical comparisons, and within three of those specific trips analyses were conducted on more than one species. This resulted in 13 individual statistical analyses conducted to date. Eight out of the 13, or 62% of the analyses revealed that bycatch estimations between programs were not statistically different (Table 2).

Refer to Table 2 for the following results: Trip 16, a small mesh bottom trawler (SMBT) fishing in Block Island Sound (BIS), in Area 539, showed no significant difference between estimated Alewife (Ale) bycatch, yet showed significance between both blueback herring (BB) and the combination of the two, river herring (RH). Trip 17, a SMBT fishing in BIS, showed no significant difference between Alewife. Trip 18, a single mid-water trawler (SMWT) fishing on Georges Bank (GB) in Area 522, revealed a significant difference in haddock (Had) estimations. Trip 19, a SMWT on GB, did not show a significant difference in Had. Trip 20, a SMBT, showed no significant difference among Ale, BB, or combined as RH. Trip 21, a paired mid-water trawler (PMWT) fishing on GB, showed a significant difference with Had, and Ale, but not with mackerel (Macks). Trip 22, a PMWT fishing on GB, showed no significant difference with Had.

The scaled up bycatch estimates for w and $V(w)$ varied substantially. The highest w and $V(w)$ were found in trip 19, with the portside Had estimates around 25,928 lbs and 10,063,307, and the at-sea about 28,582lbs and 22,714,397, respectively. The lowest w and $V(w)$ portside were documented in trip 16, with the BB estimates about 98lbs and 1,920 respectively. However, the lowest w and $V(w)$ at-sea were

found within trip 21, with the Ale estimates around 59lbs and 3,184, respectively. Note that trip 21 contained zero Ale portside, or in this case a null value.

Table 1. Co-occurring trips that were not analyzed via a statistical test, including zero trips.

Trip	Year	Gear	Area	Spe	Signf	Criteria	Comments
1	2016	PS	513	Zero	No	(-,)	
2	2014	PS	512	Zero	No	(-,)	
3	2014	PS	513	Zero	No	(-,)	
4	2013	PS	513	Zero	No	(-,)	
5	2012	PMWT	521	Zero	No	(-,)	
6	2012	PMWT	522	Had	Yes	(+,-)	At-sea observed Haddock outside of baskets
7	2012	PMWT	522	Had	No	(-,)	
8	2012	PS	513	Ale	Yes	(-,+)	Alewife were present in one At-sea basket, 0.21Lbs
9	2012	PS	513	Ale	Yes	(-,+)	
10	2012	PMWT	522	Ale	Yes	(+,-)	Alewife were present in one Portside basket, 0.21lbs
11	2012	PMWT	539	BB	NA	(+,NK)	
12	2011	PS	511	Zero	No	(-,)	
13	2011	PMWT	522	Zero	No	(-,)	
14	2011	PS	513	Zero	No	(-,)	
15	2010	PMWT	515	Zero	No	(-,)	

Table 2. Co-occurring trips with statistical analyses of bycatch species estimations.

Trip	Year	Gear	Area	Hail Lbs	Spe	Prtsd Ws lbs	At-Sea Ws lbs	Prtsd Bskts	At-Sea Bskts	All hauls smpld	Prtsd V(Ws)	At-Sea V(Ws)	Signf	Tval	Tcrit
16	2016	SMBT	539	44,127	Ale	738	1,128	6	12	Yes	41,251	28,193	No	1.481	1.964
					BB	98	405				1,920	4,195	Yes	3.933	1.964
					RH	836	1,533				51,267	20,878	Yes	2.598	1.964
17	2013	SMBT	539	34,998	Ale	795	560	5	16	Yes	33,340	8,443	No	-1.147	1.964
18	2013	SMWT	522	79,996	Had	5,637	2,149	10	15	Yes	1,805,154	576,741	Yes	-2.260	1.962
19	2013	SMWT	561	520,011	Had	25,928	28,582	37	58	No	10,063,307	22,714,397	No	0.464	1.960
20	2013	SMBT	539	21,773	Ale	1,332	1,617	5	10	Yes	17,006	491,560	No	0.040	1.966
					BB	348	310				10,017	9,648	No	-0.275	1.966
					RH	1,681	1,927						No		1.966
21	2012	PMWT	522	469,908	Had	2,881	1,151	36	18	No	472,957	219,789	Yes	-2.078	1.960
					Ale	0	59				NA	3,484	Yes	NA	NA
					Mack	7,003	9,474				532,343	1,651,887	No	1.695	1.960
22	2011	PMWT	522	520,528	Had	110	246	26	22	Yes	11,972	590,226	No	0.176	1.960

Conclusion

Results suggest it is important to note the following when comparing co-occurring trips for significance among estimated bycatch: 1.) Achieving the established sampling protocol for both programs; sampling every haul at-sea, collecting ten baskets per haul, and maintaining sampling of the offload stream every 5 minutes for the entire offload for the portside program. 2.) The number of baskets collected per haul at-sea. For example, if fifty baskets were collected port side, and only twenty total at-sea for the same trip, a significantly different bycatch estimation between trips may result. 3.) Due to the small sample size, i.e. total weight of all baskets collected for either study compared to the overall trip haul weight, the estimated variance $V(Ws)$ can be extremely large.

4.) Discrepancies in identifying alewives versus blueback herring (river herring). 5.) Culling of large species at-sea, i.e. haddock may reveal a significant difference in estimated weight compared to portside data. 6.) At-sea observers putting their documented bycatch back in the hold versus overboard. 7.) Within-trip speciation, varying distributions per species, and multiple zeros of species per basket.

One co-occurring trip in particular brought to light some of the issues mentioned above (Table 2, Trip 21). A PMWT fishing on GB showed a significant difference in alewife estimations with only 0.2lbs documented at-sea (one individual fish) and zero reported portside. Once scaled up to the total catch, 59.03lbs was estimated at-sea, and 0.00lbs portside, deeming a significant difference (if following the methods of this analysis). Interestingly, the haddock estimations were smaller at-sea than portside, even though culling and removal of the larger fish at-sea after collecting the 10 required baskets for bycatch estimation could have revealed a larger amount of haddock. However, this may be due to the fact that not all the hauls were sampled at-sea, which potentially could underestimate the overall bycatch. Lastly, the estimations of mackerel were not significantly different. This within-trip speciation may be revealing varying distributions per species within the catch composition. Mackerel, one of the most common bycatch species (incidental catch) found in the Atlantic herring fishery (NEFOP, 2016), may sometimes be distributed normally within the catch, whereas other species of the catch composition may be in a delta-lognormal distribution and may be solely responsible for the many zeros documented per basket sample (Fletcher, 2008). Overall this trip represented an example of the limits of precision and detection of small amounts of bycatch, the difference in methodologies between programs, lack of achieving sampling protocol, and that significance can be species specific.

An important note to consider was the decision not to use any of the “zero” trips. Once these trips were removed from our analysis, the percent of trips that were significantly different increased to about 38%. This seemed the appropriate approach as that zero trips prevented the use of our customized t-test, and therefore couldn’t be pooled with the trips that contained the relevant bycatch. If in the future the use of zero trips is incorporated, another approach could be some type of randomization test (Hooton, 1991).

Overall this study revealed that the bulk of the co-occurring trips analyzed were not statistically different, reinforced the legitimacy of portside sampling, and combined will help for both management and this industry. Incorporating the portside bycatch program will increase coverage, and should reduce the variance within bycatch quota monitoring found within large volume fisheries, especially if the areas of concern mentioned above are addressed. Overall this would reduce the cost to both the US Atlantic herring fishery and NEFOP, and increase bycatch monitoring for both the RHS and haddock bycatch caps and overall statistical power and effectiveness of bycatch estimation.

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Hooton, J., 1991. Randomization tests: statistics for experimenters. Elsevier, Computer Methods and Programs in Biomedicine, 35: 43-51.

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www.greateratlantic.fisheries.noaa.gov/ro/fso/reports/reports_frame.htm NOAA Fisheries.

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EDUCATIONAL EXPERIENCE

B.S.	Marine Science, Stockton College of New Jersey	1993
M.S.	Biology (Marine Ecology), Rutgers University	1995
Ph.D.	Oceanography, University of Maine	1999

PROFESSIONAL EXPERIENCE

Marine Resource Scientist , Maine Department of Marine Resources	2/01-present
Post-Doctoral Scientist , The Ecosystem Center, Marine Biological Laboratory	9/99-2/01
Graduate Research Assistant , School of Marine Science, University of Maine	5/95-9/99
Research Technician , Cranberry/Blueberry Research Laboratory, Rutgers /USDA	5/95-9/95
Graduate Teaching Assistant , Department of Biology, Rutgers University	9/93-9/95
Graduate Research Assistant , Institute of Marine Sciences, Rutgers University	10/93-4/94
Animal Laboratory Technician , Department of Natural Sciences, Stockton College	10/92-9/93

CURRENT DUTIES

Atlantic Herring: New England Fishery Management Council (NEFMC) and Atlantic States Marine Fisheries Commission (ASMFC)

- Oversee catch and landings reporting. Use of VTR (Vessel Trip Reports), Dealer Reports, & IVR (Interactive Voice Reports) to analyze and report landings and catch data to NMFS (National Marine Fisheries Service) regional office, NEFMC, and ASMFC
- Monitor IVR system: Query IVR database and report landing weekly to interested parties. Design and execution of a catch and effort model to predict appropriate “Days Out” needed to extend the fishery in some areas
- Commercial and Bycatch Sampling: Oversee the collection, inventorying, processing, and ageing of herring samples, also verify data entry. Make data available to interested parties. Supervise two full-time and one part-time technician. Produce compliance reports for ASMFC
- Monitor Herring spawning condition: Analyze biological sample data to determine spawning activity status. Indicate when areas should be closed to fishing to protect spawning herring
- Herring PDT (Plan Development Team) & Stock Assessment Subcommittee member (NEFMC & ASMFC): Participate in Stock assessments and analysis of catch and landings statistics for the Herring SAFE report. Develop the catch at age matrix for use in Virtual Population Analysis (VPA) and Age Structure Assessment Program (ASAP) models. Provide technical advice to management; Current Technical Committee Chair (ASMFC)

Whiting and Small mesh Multispecies (NEFMC):

- PDT & Stock Assessment Subcommittee member (NEFMC): Participated in stock assessment activities; Revision of overfishing and biomass reference points; Analysis of catch and landings statistics; Provide technical advice to management.

Spiny Dogfish (ASMFC):

- Participated in stock assessment activities and management analysis; Revision of overfishing and biomass reference points; Analysis of catch and landings statistics; Provide technical advice to management.

Assessment Science Committee (ASMFC):

- Provide stock assessment and technical advice to ASMFC Policy board including; Sampling targets for fishery independent and dependent sampling; Workload and scheduling for ASMFC stock assessment and participating scientists; coordinate Advanced Stock assessment training workshops

Multispecies Technical Committee Chair (ASMFC):

- Provide stock assessment and technical advice to ASMFC Policy on predator/prey relationships; Update and Expand MS-VPA (Multispecies Virtual Population Analysis) model as appropriate; Assist in incorporating Predator/prey and natural mortality estimates in the Atlantic Menhaden Assessment. Current Chair

Atlantic Menhaden (ASMFC)

- **Stock Assessment Subcommittee:** Provide estimates of natural mortality and participate in general assessment activities.

Biological Review Panel (ACCSP):

- Provide recommendations of priority and scope of fishery dependent and independent sampling for East Coast Fisheries

PREVIOUS DUTIES**Monkfish**

- **PDT & Stock Assessment Subcommittee member (NEFMC)**: Participated in stock assessment activities; Revision of overfishing and biomass reference points; Analysis of catch and landings statistics; Provide technical advice to management.

Atlantic Menhaden (ASMFC)

- **Technical Committee Chair:** Writing consensus documentation from technical meetings; Provide analysis of catch and landings data; Analyze current assessment methods; Present findings to the Menhaden Management Board. Produced compliance reports for the state of Maine
- **Multispecies Subcommittee Chair:** Provide technical guidance on conceptualization and implementation of the Menhaden Multispecies ecosystem model; Report progress to the Menhaden Management Board.

American Eel (ASMFC)

- **Stock Assessment Subcommittee Chair:** Organized and lead meetings with both scientific and stakeholder participants. Writing consensus documentation from technical meetings. Provided analysis of catch and landings data. Analyzed assessment methods for use in the stock assessment. Presented results during ASMFC external peer review and Eel Management Board.

Jan 2010 – May 2010: Adjunct Faculty
Unity College
Unity, Me

- Taught upper level course in the biology of Marine Mammals

Feb 2004 – Feb 2006: Marine Mammal Research Specialist
University of New England
Biddeford, Me

- Lead Research technician on project to track and predict right whale habitat use and distribution
- Analysis of remotely sensed data and right whale sightings in the Bay of Fundy Critical Habitat
- Assisted with report writing and budget tracking
- Completed project and published paper analyzing right baleen using stable isotope analysis
- Completed project and published papers satellite tagging and tracking baskings sharks off the coast of New England

Sept 2002 – Feb 2004: Research Technician
Cetacean and Sea Turtle Team, NOAA Fisheries Service
Beaufort, NC

- Lead technician tracking and analyzing movements of satellite tagged dolphins
- Perform field work including fishing gear and dolphin aerial surveys, boat based dolphin biopsy and photo-identification surveys, satellite tagging dolphins, responding to strandings, etc.
- Participate in necropsies as needed

Oct 2000 – June 2002: Laboratory Technician
Marine Biological Laboratories
Woods Hole, Ma

- Manage daily operations of the laboratory of marine veterinarian, Roxanna Smolowitz
- Run experiments and document methodologies and results
- Prepare media, samples, histology slides, and other lab bench work



COMMERCIAL FISHERIES
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www.cfrfoundation.org

August 6, 2019

Michael Cahall
Atlantic Coastal Cooperative Statistics Program 1050
N. Highland, Suite 200A-N
Arlington, VA 22201

Dear Mr. Cahall,

The Commercial Fisheries Research Foundation (CFRF) and the Rhode Island Department of Environmental Management (RI DEM) have reviewed all questions and recommendations provided by the ACCSP Operations and Advisory Committees for our proposal titled "Advancing Fishery Dependent Data Collection for Black Sea Bass (*Cetropistis striata*) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Vessel Research Fleet Approach." The proposal has been revised accordingly and we have also responded to each question and recommendation below.

1. Does the FY20 budget represent the likely anticipated costs to support the project long-term?
 - *The proposed FY20 budget represents the anticipated cost to continue sampling for an additional year with the Research Fleet. Project PIs are constantly seeking long-term year over year funding to continue the Research Fleet sampling beyond the proposed timeline. Depending on vessel sampling rates, Research Fleet sampling may continue beyond the proposed timeline as funds permit.*
2. How comparable is the On Deck Data collection system to the NMFS FLDRS study fleet program? Any benefit in making those consistent or integrated in any way? Maybe part of the communication plan – sharing lessons learned with this program and data collection system with the study fleet, especially now with Anna Mercer at NMFS and familiarity with both projects.
 - *The Black Sea Bass Research Fleet On Deck Data application is likely much more specialized than the Study Fleet program as we target specifically black sea bass data and basic environmental/gear data for analysis. However, the data collected by our Research Fleet is likely collected to the same standard as ultimately, we designed On Deck Data to record data to ACCSP reporting standards. We have discussed comparing Research Fleet data/methodology to that of the Study Fleet and Observer Program to further validate the methodology. This is a comparison we look to undertake in the future.*
3. Last year's proposal noted the expansion of two additional vessels, just as the FY20 proposal. It appears the project was successful in bringing on two new vessels (total vessels went from 10 to 12) – any details on these two new vessels (ie., gear type and fishing location)? Any specific needs for another two additional vessels or open to any vessel willing to participate?
 - *The CFRF and RI DEM have recently transitioned into year-3 funding from ACCSP on the project and are currently reviewing applications for the 2 additional vessels covered under the year-3 award. The two vessels being brought on under the year-3 award will be selected from the non-trawl fishery with preference given to vessels that will 1. Increase the number of replicates of existing gears types 2. Fish in areas with lower coverage from our existing Fleet Members and 3. Fish during times of year which tend to be the least sampled by our existing Fleet Members. Further justification and identified areas of need for the additional 2 vessels proposed under year-4 funding have been added to the proposal.*

4. Proposal mentions obtaining information from other fleets and lists aquaculture fisheries. Can expand or provide some detail as to what aquaculture fishery this might be and how that information may be representative of overall population?
 - *Currently there is only one Fleet Member who has collected data from aquaculture. Aquaculture was not one of the intended gear types to attempt to classify with the original proposal. However, one of the Fleet Members who was brought on to sample in the lobster and trawl fisheries also operates an oyster farm. He began noticing an influx of young of the year black sea bass coming up while tending to his oyster cages and asked if he could sample them. The Fleet Member still prioritizes sampling from his trawl and lobster gear; however, he will sample his oyster farm during the times of year he is not operating in his other gear types. Although population level conclusions will be difficult to draw with only one Fleet Member sampling from aquaculture, the data coming from aquaculture was viewed simply as an opportunity to collect a new stream of data while maintaining our sampling in the originally proposed gear types.*
5. The budget indicates there are no equipment costs – if two new vessels join the study fleet, don't they need to be equipped with the Samsung Tablets with the On Deck software?
 - *Due to the price of each piece of the sampling equipment (Samsung tablets, measuring board, etc.) being under \$5000, the equipment is technically classified as a supply. The costs to acquire the sampling equipment for the two new vessels can be found under section F, subsection e, in the budget and budget narrative.*
6. Well written. Page 9 mentions 10 boats (and lists them) and says they are adding 2 additional boats which I would think equals 12 total but on page 10 they mention 14 boats and have 14 in the budget. Not clear where the other 2 additional boats came from. Need clarification.
 - *The 10 vessels listed in the proposal are the vessels supported by the ACCSP through the year-2 of funding of the project. The CFRF and RI DEM have just begun funding year-3 of the project and are actively reviewing Research Fleet applicants for the two additional slots under the funded year-3 award which would bring the Fleet total to 12. If the proposed project is funded, the ACCSP would be supporting the 12 vessels in the Research Fleet through the year-3 award plus an additional two vessels, bringing the total of vessels supported to 14 through the proposed project.*
7. Not a fan of the milestone schedule formatting due to the text wrapping.
 - *Formatting of text was fixed in the milestone schedule table.*
8. The total In-Kind and overall total in the budget does not match the budget justification write up. Numbers are slightly different. Also, the indirect charges in the table and budget justification do not match math shown (i.e., in J - $\$12,394 \times 17.25\% = \$2,865$ but actually equals $\$2,137.97$).
 - *Budget table and budget justification have been updated accordingly to the appropriate amount and to be consistent with each other. The original calculation was correct however the change from previous years to charge indirect against salaries and fringe benefits was not included in the budget narrative.*

We appreciate your consideration of this proposal. Please do not hesitate to contact us if the Operations and Advisory Committee have any further questions.

Sincerely,



Jason McNamee, PhD
Chief, RDEM Marine Fisheries



Christopher Glass, PhD
Executive Director, CFRF



Thomas Heimann, MsC
Research Associate, CFRF

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22201

Advancing Fishery Dependent Data Collection for Black Sea Bass (*Centropristis striata*) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach

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Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
ACCSP Funding Proposal (Maintenance Project – Year 4): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)
Proposal components that address the ranking criteria are underlined and a summary is provided on pages 29-31.
Changes from the original proposal are highlighted in yellow

Applicant Name: Rhode Island Department of Environmental Management (RI DEM) and the Commercial Fisheries Research Foundation (CFRF)

Project Title: Advancing Fishery Dependent Data Collection for Black Sea Bass (*Centropristis striata*) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach

Project Type: Maintenance (Year 4)

Requested Award Amount: \$132,097

Requested Award Period: August 1, 2020 – July 31, 2021

Principal Investigators: Jason McNamee, PhD, Chief of Marine Fisheries, Rhode Island Department of Environmental Management; Christopher Glass, PhD, Executive Director, Commercial Fisheries Research Foundation; Thomas Heimann, MSc, Research Associate, Commercial Fisheries Research Foundation

Date Submitted: June 10, 2019

Objective:

This proposal is a request for financial support for an additional 12 months of biological catch, effort, and bycatch sampling by the Black Sea Bass Research Fleet, which was successfully piloted in 2016 with support from ACCSP and has been in contiguous operation since. Through the first two years of funding provided by the ACCSP, the Research Fleet sampled 13,751 black sea bass from 1,024 locations from Narragansett Bay to Hudson Canyon and east to George's Bank. The Research Fleet will continue data collection through July 31, 2020 (Year 3 of funding from ACCSP). All biosamples data collected by this project have been communicated to and accepted by ACCSP. The proposed project will continue delivering black sea bass biosamples data to ACCSP at six-month intervals through July 31, 2021.

The goal of the proposed project is to seamlessly continue the Research Fleet's sampling efforts to develop a robust year-round time series of black sea bass (*Centropristis striata*) catch, bycatch, and biological data for five different gear types (trawl, lobster/crab pot, fish pot, gillnet, rod and reel) throughout the Southern New England (SNE) and reaching into Mid-Atlantic (MAB) region. The continuation of this project is critical to the evolution of black sea bass assessment and management efforts by the Atlantic States Marine Fisheries Commission, Mid-Atlantic Fisheries Management Council, Northeast Fisheries Science Center, and Atlantic Coastal Cooperative Statistics Program as the Black Sea Bass Research Fleet produces spatially and seasonally distinct data for numerous commercial and recreational gear, which is currently lacking for this species.

Project components include: 1) Continue and expand the existing fishery dependent data collection program that utilizes fishing vessels and modern electronic technology to collect and relay catch and bycatch data (number, length, sex, disposition) and fishery characteristics (location, gear type, effort, habitat) for black sea bass from across the SNE/MAB region throughout the year; 2) Internal data analysis to address research questions about spatiotemporal patterns in black sea bass biological and fishery characteristics and gear-specific selectivity; and 3) Communication of project data and results to the Atlantic Coastal Cooperative Statistics Program (ACCSP), black sea bass stock assessment scientists, managers, and members of fishing industry.

In summary, the general goals of the proposed project are:

- 1) Collect and communicate critically needed fishery dependent black sea bass data (catch and effort, bycatch, and biological) in a cost-effective way using modern electronic technology and fishermen's time on the water;
- 2) Contribute to the evolution of the northern Atlantic black sea bass stock assessment and associated management measures;
- 3) Demonstrate a model for fishery dependent data collection, management, analysis, and utilization that can be duplicated in a cost-effective way in other regions of the black sea bass range and in other fisheries.

Specific objectives include the following:

- Continue the Black Sea Bass Research Fleet for an additional 12 months to develop seasonal characterizations of northern Atlantic black sea bass biology and distribution;
- Expand the Black Sea Bass Research Fleet to include two additional F/Vs to increase the number of replicate vessels for gear types currently represented in the Research Fleet;
- Maintain and evolve the On Deck Data app to meet the data needs of scientists and the logistical needs of participant fishermen;
- Collect fishery dependent black sea bass data from five gear types (trawl, lobster/crab pot, fish pot, gillnet, rod and reel) across the SNE/MAB region to characterize the size and sex distributions of black sea bass catch and bycatch and investigate the spatial and temporal trends of the fishery;
- Communicate black sea bass biosamples data to ACCSP every six months;
- Conduct internal analyses of the project database to: 1) Assess the selectivity and CPUE of five gear types in the SNE/MAB region and explore temporal variability, and 2) Further monitor and assess spatial and temporal trends in species' catch and bycatch composition and fishery characteristics;
- Further refine gear-specific fishery dependent indices that utilize different data error structures, standardization techniques, and Bayesian applications;

- Communicate to a broad audience the benefits and value inherent in this type of collaborative data collection program.

Need:

As asserted in the ACCSP Biological Review Panel’s biological sampling priority matrix, black sea bass is identified as a top priority for data collection, receiving the highest total priority ranking for inadequate biological sampling as well as being a high priority for managing stakeholders (ASMFC, NMFS, and state agencies) (ACCSP 2019). The lack of adequate data for northern Atlantic black sea bass is an issue of regional importance, as this highly valuable stock ranges from Cape Hatteras to the Gulf of Maine (Musick & Mercer 1977, Moser & Shepherd 2009). In part due to the dearth of data throughout the black sea bass range, assessment and management efforts have been slow to react to the shifting distribution and growing abundance of the species (Bell et al. 2014, NEFSC 2017). As stated by ASMFC (2013), high priority data needs for black sea bass include: biological characterization of commercial catch and discards, and expanded sampling of all sizes across the species temporal and spatial range to develop more reliable catch-at-age and CPUE. The Black Sea Bass Research Fleet has, and will continue to with continued funding, provide exactly this type of information. Ultimately, cost-effective sampling programs, such as the Black Sea Bass Research Fleet, are needed to collect these data on regional scales and inform and evolve the stock assessment to consider the complex life history and spatial structure of black sea bass.

Fishery dependent data has become an important source of information that is used as a term of reference for many stock assessments, but in the case of the northern Atlantic black sea bass stock, the data generated by the Black Sea Bass Research Fleet serves as the only systematically collected fishery dependent data source with a focus on the data being used in the assessment process. Thus, this project seeks to strengthen the fishery dependent data for this population in an effort to provide better information from across the temporal and spatial distribution of this species.

The limited coverage of optimal black sea bass habitat and semi-seasonal (spring/winter) sampling schedule of the NEFSC trawl survey may limit the suitability of the survey data for the stock assessment (ASMFC 2013) and require the addition of new data streams to improve the information available to assessment. As such, the ASMFC Black Sea Bass Technical Committee and ACCSP Biological Review Panel identified expanded collection of biological data as a top priority for improving the black sea bass stock assessment (ASMFC 2013, ACCSP 2019).

Other regions have adapted sampling and analytical techniques to better fit the life history and habitat associations of the black sea bass (Southern Atlantic and Gulf of Mexico stocks). These stock assessments rely heavily on fishery-dependent indices of abundance (SEFSC 2013). Such fishery-dependent indices of abundance, however, have not yet been developed for the northern black sea bass stock due to insufficient data, but will become possible if the Black Sea Bass Research Fleet is able to amass multiple years of contiguous data. This project aims to address this need by maintaining and expanding the existing Black Sea Bass Research Fleet to

conduct year-round biological sampling of black sea bass catch and bycatch within the trawl, lobster/crab, fish pot, gillnet, and rod and reel fisheries in the SNE/MAB region.

Ultimately, the proposed project will help to meet ACCSP's mission of improving data quality for fisheries science. In addition, this project, and its integration with the ACCSP data housing program, will lend to the other mission of the ACCSP, namely by contributing to a single data management system that will meet the needs of fishery managers, scientists, and fishermen. Collecting timely scientific data across a species range is imperative for successful fisheries management, as more robust data enables fisheries science to be as comprehensive as possible, which in turn supports informed and efficient decision making by managers. Furthermore, stock assessment scientists rely on robust biological, catch and effort, and bycatch data to help improve the quality of stock assessments. In these ways, the proposed project meets all of the main elements of the mission of ACCSP.

Results and Benefits:

The results of the proposed project include:

- Improved quality, quantity, and timeliness of biological, catch and effort, and bycatch data for the northern Atlantic black sea bass, made available via the ACCSP;
- A vetted source of year-round black sea bass data that can be used to inform the stock assessment and management of this data poor species;
- Coordinated data transmission procedures with the ACCSP that build upon the CFRF's existing data communication practices with ACCSP's Senior Data Coordinator;
- A demonstrated method to cost effectively collect data for a commercially and recreationally important species from areas and times of year not accessed by existing survey programs;
- Improved collaboration and trust between fishermen, scientists, and managers;
- Improved accuracy and credibility of the stock assessment and management plan for the northern Atlantic black sea bass stock;

The benefits of the proposed project are:

- Address priorities of ACCSP, ASMFC, and MAFMC by providing critically needed black sea bass data from the SNE/MAB region to support assessment and management efforts that reflect the current state of the resource;
- Provide an efficient and constructive way for fishermen to be involved in the scientific process by using modern technology to collect quantitative black sea bass data during routine fishing practices;
- Fill black sea bass data gaps in areas, habitats, and times of year not covered by standard survey techniques;
- Evolve and improve the black sea bass stock assessment by providing expanded biological data from retained and discarded black sea bass from a variety of gear types;

- Support regional science and management agencies, including ACCSP, ASMFC, MAFMC, and state agencies in their efforts to sustainably manage the black sea bass resource;
- Support diversification and resilience of fishing communities in the many states across the Atlantic coast with a black sea bass fishery;
- Provide a model for cost-effective fishery dependent data collection efforts in other regions and fisheries.
- Build strong working partnerships between fishermen, scientists, and managers that will contribute to the sustainable management of the nation's living marine resources;
- Build confidence in the efficacy of the northern Atlantic black sea bass stock assessment and management process.

Data Delivery Plan:

An important component of the proposed project is the compilation and communication of fishery and biological data to the ACCSP, participant fishermen, stock assessment scientists, and management teams. The CFRF will maintain the black sea bass database for internal project analyses (described below) but will also regularly share the project data with other users, regardless of any internal publication endeavors.

Copies of the black sea bass database will continue to be sent semi-annually (every six months) to the ACCSP. These data will be made available in a format that is compatible with the ACCSP database to encourage data be readily used in the black sea bass stock assessment and other analyses. Data submissions to the ACCSP will build upon the established procedures from the first three years of the project. All data provided to the ACCSP will match ACCSP data collection standards and any requested and available metadata will be provided. At the end of the project, data will also be made available to fishery scientists at the NMFS Northeast Fisheries Science Center. A vessel ID system will be used to maintain the confidentiality of participant fishing vessels. The CFRF will maintain open communication with the ACCSP data coordinator and will remain available to provide any necessary metadata along with data submissions.

In an effort to provide regular feedback to fleet participants, the project team will compile and distribute individual data reports every three months (quarterly). Vessel-specific data reports will include the following summary statistics: number of catch sampling sessions, amount of effort sampled (number of trawls, hooks, traps), average depth of sampling, percentage of black sea bass catch retained for sale, percentage of black sea bass catch discarded, number of black sea bass biologically sampled, sex distribution of black sea bass sampled, minimum/maximum length of black sea bass sampled, and average length of black sea bass sampled. Additional summary statistics will be available upon request. Data reports were compiled and distributed to Research Fleet participants following the above-mentioned quarterly time frame and content guidelines throughout the entirety of past project sampling.

Completed Data Delivery to ACCSP:

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During the first funding year of the project, the CFRF and RI DEM worked with the ACCSP Data Coordinator, Julie Defilippi Simpson, to coordinate data formats, metadata, and delivery procedures for the Research Fleet's black sea bass biosamples data. As a result of these efforts, all black sea bass biosamples data collected to date through the funded project have been incorporated into the ACCSP black sea bass biosamples database. The CFRF has maintained the semi-annual data submission to the ACCSP and submits data in June and December of each sampling year. The project team will maintain a semi-annual data delivery schedule to ACCSP throughout the proposed project following the same data formats and standards previously established.

Approach:

The proposed project seeks to collect, communicate, and analyze critically needed catch, bycatch, and biological data for incorporation into the ACCSP biosamples database and ultimate application in the northern Atlantic black sea bass stock assessment. Project components include: 1) Maintenance of the current Black Sea Bass Research Fleet and expansion to incorporate two new vessels; 2) Collection of fishery-dependent biological (catch and bycatch) black sea bass data and fishery characteristics for 12 months in the SNE/MAB region; 3) Internal data analysis to address research questions about spatiotemporal patterns in the black sea bass population and fishery; 4) Compilation and communication of project data and results to ACCSP, stock assessment scientists, and fisheries managers; and 5) Outreach and education activities to share findings. Methodological details are outlined below.

Maintenance and Expansion of Black Sea Bass Research Fleet and Data Collection App:

During the first funding year of this project, the CFRF and RI DEM were successful in developing the Black Sea Bass Research Fleet for fishery dependent data collection, including the development of a Project Steering Committee, solicitation and selection of participant fishing vessels, development of the On Deck Data app and SQL database, refinement of sampling protocols, construction of sampling equipment, training of Research Fleet participants, on-time initiation of data collection, data delivery to ACCSP and professional and industry outreach. The project was implemented by the PIs, CFRF staff, and a Project Steering Committee, which consists of members of the fishing industry as well as state and federal fisheries scientists and managers. Currently the project is run by the PIs and CFRF staff and the project steering committee serves in an advisory role and provides feedback on project progress and major milestones. More information about the accomplishments of the project is available on the project website: www.cfrfoundation.org/black-sea-bass-research-fleet.

If funded, during the fourth year of the project, the CFRF and RI DEM will maintain the twelve fishing vessels supported through year-3 funding from ACCSP as well as seek to expand the fleet by an additional two vessels. The primary goal when selecting new vessels for the Research Fleet will be; 1. Increase the number of replicate vessels of gear types currently represented in

the Research Fleet and 2. Increase the spatiotemporal coverage of the Research Fleet. Both of the previously mentioned goals will help to increase the statistical power of the fishery dependent data collected by the Research Fleet overall. Through Fleet Meetings and communication between project PIs and steering committee members, focusing the proposed Fleet expansion on the non-trawl fishery to better address limitations in the current stock assessment. This is because the current stock assessment groups all non-trawl fisheries together and assumes the same selectivity and discard structure between all non-trawl gear types. Aside from the trawl fishery, the Research Fleet currently provides data from the gillnet, lobster pot, fish pot, rod and reel, conch pot, and aquaculture fisheries. Focusing Research Fleet expansion among these identified non-trawl gear types would help reduce uncertainties and inform the current black sea bass stock assessment. To ensure a fair and transparent fleet expansion, the CFRF and RI DEM will issue an open call for F/V applications as well as reach out to strong candidates from past application calls and encourage reapplying. A Review Committee will rank applicants and select the two new F/Vs for the Black Sea Bass Research Fleet. The CFRF staff will notify the selected F/Vs and will work with them to establish work agreements, introduce them to sampling equipment, and train them on sampling protocols.

The black sea bass data collection app, On Deck Data, was developed during the first year of the project to enable Research Fleet participants to collect standardized black sea bass data as well as day-to-day observations. On Deck Data prompts participant fishermen to record a suite of session data (location, depth, habitat type, etc.), effort data (mesh size, length of trawl, hooks fished, etc.), and biological data (length, sex, disposition) while at sea. To account for the multi-gear nature of the black sea bass fishery, On Deck Data prompts gear-specific data entry for Research Fleet participants (Table 1). On Deck Data was originally launched during the first year of the project and has received various improvements and quality of life updates in each funded year since to streamline data collection.

Table 1. Summary of fishing effort data collected by the Black Sea Bass Research Fleet.

Trawl	Gillnet	Commercial Rod & Reel	Charter	Lobster/Crab Traps	Fish Pot
Mesh Size (inches)	Number of Net Panels Per String	Time Spent Fishing (hours)	Time Spent Fishing (hours)	Soak Time (days)	Soak Time (days)
Tow Time (hours.decimal)	Length of Net Panels (feet)	Number of Rods Fished	Number of Rods Fished	Number of Traps	Number of Traps
Sweep Length (feet)	Mesh Size (inches)	Humber of Hooks Used	Number of Hooks Used	Escape Vent Size (inches)	Escape Vent Size (inches)
	Soak Time (days)			Escape Vent Shape	Entrance Size (inches)

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	Net Height (feet)				
	Tie Downs (inches)				

On Deck Data will be maintained throughout the proposed project to allow for efficient data collection and wireless data submission by Research Fleet participants. The CFRF and RI DEM will continue to work with an application developer to address any issues that arise and to update On Deck Data to maintain functionality. Application maintenance is a constant task, as tablets regularly receive operating system updates that may impact On Deck Data functionality.

The Black Sea Bass Research Fleet will continue to follow the fishery-dependent sampling protocols implemented during the first year of the project to collect catch and effort, biological, and bycatch data from the SNE/MAB region. The percentage of project effort devoted to each of these modules is as follows: Catch and Effort 30%, Biological 40%, Bycatch 30%. The estimated effort devoted to the catch and effort module is based upon sampling during the roughly 154 days of open black sea bass fishing season in Rhode Island in 2016 (42% of the year). The estimated project effort devoted to biological sampling reflects the collection of black sea bass length and sex data by participant vessels during three trips per month for 12 months. Finally, the project effort allocated to the bycatch module reflects sampling efforts conducted while the commercial black sea bass fishing season is closed and while participant vessels are targeting other species.

Fishery-Dependent Data Collection:

The Black Sea Bass Research Fleet started collecting data on November 30, 2016 and, if this proposal is funded, will continue to do so, utilizing the established sampling protocols and procedures, through at least July 31, 2021. The Black Sea Bass Research Fleet currently consists of ten fishermen based in Rhode Island, chosen strategically to provide data coverage from across the SNE/MAB region, throughout the year, from a variety of gear types: F/V Excalibur (Offshore Trawl), F/V Johnny B (Fish Pot, Rod & Reel, Lobster Pot), F/V Laura Lynn (Fish Pot, Rod & Reel, Lobster Pot), F/V Matrix (Lobster/Crab Pot), F/V Nancy Beth (Gillnet), F/V Priority Too (Rod & Reel, Charter), F/V Second Wind (Offshore Trawl), and F/V Sweet Misery (Gillnet, Lobster Pot), F/V Lady Clare (Lobster Pot), and F/V Debbie Sue (Trawl). The majority of samples have originated from statistical areas 537 and 539 as these two statistical areas exclusively cover the fishing grounds of the F/V Johnny B, F/V Laura Lynn, F/V Matrix, and F/V Priority Too, all of which are either seasonal fishing vessels or do not interact with black sea bass in the winter. The majority of inshore lobster, fish pot, rod and reel and gillnet samples come from the end of spring through the end of the fall when black sea bass are in highest abundances inshore in statistical areas 537 and 539. The F/V Second Wind and the F/V Excalibur fish further south than the above-mentioned vessels and interact with black sea bass year-round but primarily during the winter, however various vessel repairs and unrelated injuries have reduced the

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amount of data collected by these two vessels. The F/V Lady Clare fishes offshore and interacts with black sea bass heavily in the winter and spring months, however encounters them less frequently through the summer and fall. The newest vessel added to the Research Fleet, F/V Debbie Sue, fishes the further south of all Research Fleet Members and consistently completes trips into the MAB region south of Hudson Canyon. In total, the Black Sea Bass Research Fleet has sampled black sea bass from 9 distinct statistical areas, 537, 539, 616, 613, 611, 615, 533, 525, and 622. Two additional F/Vs will be brought on with currently awarded funds from ACCSP. The proposed project seeks to add an additional two F/Vs that interact with black sea bass to increase the gear-type specific statistical power of the non-trawl collected data and to increase the spatiotemporal coverage of Research Fleet data collection.

Due to the high number of gear types currently represented in the Research Fleet, it was identified that increasing the number of replicates of each gear type within the Fleet would strengthen the conclusions of the proposed discard characterization for each gear type. If funded, the CFRF and RI DEM will open an application period for the Research Fleet slots as done in the previous years of the project. Any vessel will be able to apply for consideration however preference will be given to vessels which fish in gear types currently represented within the Research Fleet and fish in the non-trawl fisheries of; gillnet, lobster pot, commercial rod and reel, and fish pot. Although conch pot and oyster aquaculture are currently represented within the Research Fleet, these two gear types will not be targeted for expansion like the previously mentioned gears. Conch pot and oyster aquaculture were not initially intended to be gear types covered by the Research Fleet sampling however, a couple Fleet Members brought on to sample from other gears types also operate in the conch and aquaculture fisheries. The CFRF and RI DEM will not target conch pot and oyster aquaculture for expansion in the Research Fleet as neither gear type actively targets black sea bass or interacts with the species on a level similar to the other, targeted gears. However, sample collection will continue through existing Fleet Members opportunistically as it provides a novel source of data on black sea bass. Further, vessels from the above-mentioned gear types which operate and interact with black sea bass in areas and times of year under-represented by our current Research Fleet will be further prioritized, specifically through the winter months of January-April and south of Hudson Canyon. If the proposed work is funded, ACCSP funding would allow for the inclusion of at least 14 total F/Vs in the Research Fleet.

Participant fishermen will use Samsung Tab A tablets pre-programmed with On Deck, described above, to efficiently and accurately record and transmit fishery dependent data. As such, the proposed project will advance the use of electronic technology in at sea biological data collection, management, and analysis efforts.

The goal for each participant is to conduct at-sea catch sampling sessions during three fishing trips each month (Nelson 2014). Thus, the black sea bass research fleet will aim to sample 42 trips per month, for a total of 504 trips over twelve months. Given the population inferences implied in the project objectives and the aggregating nature of black sea bass, a biological

sampling (length/sex) minimum of 50 black sea bass per location will be the required (Zhang & Cadrin 2012). With a goal of sampling three locations per month, the Research Fleet may sample up to 21,600 black sea bass over the course of the year.

The realized sampling frequency, however, will be dependent on a variety of factors, including weather, seasonal black sea bass distribution, and fishery closures. Further, due to the high seasonality of a large portion of the Black Sea Bass Research Fleet and fishery sampling frequency exhibits high seasonal fluctuations. Due to the multi-gear nature of the Research Fleet, the proposed sampling targets do not adequately represent the fishing schedules for each gear type. For example, due to the low daily catch limit (50 pounds per day per vessel for most of the year) in Rhode Island for black sea bass if a fishing vessel is only targeting black sea bass on a day trip and the limit is caught, all fishing ceases. This leads to instances where sampling 50 black sea bass per location becomes unfeasible as fishing may have already stopped prior to landing 50 black sea bass. Further, many of the larger trip vessels are mainly retaining their daily or trip limits of black sea bass from bycatch while targeting other species, which again leads to instances of fishing ceasing prior to 50 black sea bass have been caught. However, the goal of sampling 150 black sea bass per month remains to ensure statistical power. Vessels may sample fewer fish from more than three locations to reach the 150 fish per month target. Further, the same scenario occurs in highly mobile fishing gears, such as charter and commercial rod and reel, which will often change locations prior to catching 50 black sea bass. Both instances may lead to the potential for more numerous sampling locations with fewer fish from each location. Finally, the maximum target of 21,600 black sea bass would only be achievable if all Research Fleet participants operated year-round. Since many of the gear types represented within the Research Fleet stop fishing for the winter months, the realized sampling numbers are lower. However, this proposal's goal of adding two new F/Vs to the Research Fleet will seek to, first, increase the number of replicates in the non-trawl fishery and, second, to target areas and times of year under-sampled by the current Research Fleet members.

At each sampling location, participant fishermen will use On Deck Data to record the date, time, location, statistical area, depth, habitat type, target species, gear type, effort deployed (see Table 1), total number/pounds of black sea bass retained and discarded, and length, sex, and disposition of at least 50 black sea bass. Sampling date, time, and location will be automatically recorded by the internal tablet GPS. Standardized fish measuring boards will be used across the Research Fleet to ensure a consistent measure of fish length to the nearest centimeter. Data will be wirelessly uploaded to a MySQL database once a vessel returns to port and continually monitored by the project team. This data communication, review, management, and storage process was established and vetted during the first year of the project and has been implemented in each year since.

As outlined above, all participant fishermen will aim to sample black sea bass during three fishing trips per month regardless of black sea bass fishery closures. Thus, each fishing vessel

will need an exempted fishing permit to retain black sea bass on deck for biological sampling when the commercial fishing season is closed and operating in Federal water. Scientific collector’s permit, issued by RI DEM, will also be required for vessels fishing within state waters. These permits were successfully acquired multiple times during the first funding year of the project and will be extended through subsequent years of data collection and expanded to cover new Research Fleet participants.

Internal Data Analysis:

As described above, the Black Sea Bass Research Fleet was able to operate effectively and deliver data in an efficient manner during first two years of data collection, sampling over 13,850 black sea bass from 1025 locations between Narragansett Bay to the northern end of the MAB and east to George’s Bank from November 30, 2016 to June 1, 2019. These data are summarized in the Table 2. The ultimate application of these data will be the black sea bass stock assessment. To achieve this goal, the project team has worked directly with steering committee members and black sea bass stock assessment scientists (Gary Shephard, NEFSC; Steve Cadrin, SMAST) since the beginning of the project to ensure that Research Fleet data is of the necessary quality and structure for utilization in the stock assessment. Communication with the above listed stock assessment scientists will continue with the proposed project. Work with the stock assessment scientists will be focused on directly incorporating the Research Fleet data into the stock assessment, creating in depth gear selectivity models for the gear types represented within the Research Fleet and exploring the creation and incorporation of CPUE indices of abundance(including gear specific indices), both of which could be directly utilized in the stock assessment. Further, the proposed work will include gear specific discard characterizations describing the length frequencies of discarded black sea bass from each gear type through both time and space, with the intention of providing a more accurate black sea bass discard rate for the stock assessment.

Table 2. Summary of data collected by the Black Sea Bass Research Fleet as of June 1, 2019.

Total Black Sea Bass Sampled	13,850
Percent Male	26%
Percent Female	43%
Percent Unknown	31%
Minimum Size (cm)	3
Maximum Size (cm)	63
Average Size (cm)	32.2
Percent Discarded	68%
Percent Retained	32%

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In addition to the application of biological black sea bass data to the stock assessment, the data derived from the Black Sea Bass Research Fleet could also be used to characterize the catch, bycatch, and other characteristics of black sea bass in the SNE/MAB region, including gear selectivity and spatiotemporal patterns in catch composition. An additional 12 months of sampling by the Research Fleet, as well as increasing the number of gear-type replicates, will provide a better understanding of these seasonal and spatial dynamics as the data will now become the first multi-gear, multi-year, time series for the species.

The data collected during the previous funding years of the project exhibit interesting biological and fishery trends that will continue to be monitored in subsequent years of sampling for the proposed project. The high frequency of legal-sized, discarded, black sea bass suggests the black sea bass are primarily being discarded due to seasonal closures and/or low daily limits and not due to the minimum size limit (Figure 1). The range of the discarded length data further supports this, showing that even the largest of sampled black sea bass (receiving the highest market value) are often discarded.

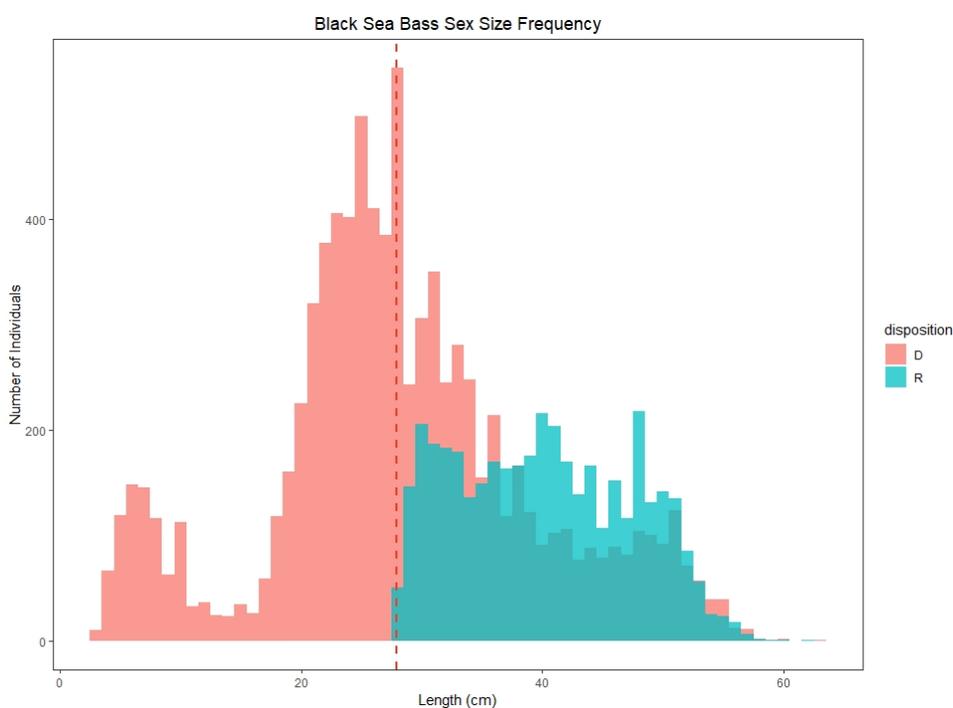


Figure 1. Size spectra of black sea bass sampled by the Research Fleet from November 30, 2016 to June 1, 2019. Red bars indicate discarded (D) fish. Blue bars indicate retained (R) fish. Red-dashed line represents the Rhode Island minimum legal size of 11 inches (27.94 cm).

When comparing gear selectivity between the different gear types represented within the Research Fleet, trends between discarded and retained black sea bass sizes are apparent (Figure 2 and 3). Trawl, lobster pot, and fish pot generally exhibited similarly, highly variable,

size selectivity and accounted for the largest ranges of size interaction with black sea bass. Commercial rod and reel and charter vessels exhibited nearly as wide a range of size interaction with black sea bass as the previously mentioned three gear types, however did not interact with the smallest of size classes of black sea bass. Gillnet appears to be in a distinct grouping of its own and exhibits the highest selectivity amongst all represented gear types as well as interacting with the largest size classes of black sea bass exclusively. These trends which have become apparent from just the first funding year of sampling suggest there are gear specific size selectivity occurring in the black sea bass fisheries in the SNE/MAB regions. Further, the apparent trends between gear types support the decision to focus Research Fleet expansion on the non-trawl fishery as non-trawl gear types have already begun to show distinct selectivity trends from one another. The proposed project will continue to track these trends as the time series builds with subsequent years of sampling. This type of information could have important ramifications to the stock assessment as it could help inform the selection of fleets modeled within the assessment.

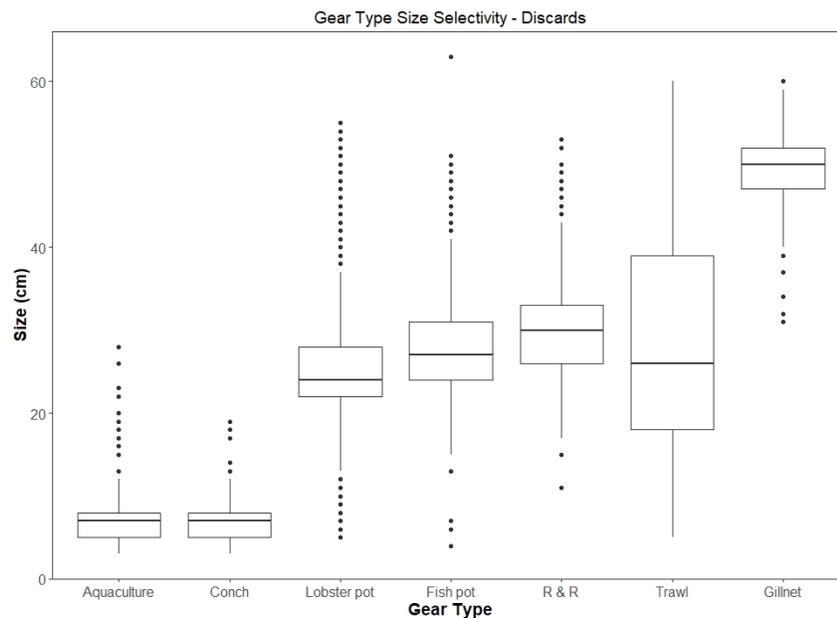


Figure 2. Size selectivity of discarded black sea bass sampled by each gear type represented within the research fleet. From left to right, gear types are as follow; oyster aquaculture, conch pot, lobster pot, fish pot, rod and reel (commercial and charter), trawl, and gillnet.

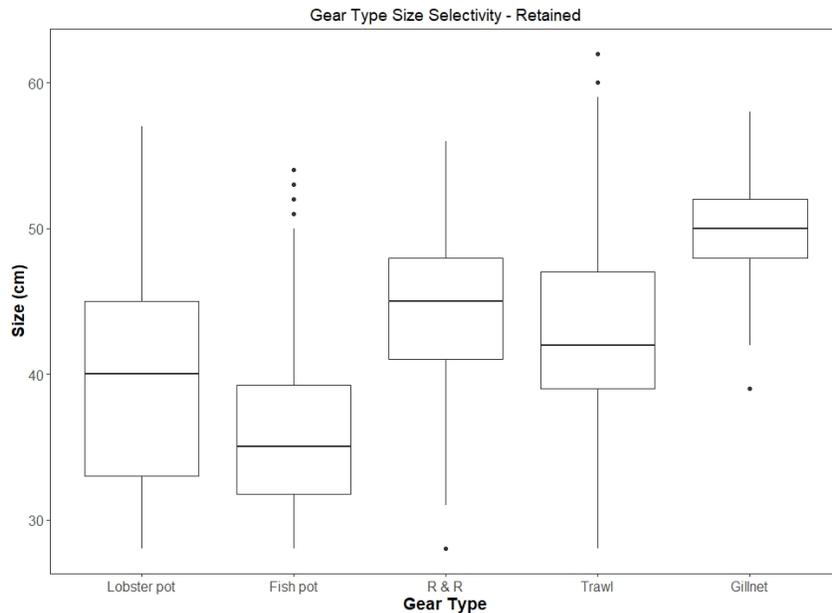


Figure 3. Size range of retained black sea bass sampled by each gear type represented within the research fleet. From left to right, gear types are as follow; lobster pot, fish pot, rod and reel (commercial and charter), trawl, and gillnet. Note, aquaculture and conch pot gear types are absent from this graph because no black sea bass have been retained from either of those two gear types.

During the fourth year of the project, the project team will focus primarily on the refinement of analyses previously established for application to the stock assessment including: size spectra, sex ratios, catch per unit effort (CPUE), black sea bass retention and discard structure, seasonal activity of Research Fleet, and gear selectivity. Specifically, internal data analysis questions proposed during the past funded year of the project were: 1) Are there spatial (latitudinal) patterns in the length frequency or sex ratio of black sea bass?, 2) Are there seasonal differences in black sea bass catch composition (length frequency and sex ratio)?, 3) Are different life stages of black sea bass apparent in commercial fisheries catch in specific areas or at different times of year?, and 4) What is the selectivity (min, max, mean length) of different gear types (trawl, fish pots, gillnet, lobster/crab pot, rod and reel) that harvest black sea bass? Year-4 analyses will build upon the initial results from exploration of these questions. The establishment of gear type selectivity regressions comparing different gear types as well as multiple years of Research Fleet data will serve as the primary and direct input to the next black sea bass stock assessment.

The open-source statistical software package R will be used for data analysis. Length frequencies, black sea bass length gear selectivity, spatial and seasonal sex ratio regression models, and catch rate patterns will all be updated based on the protocols established in prior years of the project to further analyze seasonal trends as well as compare data from year to year.

In addition to further addressing the aforementioned research questions, the project team will also explore novel fishery dependent indices for the black sea bass stock assessment, as time permits. Building upon the analytical techniques established in prior years, data will continue to be standardized from the disparate gear types represented within the Research Fleet through generalized linear modeling approaches and/or hierarchical modeling techniques to allow for more direct communication into the black sea bass stock assessment.

Outreach and Education

Education, outreach, and ongoing communication are considered to be an integral part of the overall work plan for the proposed project. These components of the proposed project support the goal of fostering collaborative working partnerships among scientists, managers, and members of the fishing industry through all phases of research, from the fine-tuning of sampling strategies through the analysis and sharing of data and results.

The primary outreach/education goal of the proposed project is to share and disseminate information on two topics: 1) the lessons learned from the collaborative Research Fleet approach for fishery dependent data collection; and 2) the findings from analysis of the black sea bass catch, bycatch, and biological databases derived from this project.

A secondary goal is to share and disseminate project information to a variety of interest groups including: 1) commercial fishing industry members; 2) fisheries scientists and managers based in various state, regional, and federal agencies; 3) outside researchers who will utilize this information to inform their own research efforts in the region; and 4) other interested parties who are seeking information on new data collection/ocean monitoring techniques and approaches, and/or trends in black sea bass abundance and distribution in the SNE/MAB region.

There are a number of work elements embedded in the project work plan that are aimed at specifically addressing outreach and education goals, including:

1. Ongoing communication with project team members, including the members of the Black Sea Bass Research Fleet through personal meetings, group meetings, e-mail briefings, and phone conversations. Through prior funding years, annual Research Fleet meetings were held. The CFRF hosts all Research Fleet members, PIs, project staff, and steering committee members to receive feedback on the data collection process and present trends and analyses of the past years' worth of data. These Fleet meetings have been invaluable for receiving project feedback and as well as forming relationships between the fishing industry, managers, and scientists. The same annual Fleet meetings held through previous years of funding will be continued during the proposed project.
2. Periodic project briefings to key individuals outside the project team, including ASMFC, MAFMC, NMFS NEFSC, and NMFS GARFO staff, members of the black sea bass fishing fleet, and interested others through direct e-mail/mail correspondence, including periodic newsletters describing the project progress.

3. Regular postings of project information on the CFRF website, including descriptions of the fishermen involved, the equipment being used, the type of data being collected, and findings, as this information becomes available over the course of the project (www.cfrfoundation.org/black-sea-bass-research-fleet).
4. Organization of a research session at the end of the project involving managers, scientists, and members of the commercial and recreational fishing industries to share project findings and discuss experiences and results.
5. Issuance and distribution of a written summary report.
6. Participation in professional conference(s) to share project methods, findings, and conclusions.

Geographic Location:

At-sea sampling will be conducted within the northern Atlantic black sea bass stock area (SNE/MAB region), potentially including statistical areas 521 to 631. The final distribution of at-sea data collection will depend on the commercial fishing locations selected by participant fishermen. Project administration, and data management and analyses will be conducted at the Commercial Fisheries Research Foundation office in Kingston, Rhode Island and the RI DEM marine laboratory in Jamestown, Rhode Island.

Milestone Schedule:

Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13-15
Research Fleet data collection & open call and select 2 new F/Vs	Research Fleet data collection & training of new F/Vs	Research Fleet data collection and Fleet support	Final report writing and submission of report and all project data to ACCSP									
Send extended EFP to Fleet	Revise EFP for added F/Vs			Apply for RI DEM Permits								
Maintain sampling gear and buy new sets	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear	Maintain sampling gear & collect after sampling	
Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	Maintain ODD, server, and database	
Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	
		Quarterly reports to Fleet Members			Quarterly reports to Fleet Members			Quarterly reports to Fleet Members			Quarterly reports to Fleet Members	
				Submit data to ACCSP		Write progress report and submit to ACCSP				Submit data to ACCSP		
Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	Maintain project website and project outreach	

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Project History Table:

<u>Funding Year</u>	<u>Title</u>	<u>Original Project Dates</u>	<u>Funded Amount</u>	<u>Total Project Cost</u>	<u>Description</u>
2016	Advancing Fishery Dependent Data Collection for Black Sea Bass (<i>Centropristis striata</i>) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach	September 1, 2016 – August 31, 2018	\$137,827.00	\$203,072.00	Piloted the research fleet technique for collection of fishery dependent catch, effort, bycatch, and biological data in the multi-gear black sea bass fishery
2018	Advancing Fishery Dependent Data Collection for Black Sea Bass (<i>Centropristis striata</i>) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach	May 1, 2018 – May 31, 2019	\$135,648.00	\$187,949.00	Maintained the research fleet fishery dependent data collection of catch, effort, bycatch, and biological data in black sea bass fishery and expanded Research Fleet by two fishing vessels
2019	Advancing Fishery Dependent Data Collection for Black Sea Bass (<i>Centropristis striata</i>) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach	June 1, 2019 – May 31, 2020	\$132,749.00	\$169,033.00	Maintained the Research Fleet data collection of catch, effort, bycatch, and biological data in the black sea bass fishery in the SNE/MAB region and expanded the Research Fleet by two fishing vessels

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Project Accomplishment Measurement (Metrics and Achieved Goals):

Project Goal		Metric 1	Metric 2	Metric 3	Metric 4	Metric 5	Metric 6	Metric 7	Metric 8	Metric 9	Metric 10
Collection & communication of biological and fishery data for BSB	Year 4 Proposal Metrics	Upkeep of ODD, CFRF server, and MySQL database	Use of ODD by Research Fleet Members	Support of 12 Research Fleet Members and addition of two new Members	Twelve months of biological BSB and fishery data collection by Fleet	Collection of up to 25,200 BSB records by Research Fleet	Collection of 504 records of BSB catch and discard rates over 12 months	Collection of 504 records of BSB fishing location, depth, habitat, gear type, effort, and catch over 12 months	Transfer of collected BSB biological and fishery data into MySQL database	Compilation of all quarterly reports on a three-month basis to Fleet Members	Auditing, formatting, and submission of BSB biosamples and fishery data to ACCSP and other managers
	Year 3 Proposal Metrics	Maintenance of BSB data collection app, wireless data transfer, and SQL database	Use of BSB data collection app by participant fishermen	Maintenance of ten existing Research Fleet participants and addition of two new participants	Twelve months of biological fishery data collection for BSB	Collection of 21,600 measurements of BSB sex and length over twelve months	Collection of 432 records of BSB catch and discard rates over 12 months	Collection of 432 records of BSB fishing location, depth, habitat, gear type, effort, and catch over 12 months	Compilation of BSB biological and fishery data into SQL database	Compilation and distribution of quarterly reports to Research Fleet participants	Formatting and distribution of BSB biosamples data to ACCSP, ASMFC, and MAFMC
	Year 2 Proposal Metrics	Maintenance of BSB data collection app, wireless data transfer, and SQL database	Use of BSB data collection app by participant fishermen	Maintenance of eight existing Research Fleet participants and addition of two new participants	Twelve months of biological fishery data collection for BSB	Collection of 21,000 measurements of BSB sex and length over twelve months	Collection of 360 records of BSB catch and discard rates over 12 months	Collection of 360 records of BSB fishing location, depth, habitat, gear type, effort, and catch over 12 months	Compilation of BSB biological and fishery data into SQL database	Compilation and distribution of quarterly reports to Research Fleet participants	Formatting and distribution of BSB biosamples data to ACCSP, ASMFC, and MAFMC
	Year 1 Achievement	Development of the On Deck Data app for BSB data collection. Server processes, and SQL database	Piloting of the BSB data collection app by participant fishermen	Solicitation, selection, and training of eight BSB Research Fleet participants	17 months of biological and fishery data collection for BSB (as of June 2018)	Collection of 8,439 measurements of BSB length and sex over the 17 months	Collection of 643 records of BSB catch and discard rates	Collection of 643 records of BSB fishing location, depth, habitat type, gear type, effort, and catch	Compilation of all BSB data into SQL database (bsb_fleet, bsb_session, bsb_sample, bsb_random tables)	Compilation and distribution of quarterly reports to Research Fleet participants	Formatting and distribution of BSB biosamples data to ACCSP in June and December 2017
Reduce uncertainties in BSB stock assessment	Year 4 Proposal Metrics	Increase number of gear replicates in non-trawl fishery	Provide BSB data from areas and times of year currently under sampled	Distribution of project data to managing stakeholders at federal, region, and local level	Utilization of data by BSB stock assessment working group	Explore fishery dependent index of abundance for BSB using Fleet data					
	Year 3 Proposal Metrics	Provide BSB data from areas, habitats, and times of year not covered by standard survey techniques	Distribution of BSB data to ACCSP, ASMFC, MAFMC, and NEFSC	Distribution of data and updated project findings to BSB stock assessment working group	Utilization of data by BSB stock assessment working group	Exploration of fishery dependent indices of abundance for BSB					
	Year 2 Proposal Metrics	Provide BSB data from areas, habitats, and times of year not covered by standard survey techniques	Distribution of BSB data to ACCSP, ASMFC, MAFMC, and NEFSC	Distribution of data and project findings to BSB stock assessment working group	Utilization of data by BSB stock assessment working group	Exploration of fishery dependent indices of abundance for BSB					

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	<u>Year 1 Achievement</u>	Provided BSB data from months, areas, and habitats not sampled by existing surveys	Distributions of BSB data to ACCSP in June 2017 and December 2017	Contact with BSB assessment scientists (Gary Shepard NEFSC and Steve Cadrin SMAST)							
Asses spatial & temporal patterns in BSB fishery and catch	<u>Year 4 Proposal Metrics</u>	Analyze catch trends between years, gear types, and locations of Fleet sampling	Monitor discard structure between years within Fleet sampling	Monitor size and sex structure of retained BSB between sampling years	Monitor trends in length frequencies within gear types, locations and times of year	Add additional years of data to explore inter annual differences in length frequency	Update of BSB sex ratio logistic regression models from prior years	Develop manuscript for publication utilizing biological or fishery data from Fleet			
	<u>Year 3 Proposal Metrics</u>	Analyze trends in CPUE between years for gear types and locations	Analyze trends in discard rates between years based on gear types and locations	Monitor size and sex distributions of retained BSB catches between years	Update of BSB length frequencies by gear type, month, and location	Compare inter annual differences in Kolmogorov-Smirnov tests of BSB length frequency by gear type, month, and location	Update of BSB sex ratio logistic regression models from Year 2	Update of BSB catch rates and standardized CPUE GLMs established during Year 2	Publication of peer reviewed paper		
	<u>Year 2 Proposal Metrics</u>	Calculation of CPUE for different gear types, times of year, and locations	Calculation of discard rates for different gear types, times of year, and locations	Calculation of size and sex distributions of retained BSB catch	Construction of BSB length frequency by gear type, month, and location	Completion of Kolmogorov-Smirnov tests of BSB length frequency by gear type, month, and location	Completion of logistic regression models of BSB sex ratios by gear type, time of year, and location	Developments of GLMs of BSB catch rates and standardized CPUE	Publication of peer reviewed paper		
	<u>Year 1 Achievement</u>	Preliminary data analysis of BSB length and sex data	Development of size spectra for discarded and retained BSB	Creation Research Fleet sampling coverage maps	Preliminary exploration of spatial and temporal trends in BSB size spectra						
Demonstrate model approach for cost efficient fishery dependent data collection	<u>Year 4 Proposal Metrics</u>	Usage of collaborative approach established in previous years	Presentations of Fleet design at scientific conferences	Develop manuscript to validate Fleet design through peer review							
	<u>Year 3 Proposal Metrics</u>	Utilization of modern technology to collect biological data during routine fishing practices	Approval of project approach, protocols, and outcomes by BSB scientists, managers, and fishermen	Application of data to stock assessment and resource management	Maintenance of contact between all project partners, participants, and end users	Development of working partnerships between participating fishermen, scientists, and managers	Completion of projects tasks within project budget	Approval of project progress from steering committee members			
	<u>Year 2 Proposal Metrics</u>	Utilization of modern technology to collect biological data during routine fishing practices	Approval of project approach, protocols, and outcomes by BSB scientists, managers, and fishermen	Application of data to stock assessment and resource management	Maintenance of contact between all project partners, participants, and end users	Development of working partnerships between participating fishermen, scientists, and managers	Completion of projects tasks within project budget	Approval of project progress from steering committee members			
	<u>Year 1 Achievement</u>	Successful utilization of modern technology to collect biological BSB data during routine fishing practices	Approval of project approach and protocols by BSB scientists, managers, and industry (Project Steering Committee)	Contact with BSB stock assessment scientists (Gary Shepard NEFSC, Steve Cadrin SMAST)	Maintenance of contact between all project partners, participants, and end users	Development of working partnerships between participating fishermen, scientists, and managers	On track to complete projects tasks within project budget	Establishment of a project steering committee consisting of state and federal fisheries scientists and managers and members of the fishing industry	Development of project website, media articles, and outreach materials		

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Cost Summary and Funding Transition Plan:

This proposal represents a 0.5% (\$652) cost reduction from Year 3's proposal of a similar scope. The drop is due primarily to a reduction in the fishing vessel sampling costs associated with weather, vessel maintenance, and seasonal black sea bass distribution. CFRF personnel and Fringe Benefits have been updated to current staff expenses. These changes are reflected in the CFRF sub-contract (section F of the Budget Table).

The CFRF and RI DEM have pursued funding from a variety of sources for the Black Sea Bass Research Fleet and will continue to do so to ensure the longevity and utility of the data collected to the management of this data poor species. Presently, the CFRF has secured partial funding from the Sarah K. de Coizart Tenth Perpetual Charitable Trust to partially support additional fishing vessels operating in the Research Fleet as well as to undertake laboratory sampling of black sea bass from the federal water, winter fishery. These recently awarded funds represent a willingness for the CFRF and RI DEM to search for external sources of funds to support the Research Fleet as well as an agreement by the management representatives on the steering committee and the industry collaborators that the project addresses important issues.

The CFRF no longer has internal funds to cover research projects or issue RFPs, as the multi-year NOAA awards that enabled the CFRF to operate such programs expired in December 2015. Since then, the CFRF has relied exclusively on competitive research awards to support all of its operations, collaborations, and research projects.

Budget Table:

TOTAL	Year 4 (Maintenance)		
	Proposal	In-Kind	Total
	\$ 132,097	\$ 25,638	\$ 157,735
% Contribution by Funding Source	84%	16%	100%
Object Class Category	Proposal	In-Kind	Total
A Personnel			
- RI DEM - Jason McNamee		\$ 5,347	\$ 5,347
- RI DEM - Contractor		\$ 4,547	\$ 4,547
- RI Dem - Intern		\$ 2,500	\$ 2,500
Total RI DEM Personnel Costs	\$ -	\$ 12,394	\$ 12,394
B Fringe Benefits	\$ -	\$ 4,214	\$ 4,214
C Travel	\$ -	\$ -	\$ -
D Equipment	\$ -	\$ -	\$ -
E Supplies	\$ -	\$ -	\$ -
F Contractual - CFRF			
a. Personnel			
- Executive Director - Anna Mercer	\$ 9,350		\$ 9,350
- Research Scientist - Thomas Heimann	\$ 28,600		\$ 28,600
- Business Manager	\$ 4,840		\$ 4,840
Total CFRF Personnel Costs	\$ 42,790	\$ -	\$ 42,790
b. Fringe Benefits	\$ 3,851	\$ -	\$ 3,851
c. Travel	\$ 3,000	\$ -	\$ 3,000
d. Equipment	\$ -	\$ -	\$ -
e. Supplies			
- Research Supplies	\$ 2,000		\$ 2,000
- Office Supplies	\$ 1,000		\$ 1,000
Total Supplies	\$ 3,000	\$ -	\$ 3,000
f. Contractual			
- Programmer for On-Deck Data database	\$ 2,000	\$ -	\$ 2,000
Total Contractual	\$ 2,000	\$ -	\$ 2,000
g. Construction	\$ -	\$ -	\$ -
h. Other Costs			
- Fishing Vessel Stipends	\$ 55,440	\$ -	\$ 55,440
- Executive Assistance	\$ -	\$ 5,000	\$ 5,000
Total Other Costs	\$ 55,440	\$ 5,000	\$ 60,440
i. Total Direct Charges	\$ 110,081	\$ 5,000	\$ 115,081
j. Indirect Charges			
- Proposed at 20% of CFRF Direct Charges	\$ 22,016	\$ 1,000	\$ 23,016
- Approved Rate Differential proposed as In-Kind	\$ -	\$ 165	\$ 165
Total Indirect Charges	\$ 22,016	\$ 1,165	\$ 23,181
k. Total CFRF Costs	\$ 132,097	\$ 6,165	\$ 138,262
G Construction	\$ -	\$ -	\$ -
H Other Costs	\$ -	\$ -	\$ -
I Total Direct Costs	\$ 132,097	\$ 22,773	\$ 154,870
J Indirect Charges	\$ -	\$ 2,865	\$ 2,865
K Total Proposal Costs	\$ 132,097	\$ 25,638	\$ 157,735

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Budget Justification – Year 4 (Maintenance Project, Proposed):

The total proposed federal budget requested by the Rhode Island Department of Environmental Management (RI DEM) and the Commercial Fisheries Research Foundation (CFRF) for all components of the work is \$132,097 for 12 months. The voluntary non-federal match funds provided by the RI DEM and CFRF is \$25,638. The total proposal value is \$157,735. The proposed timeframe is August 1, 2020 to July 31, 2021.

The proposed budget justification for object class category items include the following:

- A. Personnel: \$12,394 In-Kind (RI DEM). RI DEM staff will play an advisory/support role in the proposed project, providing guidance on research protocols, assisting with statistical analyses as needed, exploring gear-specific indices of abundance and alternative modeling approaches as time permits, support in the procurement and storage of samples, and communicating project results to fishery governance system via existing participation in technical committees and working groups.

- B. Fringe Benefits: \$4,214 In-Kind (RI DEM). Fringe costs are charged on RI DEM FTEs only. RIDEM Annual Fringe benefit rates are:

Retirement 24%	Deferred Compensation 0.4%
FICA 6.2%	Medicare 1.45%
Health care \$21,937/year	Dental \$1,132/year
Vision Mercer \$165/year	Assessed Fringe 4.25%
Retiree Health 6.75%	

- C. Travel: There are no direct travel charges.

- D. Equipment: There are no direct equipment charges.

- E. Supplies: There are no direct supplies charges.

- F. Contractual: The CFRF will conduct most of the work involved in this project, with administrative and technical assistance provided by RI DEM as In-Kind. These services will be charged to the grant as contractual costs and are outlined below to provide more detail as to how the funding will be used:
 - a) Personnel: \$42,790 federal. This includes the wages for the following CFRF personnel for time spent working directly on the project:
 - 1. Executive Director – Proposed at 10% of time for 12 months = \$9,350
 - 2. Research Scientist – Proposed at 50% of time for 12 months = \$28,600.The CFRF Research Scientist is the primary individual responsible for fleet organization, maintenance, and support, as well as data management, communication, and analysis.

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3. Business Manager – Proposed at 10% of time for 12 months = \$4,840
- b) Fringe Benefits: \$3,851 federal. This includes a percentage for payroll taxes and worker's compensation insurance prorated in accordance with % of salary paid from program. Benefits proposed at 9% of personnel costs based on 2019 benefits and historical analysis.
- c) Travel: \$3,000 federal. Travel costs include travel support (mileage) for project staff to provide support at docks to Research Fleet participants, to participate in meetings with the Research Fleet, stock assessment scientists, and managers, and to participate in one industry/professional conference for two personnel to share and disseminate project methods, findings, and conclusions.
- d) Equipment: \$0. There will be no equipment costs on this project.
- e) Supplies: \$3,000 federal. This category includes research supplies and project office supplies.
1. Research Supplies: \$2,000 - Costs of tablets, waterproof cases, stylus & fish measuring board. Proposed at \$500 per set x 4 vessels (2 new vessels and 2 existing fleet vessels) for the duration of the project. The two sets of sampling equipment for existing Research Fleet vessels are replacements for equipment that is damaged.
 2. Office Supplies: \$1,000 – Costs to cover database storage and website fees (\$35/month), project office and meeting supplies, etc.
- f) Contractual: \$2,000 federal. This includes costs associated with:
1. Programmer (\$2,000 - federal) - CFRF hiring an outside computer programmer to maintain the On Deck Data application and database coding for data relay and storage, to address any issues that arise, and to update the app to maintain functionality.
- g) Construction: There are no construction costs.
- h) Other Costs: \$55,440 federal + \$5,000 match = \$60,440. This includes:
1. Fishing vessel stipends (\$55,440 - federal) for 14 vessels for 12 months at \$600 per month. A fleet of 14 vessels will be utilized each month to obtain the proposed biological samples. The total stipend is computed at 55% due to fluctuations in vessel sampling associated with weather, vessel maintenance, and seasonal black sea bass distribution.
 2. Executive Assistance (\$5,000 - in-kind match) covers the administration assistance for the project (including, review of fleet applications and invoices, work agreements, progress/final reports) by the CFRF President and Vice President, who provide these services at no cost. Costs proposed at \$250 per day for 10 days for 2 people over the duration of the project.

- i) Total Direct Charges: \$110,081 federal + \$5,000 in-kind = \$115,081 total. This is the total direct charges for cost items a-h.
- j) Indirect Charges: \$22,016 federal + \$1,165 in-kind = \$23,181 total. Indirect general and administrative costs are calculated as 20.0% of federally requested Total Direct Charges (\$110,081). Indirect general and administrative costs are used to cover costs associated with the general operations of the CFRF including accounting services, legal services, maintenance of office space, liability insurance, payroll fees, phone/fax lines, internet service, board member participation, etc. The CFRF's FY2019 Indirect Cost Rate Proposal dated 12/21/18 is for 20.15% based on FY2018 actual costs. The 0.15% indirect cost rate differential is a voluntary nonfederal match by CFRF. CFRF has historically averaged around 20% of Indirect G&A which is proposed for this project.
- k) Total Proposal Costs: \$132,097 Federal + \$6,165 In-Kind = \$138,262 Total.

G. Construction. There are no construction costs on this grant

H. Other Costs. There are no other costs associated with this grant.

I. Total Direct Charges: \$132,097 Federal + \$22,773 In-Kind = \$154,870 total. This is the total direct charges for cost items A-H.

J. Indirect Charges: \$2,865 In-Kind (RIDEM). Indirect charges are charged on RIDEM Salaries and Fringe Benefits. The Negotiated Indirect Cost Rate for FY2018 is 17.25%. (Total personnel and fringe is \$16,608 x 17.25% = \$2,865.)

K. Total Proposal Costs: \$132,097 Federal + \$25,638 In-Kind = \$157,735 Total.

Budget Justification – Year 3 (Maintenance Project, Funded):

The total proposed federal budget requested by the Rhode Island Department of Environmental Management (RI DEM) and the Commercial Fisheries Research Foundation (CFRF) for all components of the work is \$132,749 for 12 months. The voluntary non-federal match funds provided by the RI DEM and CFRF is \$36,284. The total proposal value is \$169,033. The proposed timeframe is June 1, 2019 to May 31, 2020.

The proposed budget justification for object class category items include the following:

L. Personnel: \$12,394 In-Kind (RI DEM). RI DEM staff will play an advisory/support role in the proposed project, providing guidance on research protocols, assisting with statistical analyses as needed, exploring gear-specific indices of abundance and alternative modeling approaches as time permits, support in the procurement and storage of samples, and communicating project results to fishery governance system via existing participation in technical committees and working groups.

M. Fringe Benefits: \$4,214 In-Kind (RI DEM). Fringe costs are charged on RI DEM FTEs only.

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
 ACCSP Funding Proposal (Maintenance Project – Year 4): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)
 Proposal components that address the ranking criteria are underlined and a summary is provided on pages 29-31.
 Changes from the original proposal are highlighted in yellow

RIDEM Annual Fringe benefit rates are:

Retirement 24%	Deferred Compensation 0.4%
FICA 6.2%	Medicare 1.45%
Health care \$21,937/year	Dental \$1,132/year
Vision Mercer \$165/year	Assessed Fringe 4.25%
Retiree Health 6.75%	

N. Travel: There are no direct travel charges.

O. Equipment: There are no direct equipment charges.

P. Supplies: There are no direct supplies charges.

Q. Contractual: The CFRF will conduct most of the work involved in this project, with administrative and technical assistance provided by RI DEM as In-Kind. These services will be charged to the grant as contractual costs and are outlined below to provide more detail as to how the funding will be used:

l) Personnel: \$42,240 federal. This includes the wages for the following CFRF personnel for time spent working directly on the project:

1. Executive Director – Proposed at 10% of time for 12 months = \$9,240

2. Research Scientist – Proposed at 50% of time for 12 months = \$28,600.

The CFRF Research Scientist is the primary individual responsible for fleet organization, maintenance, and support, as well as data management, communication, and analysis.

3. Business Manager – Proposed at 10% of time for 12 months = \$4,400

m) Fringe Benefits: \$4,224 federal. This includes a percentage for payroll taxes and worker's compensation insurance prorated in accordance with % of salary paid from program. Benefits proposed at 10% of personnel costs based on historical analysis.

n) Travel: \$3,000 federal. Travel costs include travel support (mileage) for project staff to provide support at docks to Research Fleet participants, to participate in meetings with the Research Fleet, stock assessment scientists, and managers, and to participate in one industry/professional conference for two personnel to share and disseminate project methods, findings, and conclusions.

o) Equipment: \$0. There will be no equipment costs on this project.

p) Supplies: \$3,000 federal. This category includes research supplies and project office supplies.

1. Research Supplies: \$2,000 - Costs of tablets, waterproof cases, stylus & fish measuring board. Proposed at \$500 per set x 4 vessels (2 new vessels and 2 existing fleet vessels) for the duration of the project. The two sets of sampling equipment for existing Research Fleet vessels are replacements for equipment that is damaged.
2. Office Supplies: \$1,000 – Costs to cover database storage and website fees (\$25/month), project office and meeting supplies, etc.

q) Contractual: \$2,000 federal. This includes costs associated with:

1. Programmer (\$2,000 - federal) - CFRF hiring an outside computer programmer to maintain the On Deck Data application and database coding for data relay and storage, to address any issues that arise, and to update the app to maintain functionality.

r) Construction: There are no construction costs.

s) Other Costs: \$56,160 federal + \$5,000 match = \$61,160. This includes:

1. Fishing vessel stipends (federal) for 12 vessels for 12 months at \$600 per month. A fleet of 12 vessels will be utilized each month to obtain the proposed biological samples. The total stipend is computed at 65% due to fluctuations in vessel sampling associated with weather, vessel maintenance, and seasonal black sea bass distribution.
2. Executive Assistance (in-kind match) covers the administration assistance for the project (including, review of fleet applications and invoices, work agreements, progress/final reports) by the CFRF President and Vice President, who provide these services at no cost. Costs proposed at \$250 per day for 10 days for 2 people over the duration of the project.

t) Total Direct Charges: \$110,624 federal + \$5,000 in-kind = \$115,624 total. This is the total direct charges for cost items a-h.

u) Indirect Charges: \$22,125 federal + \$11,577 in-kind = \$33,702 total. Indirect general and administrative costs are calculated as 20.0% of federally requested Total Direct Charges (\$110,624). Indirect general and administrative costs are used to cover costs associated with the general operations of the CFRF including accounting services, legal services, maintenance of office space, liability insurance, payroll fees, phone/fax lines, internet service, board member participation, etc. The CFRF's FY2018 Indirect Cost Rate Agreement dated 1/18/2018 is for 29.32% based on FY2017 actual costs. The 9.32% indirect cost rate differential is a voluntary nonfederal match by CFRF. CFRF has historically averaged around 20% of Indirect G&A which is proposed for this project.

v) Total Proposal Costs: \$132,749 Federal + \$16,577 In-Kind = \$149,326 Total.

R. Construction. There are no construction costs on this grant

S. Other Costs. There are no other costs associated with this grant.

- T. Total Direct Charges: \$132,749 Federal + \$49,202 In-Kind = \$184,850 total. This is the total direct charges for cost items A-H.
- U. Indirect Charges: \$3,099 In-Kind (RIDEM). Indirect charges are charged on RIDEM Salaries only. The Negotiated Indirect Cost Rate for FY2017 is 25%. (Total personnel is \$12,394 x 25% = \$3,099.)
- V. Total Proposal Costs: \$132,749 Federal + \$36,284 In-Kind = \$169,033 Total.

Summary of Proposal for Ranking Purposes

Type: Maintenance (Year 4)

Primary Program Priorities:

This project follows fishery-dependent sampling protocols to collect black sea bass catch and effort, biological, and bycatch data from the SNE/MAB region. The percentage of project effort devoted to each of these modules is as follows: 40% Biological, 30% Catch and Effort, 30% Bycatch. Thus, Biological sampling is the primary program priority. The estimated project effort devoted to biological sampling reflects the collection of black sea bass length and sex data by participant vessels during three trips per month for twelve months (approximately 504 trips and 25,200 black sea bass total).

Project Quality Factors:

Multi-Partner/Regional impact including broad applications:

The results of the proposed project have regional impacts and broad applications, as black sea bass are expanding to inhabit, and potentially be harvested from, the majority of the US east coast. Furthermore, the social and economic implications of this work could be extensive, as project data contributes to the improvement of the northern Atlantic black sea bass stock assessment and potentially the creation of new economic opportunities. From a collaboration perspective, this project provides a unique opportunity for the RI DEM and CFRF to maintain a fisherman-based research fleet to address ACCSP priorities, drawing upon networks of partners in industry, fisheries research, and management. This project will help RI DEM and CFRF demonstrate that, with support from ACCSP, they have the ability to bring stakeholders together, outside of a contentious management environment, to collect, communicate, and analyze critically needed data to address the data needs of the data poor northern Atlantic black sea bass.

Greater than year 2 contains funding transition plan and justification for continuance:

This proposal is for a one-year study to continue an industry-based research fleet approach to biological, catch, and bycatch sampling for northern Atlantic black sea bass. The project has been successful through the first two years of funded work and has sampled over 14,000 black sea bass. Year 3 funding is expected to result in increased sampling rates and coverage as the Research Fleet will expand by two vessels while reducing overall costs. An additional year of funding would bolster the first year-round, multi-year database for this biologically data poor species. Ultimately, long term maintenance of this project will provide invaluable data to the ACCSP, ASMFC, and MAFMC, and improve the assessment and management of the northern Atlantic black sea bass resource. The CFRF and RI DEM have continued to apply for funding for this project through external sources and have already secured supplemental funding to partially support the Research Fleet as described above. Obtaining long-term funding for the Research Fleet is a top and ongoing priority for project PIs and staff.

In-kind contribution: The total project cost is \$157,735. In-kind contributions provided by RI DEM and CFRF total \$25,638. Thus, RI DEM and CFRF will provide 16% of total project costs.

Improvement in data quality/quantity/timeliness:

The proposed project addresses the critical need to improve the quality, quantity, and timeliness of biological, catch and effort, and bycatch data for the northern Atlantic black sea bass, which the ACCSP Biological Review Panel identified as having inadequate biological sampling and high stakeholder priority, resulting in the highest-ranking priority score. Ultimately, the proposed project will help to meet ACCSP's mission of improving data quality for fisheries science by contributing to a single data management system that will meet the needs of fishery managers, scientists, and fishermen.

Potential secondary modules as by-products:

The potential secondary modules are catch and effort (30%) and bycatch sampling (30%). The estimated effort devoted to the catch and effort module is based upon sampling during the roughly 156 days of open black sea bass fishing season in Rhode Island in 2016 (42% of the year). The project effort allocated to the bycatch module reflects sampling efforts conducted while the commercial black sea bass fishing season is closed and while participant vessels are targeting other species but still interacting with black sea bass as bycatch.

Impact on stock assessment:

The northern Atlantic black sea bass stock assessment was recently approved for management (December 2016), but the new model requires spatially and temporally comprehensive data that is currently lacking. Thus, the proposed project aims to provide critically needed biological data from retained and discarded black sea bass, and fishery

data from a variety of gear types to continue to evolve and improve the black sea bass stock assessment. The project team will also explore novel fishery dependent indices for the black sea bass stock assessment, as time permits.

The Research Fleet collected data has the potential to directly improve the federal stock assessment in a number of ways including reducing the uncertainty in recruitment rates, gear type specific selectivity, and gear (and location) specific discard structure.

Currently, the indices of abundance relied upon in the black sea bass stock assessment come primarily from the NEFSC winter and spring trawl survey, Northeast Area Monitoring and Assessment Program (NEAMAP) survey trawls, recreational catch per effort, and is supplemented with various state trawl survey indices of abundance (NEFSC 2017). The utility of the Research Fleet data in this respect is to inform the management about catch and discard structure from a variety of gear types. Whereas the stock assessment currently only delineates between trawl and non-trawl gear types, after building a multiple-year time-series the Research Fleet data could potentially be utilized to create a variety of CPUE indices of abundance (trawl, gillnet, lobster pot, rod & reel, fish pot, and multigear). Further, the Research Fleet data has the potential to be directly used to create a discard characterization for the northern stock sub-unit and reduce uncertainties in the annual total fishery removals. Finally, due to the nature of the Research Fleet being comprised entirely of commercial and recreational fishing vessels, from a variety of gear types, the data collected is spatially and temporally expansive across the northern black sea bass sub unit in locations and times of year not covered by any of the federal or state survey programs utilized in the stock assessment. Therefore, there is the potential to reduce the uncertainties in recruitment rates within the northern sub unit as the Research Fleet is able to record presence and absences of juvenile and young of the year black sea bass in entirely unsampled locations and times of year.

Innovative:

The innovative and cost-effective nature of the proposed project, which relies upon collaboration between a Program partner and the fishing industry, can provide an opportunity for fishermen to constructively engage in the data collection process for black sea bass and provide a model for future data collection efforts in other regions and fisheries. In addition to demonstrating a novel sampling approach, the proposed project also leverages modern technology to improve the efficiency of data collection and communication.

Properly Prepared:

This proposal follows the guidelines provided in the ACCSP Funding Decision Document.

Principal Investigators:

The co-Principal Investigators of the proposed project are: Jason McNamee (Chief, RI DEM Marine Fisheries), Christopher Glass (Executive Director, CFRF), and Thomas Heimann (Research Associate, CFRF). Curriculum vitae are provided in the following pages.

Jason McNamee will play an advisory/support role in this project, given his existing commitments at the RI DEM Division of Marine Fisheries. More specifically, Jason will provide advice for sampling protocols, act as a liaison to the existing black sea bass assessment/management infrastructure and assist with data analysis as his time permits (data review/analysis will primarily be the role of the CFRF Research Associate). In his role as both a technical committee member, and having been a member of the contracted stock assessment team for the MAFMC, Jason McNamee will be able to help the project with capturing the correct information and making sure this information is formatted appropriately for inclusion in future northern Atlantic black sea bass stock assessment projects.

Christopher Glass, a specialist in the study of fish behavior in relation to fishing gears, Chris Glass has a long record of conservation gear research in New England's Fisheries and fisheries worldwide. Chris has recently been appointed Executive Director of the Commercial Fisheries Research Foundation.

Prior to joining CFRF Chris served for 14 years as Director of The Northeast Consortium based at the University of New Hampshire. Prior to that he worked as Director of Marine Conservation at Manomet Center for Conservation Sciences developing innovative and selective fishing gears in collaboration with commercial fishermen with the goal of expanding fishermen's involvement in scientific data collection and application. Previously Chris worked for 14 years at The Marine Laboratory in Aberdeen, Scotland and has worked extensively on conservation engineering programs throughout Europe and North America. Chris has been a featured lecturer on sustainable fisheries topics at numerous international conferences and has published extensively in scientific journals. His education includes a B.Sc. in Marine Biology and Animal Behavior from The Queens University, Belfast and a Ph.D. from The University of Glasgow, Scotland.

Thomas Heimann, CFRF, serves as the primary individual responsible for Research Fleet maintenance and support, as well as data management, communication, and analysis. Heimann has been the primary Research Administrator for the Black Sea Bass Research Fleet since its first year of funding starting in September 2016. Heimann has gained extensive experience with the work involved in initiating and supporting an industry-based research fleet and has formed a relationship with the current Fleet Members.

Jason Earl McNamee, PhD
519 Congdon Hill Rd
Saunderstown, RI 02874
Day Phone: 401-423-1943
Email: jason.mcnamee@dem.ri.gov

WORK EXPERIENCE

RI Department of Environmental Management 12/2002 - Present

Jamestown, RI US

Chief, Marine Resource Management

Duties:

- Management of the Marine Fisheries program for the RI Dept. of Environmental Management
- Management of a staff of 20 professionals in the field of marine fisheries
- Manage operating budgets for multiple federal grants and state accounts
- Creation of grant proposals for marine fisheries projects
- Management of the Ft Wetherill Marine Laboratory building and research vessels
- Membership on several technical panels: the New England Council Science and Statistics Committee (Chair), Atlantic States Marine Fisheries Commission Menhaden (chair), Tautog (chair), and Summer Flounder/Scup/Black Sea Bass technical and stock assessment committees, Biological and Ecological Reference Point committee
- Support to the RI Marine Fisheries Council
- Creation and administration of the RI Marine Fisheries Institute
- Principal investigator (PI) on the Narragansett Bay juvenile seine survey
- PI for the Narragansett Bay Menhaden monitoring program
- Small vessel operation
- Production and review of multiple annual technical and grant completion reports
- Perform stock assessment analyses

Skills developed: Personnel and budget management experience; Supervisory experience; Good statistical and computer skills (ADMB, R, Microsoft software, ADAPT, JMP, ASAP, Oracle Discoverer, web design); Species identification experience; Experience using water quality instrumentation (DO meter, pH meter, Gas Chromatograph, Conductivity meter, flow meter); GIS Experience (Arcview and R); Field work experience; Experience in the construction and maintenance of technical research equipment; Seine, fyke net, trawl net, gillnet, fish pot, and electroshock surveying; Small boat handling (State of Rhode Island and Coast Guard certified)

Supervisor's Name: Janet Coit

Supervisor's Phone: 401-222-4700 ext. 2409

RI Department of Environmental Management 4/2000 - 12/2002

Providence US

Senior Natural Resource Specialist

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
ACCSP Funding Proposal (Maintenance Project – Year 4): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)
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Duties: My duties were to perform all tasks necessary to conduct and complete a Total Maximum Daily Load reports including field work, data collection and processing, and writing of the report. I also participated with other staff to help in the completion of their reports.

Skills developed: Good statistical and computer background (Microsoft software), Experience designing and implementing a personal research project, Experience preparing a federally approved Quality Assurance Protection Plan, Experience using water quality instrumentation (DO meter, pH meter, Conductivity meter), Experience in the collection of water samples for testing (biological and metals), GIS Experience (Arcview) Field work experience, Small boat handling (State of Rhode Island and Coast Guard certified), Experience in the preparation of a federally approved Total Maximum Daily Load report, Experience disseminating information to the public

Supervisor's Name: Christian Turner

Supervisor's Phone: unsure, no longer employed at RIDEM

EDUCATION

University of Rhode Island – Graduate School of Oceanography

Narragansett, RI US

PhD – 8/2018

Major: Biological Oceanography

Doctoral Dissertation Topic: Multispecies Statistical Catch-At-Age Model for a Mid Atlantic Species Complex

University of Connecticut

Groton, CT US

Masters of Science Degree - 6/2006

38 Semester Hours

Major: Biological Oceanography

University of Rhode Island

Kingston, RI US

Bachelor's Degree - 5/1996

136 Semester Hours

Major: Zoology

PROFESSIONAL PUBLICATIONS

- ASMFC Lobster stock assessment (2015), ASMFC Menhaden stock assessment (2004, 2012, 2015), ASMFC Tautog stock assessment (2006, 2011, 2015), NEFSC Summer flounder stock assessment (2011, 2013), NEFSC Scup stock assessment (2011, 2015), NEFSC Black sea bass stock assessment (2004, 2016), Interactions between the introduced Asian shore crab, *Hemigrapsus sanguineus*, and three common rocky intertidal littorine gastropods in Southern New England (MS Thesis).
- Taylor, DL, J McNamee, J Lake, CL Gervasi , and DG Palance. 2016. Juvenile winter flounder (*Pseudopleuronectes americanus*) and summer flounder (*Paralichthys dentatus*) utilization of Southern New England nurseries: Comparisons among estuarine, tidal river, and coastal lagoon shallow-water habitats. *Estuaries and Coasts*. 39:1505-1525.

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
ACCSP Funding Proposal (Maintenance Project – Year 4): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)
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CURRICULUM VITAE

CHRISTOPHER W. GLASS Ph.D.

Commercial Fisheries Research Foundation

P.O. Box 278

Saunderstown, Rhode Island 02874

Phone: (401) 515-4662

Fax: (401) 515-3537

E-mail: cglass@cfrfoundation.org

Website: www.cfrfoundation.org

Education

B.Sc. (Hons.) First Class, (Zoology) 1979 The Queens University of Belfast, Belfast N.I.

Ph.D. 1984 (Zoology) The University of Glasgow, Glasgow, Scotland

Current Positions

- Executive Director, Commercial Fisheries Research Foundation
- Research Professor (Affiliate), Institute for the Study of Earth, Oceans and Space, Ocean Process Analysis Laboratory, University of New Hampshire, Durham NH, (2005 – present)
- Associate Director, Institute for the Study of Earth, Oceans and Space (2013 – 2016)
- Chair, EOS Promotion and Tenure Committee, (2013 – 2015)
- Director, Northeast Consortium, University of New Hampshire (2005 – 2018)
- Director, Ocean Process Analysis Laboratory (OPAL) UNH (2009 – 2013)
- Executive Committee, School of Marine Science and Ocean Engineering, University of New Hampshire (2013 – 2016)

Professional Experience

- 1998 – 2005, Director, Marine Conservation, Manomet Center for Conservation Sciences
- 1996 – 1998, Senior Fisheries Scientist, Manomet Center for Conservation Sciences
- 1993 – 1996, Senior Scientific Officer, Scottish Office, Agriculture and Fisheries Department, Aberdeen, Scotland
- 1988 – 1993, Higher Scientific Officer, Scottish Office, Agriculture and Fisheries Department, Aberdeen, Scotland
- 1984 – 1988, Scientific Officer, Scottish Office, Agriculture and Fisheries Department, Aberdeen, Scotland
- 1983 – 1984 Biological demonstrator, University of Glasgow, Medical School
- 1983 – 1983 Scientific Research Assistant, on expedition to collect and catalogue the shore fishes of Saint Helena Island, South Atlantic Ocean. Funded by National Geographic and The Royal Society.
- 1982 – 1983 Biological demonstrator, University of Glasgow, Medical School
- 1982 – 1982 Research diver, University of West Indies, Discovery Bay Marine Laboratory Jamaica

Honors and Awards

Foundation Scholarship for study in Science 1979, Queens University Belfast.

International Council for Exploration of the Sea (ICES) Service Award, 2006

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation

ACCSP Funding Proposal (Maintenance Project – Year 4): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)

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Thomas E. Heimann

114 Olney Street Unit 1
Providence, RI 02906
(508)728 3401
theimann@cfrfoundation.org

EDUCATION

NORTHEASTERN UNIVERSITY
Master's: Marine Biology, Jan 2016

Boston, MA

PRESCOTT COLLEGE
B.A. Marine Science, May 2013

Prescott, AZ

RELATED WORK EXPERIENCE

Commercial Fisheries Research Foundation
Research Associate

South Kingston, RI
Sep 2016 – Present

- Research project management position working collaboratively with the Rhode Island fishing industry as well as state and federal fisheries management bodies. Responsible for management of both Black sea bass Research Fleet and Quahog Research Fleet as well as lead at-sea sampler for the Southern New England Cooperative Ventless Trap Survey. Duties include Fleet support and training, sampling protocol development, database management, data manipulation and statistical analysis, report writing, at-sea sampling on lobster vessels, grant writing, and outreach.

Northeastern University
Diving Research Methods Teaching Assistant

Nahant, MA
Sep 2015 – Oct 2015

- Employed by Northeastern University to be a teacher's assistant for an intensive American Academy of Underwater Sciences diving research methods course. Duties included demonstrating underwater research and diving skills, minor SCUBA gear maintenance and repair, and supervision of student divers.

Mote Marine Laboratory
Research Experience for Undergrads, National Science Foundation Intern

Sarasota, FL
May 2012 – Jul 2012

- Highly competitive National Science Foundation funded internship at Mote Marine Laboratory in Florida. Worked closely with a postdoctoral fellow on an independent research project in sensory biology and behavior of the common snook, a local sportfish. Project dealt specifically with the impacts of the hatchery rearing environment on the survival of released fish in the wild. Worked extensively with Microsoft Excel for data analysis.

Sheriff's Meadow Foundation
Ecological Stewardship Intern

Vineyard Haven, MA
May 2010 – Aug 2010

- Summer Intern position on Martha's Vineyard. Responsibilities included property management, boundary mapping, invasive species control, vegetation identification, and tour guide.

SCIENTIFIC PUBLICATIONS

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
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Malek Mercer, A.J., Ellertson, A., Spencer, D., and **Heimann, T.** 2018. Fishermen fill data gaps for American lobster (*Homarus americanus*) and Jonah crab (*Cancer borealis*) in the Northeast USA. Bulletin of Marine Science, 94:3, pp 1121-1135.

SELECTED PRESENTATIONS

Heimann, T., McManus, C., Leavitt, D., Malek Mercer, A.J. 2018. Methods for Establishing a Quahog (*Mercenaria mercenaria*) Industry-Based Research Fleet for expansion of Fishery Dependent Data Sources. National Shellfisheries Association Annual Meeting. Seattle, Washington.

Heimann, T., McManus, C., Leavitt, D., Malek Mercer, A.J. 2018. Engaging Fishermen to Address Data Gaps and Evolve Management of the Quahog in Narragansett Bay. Southern New England Chapter of the American Fisheries Society Winter Meeting. New Bedford, MA.

Heimann, T., Malek Mercer, A.J., and McNamee, J. 2018. Advancing Fishery Dependent Data Collection for Black Sea Bass (*Centropristis striata*) in Southern New England and Mid-Atlantic Region Using a Fishing Vessel Research Fleet Approach. American Fisheries Society 148th Annual Meeting. Atlantic City, New Jersey.*

Heimann, T., Malek Mercer, A.J., and McNamee, J. 2019. Using Fishermen-Collected Data to Explore the Black Sea Bass (*Centropristis striata*) Population and Construct Gear-Specific Discard Characterizations. Southern New England Chapter of the American Fisheries Society Winter Meeting. Storrs, Connecticut.

Heimann, T., McManus, C., Leavitt, D., Malek Mercer, A.J. 2019. Quantifying Quahogs (*Mercenaria mercenaria*) in Narragansett Bay: Insights from a Collaborative Sampling Program. Southern New England Chapter of the American Fishery Society Winter Meeting. Storrs, Connecticut.

Heimann, T., Malek Mercer, A.J., and McNamee, J. 2019. Using Industry Collaboration to Improve Black Sea Bass Management. Wakefield Fisheries Symposium. Anchorage, Alaska.

CERTIFICATIONS AND SKILLS

- Statistical Language R (Commonly used packages; ggplot, shiny, sp)
- MySQL
- ArcGIS
- American Academy of Underwater Sciences Scientific Diver Certificate
- PADI Rescue Diver Certificate
- At-Sea Safety Training Certificate
- Experienced in Small Boat Operations

References:

- Atlantic Coastal Cooperative Statistics Program (ACCSP). 2018. Biological Sampling Priority Matrix. 4 p.
- Atlantic States Marine Fisheries Commission (ASMFC). 2013. Research Priorities and Recommendations to Support Interjurisdictional Fisheries Management. Special Report # 89. ASMFC, Arlington, VA. 58pp.
- Bell, R. J., Richardson, D.E., Hare, J.A., Lynch, P.D., and Fratantoni, P.S. 2014. Disentangling the effects of climate, abundance, and size on the distribution of marine fish: an example based on four stocks from the Northeast US shelf. ICES Journal of Marine Science: fsu217.
- Drohan, A. F., J. P. Manderson, and D. B. Packer. 2007. Essential fish habitat source document: Black sea bass, *Centropristis striata*, life history and habitat characteristics. 2nd Edition. NOAA Technical Memo. NMFS-NE-200, 78 p.
- Moser, J., and G. R. Shepherd. 2009. Seasonal distribution and movement of black sea bass (*Centropristis striata*) in the Northwest Atlantic as determined from a mark-recapture experiment. Journal of Northwest Atlantic Fishery Science 40: 17-28.
- Nelson, G.A. 2014. Cluster Sampling: A Pervasive, Yet Little Recognized Survey Design in Fisheries Research. Transactions of the American Fisheries Society 143 (4): 926-938.
- Northeast Fisheries Science Center (NEFSC). 2011. 53rd Northeast Regional Stock Assessment Workshop (53rd SAW) Assessment Report. US Department of Commerce, Northeast Fish Science Center Reference Document 12-05; 559 p.
- Northeast Fisheries Science Center (NEFSC). 2017. 62nd Northeast Regional Stock Assessment Workshop (62nd SAW). Assessment Summary Report. US Department of Commerce, Northeast Fish Science Center Reference Document 17-01; 37 p.
- Musick, J. A., and L. P. Mercer. 1977. Seasonal distribution of black sea bass, *Centropristis striata*, in the Mid-Atlantic Bight with comments on the ecology of fisheries of the species. Transactions of the American Fisheries Society. 106: 12-25.
- Southeast Fisheries Science Center (SEFSC). 2013. Stock Assessment of Black Sea Bass off the Southeastern United States: SEDAR Update Assessment. 102 p.
- Steimle, F. W., C. A. Zetlin, P. L. Berrien, and S. Chang. 1999. Essential fish habitat source document: Black sea bass, *Centropristis striata*, life history and habitat characters. NOAA Technical Memorandum NMFS-NE-143: 1-42.
- Waltz, W., Roumillat, W.A., and P. K. Ashe. 1979. Distribution, age structure, and sex composition of the black sea bass, *Centropristis striata*, sampled along the southeastern coast of the United States. Marine Resources Research Institute, South Carolina Wildlife and Marine Resources Department. Technical Report Number 43, December 1979.
- Zhang, Y. and S.X. Cadrin .2013. Estimating Effective Sample Size for Monitoring Length Distributions: A Comparative Study of Georges Bank Groundfish, Transactions of the American Fisheries Society 142 (1): 59-67.

**Proposal for funding made to the
Coordinating Council and the Operations Committee
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland St., Ste. 200A-N
Arlington, VA 22201**

**FY20: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from
the State of Rhode Island**

Submitted By:
Nichole Ares
Rhode Island Department of Environmental Management
Division of Marine Fisheries
3 Fort Wetherill Rd
Jamestown, RI 02835
nichole.ares@dem.ri.gov

Applicant Name: Rhode Island Department of Environmental Management,
Division of Marine Fisheries

Project Title: **FY20: Maintenance and Coordination of Fisheries
Dependent Data Feeds to ACCSP from the State of Rhode
Island**

Project Type: Maintenance

Requested Award Amount: \$55,043

Requested Award Period: FY 2020 (August 1, 2020 to July 31, 2021)

Primary Program Priority: Commercial and Recreational Catch and Effort Module

Date Submitted:

Project Supervisor: Julia Livermore, Supervising Biologist julia.livermore@dem.ri.gov

Principal Investigator: Nichole Ares, Principal Biologist, nichole.ares@dem.ri.gov

Project Staff: John Lake, Supervising Biologist, john.lake@dem.ri.gov
Nicole Lengyel, Principal Biologist, nicole.lengyel@dem.ri.gov
Seasonal Interns

**Atlantic Coastal Cooperative Statistics Program (ACCSP) Proposal
for the State of Rhode Island 2018**

Objectives:

- Provide new and existing Rhode Island (RI) seafood dealers with technical support to maintain and improve dealer electronic reporting to the Standard Atlantic Fisheries Information System (SAFIS) pursuant to RI Marine Fisheries Statutes and Regulations.
- Provide technical and analytical support to the RI Marine Fisheries Quota Monitoring Program as well as maintain dealer compliance monitoring protocols for both quota and non-quota managed species by utilizing commercial landings data from SAFIS.
- Collect and enhance trip-level catch and effort data through the RI Marine Fisheries Commercial Harvester Catch and Effort Logbook Program and the RI Electronic Recreational Logbook (eLOGBOOK) Program, and continue to transition commercial fishermen to electronic trip reporting.
- Maintain and improve the existing data feed of RI supplemental fisheries data to the ACCSP data warehouse.

Need:

Beginning in 2006, the Rhode Island Division of Marine Fisheries (RIDMF) implemented the marine fisheries commercial data collection program. This program collects trip level landings data from all 125 dealers licensed in RI through direct dealer entry into the eDR (electronic dealer report) SAFIS application. Catch and effort data are currently collected from 100% of the fishermen in the state for the finfish, squid, whelk, and crustacean sectors. RI meets the ACCSP standard by maintaining a one-ticket system for the shellfish fishery sector and a two-ticket system for the crustacean, squid, finfish, and whelk fishery sectors. In addition, crustacean dockside sales are collected through a supplementary paper logbook which captures daily data of all sales. Data are transferred to the ACCSP data warehouse in the proper format annually.

Maintenance and coordination of the SAFIS data entry is critical for successful fisheries management in RI. This data has been essential for the determination of commercial catch and effort statistics, establishing an efficient quota monitoring process, and tracking active versus latent license holders. Quota monitoring is one of the most important uses of SAFIS data, as staff analyze trip level commercial landings data for quota managed species in RI daily. These analyses are used to make decisions regarding seasonal closures and possession limit changes.

In addition to commercial data being collected, recreational data is also being collected. RI ACCSP staff is also responsible for outreach and support of the voluntary eLOGBOOK program; this SAFIS application is used to enter and house recreational catch and effort data. Additionally, in 2019, RIDMF established mandatory party and charter trip level electronic reporting. This increases the amount of recreational data collected and will provide a better understanding of the party and charter industry through accurate trip counts, census effort data, discard information, and catch rate data.

Furthermore, RI ACCSP staff continues to provide data feeds for lobster at-sea and port sampling data via the Atlantic States Marine Fisheries Commission (ASMFC) Lobster Database and supplemental horseshoe crab, aquaculture, and dockside data for the Fisheries of the United States via ACCSP. Data feeds for finfish sampling to the ACCSP warehouse will continue to be developed and RI ACCSP staff will need to maintain this data feed once it is active.

With these programs established and planned enhancements scheduled for 2020, the goal of this project is to maintain these data feeds to the ACCSP while continuing to improve data quality as well as maintaining outreach to dealers and fishermen. The plan detailed below is similar to the scope of work proposed for the past several years.

Results and Benefits:

Collecting high quality, comprehensive fisheries data is essential to successful fisheries assessment and management. This project allows the current level of oversight and coordination of the ACCSP to continue in RI by providing funding for the staff necessary to maintain the project. **RI relies on comprehensive SAFIS eDR and eTRIPS/RI Commercial Harvester Logbook data for fisheries management programs including quota monitoring, resource assessment and allocation, and license tracking. The state also relies on eLOGBOOK data and the newly required census party and charter data; it enhances and adds to the existing MRIP dataset with regarding landings and discards** and increases our understanding of the length frequency distribution of recreational harvest. This comprehensive and timely data allows RIDMF to establish higher latitude in management programs which is encouraged by the fishing industry. **Additionally, once in the ACCSP data warehouse, the catch and effort and biological sampling data provided by RI can be utilized by other partners and stock assessment scientists for regional scientific assessment of important fish populations.** Although the work outlined in this proposal is specific to RI, **the presence of RI ACCSP staff provides benefits to regional partners; including increased coordination between state and federal program partners, increased technical assistance, as well as sharing of data collection methodology and troubleshooting techniques.**

Data Delivery Plan:

All landings data and catch and effort data collected by RI is entered in SAFIS. Landings data is entered directly into SAFIS eDR by the dealer twice a week and immediately available to ACCSP. Catch and effort (logbook) data (both commercial and party/charter) is entered into SAFIS eTRIPS throughout the year, typically data entry is completed by March of the following year. **Once entered, all data is immediately available to ACCSP and other program partners who utilize SAFIS and the SAFIS tables within the warehouse. This data is also incorporated into the warehouse tables during the yearly uploads and available for warehouse users annually.**

Additionally, RIDMF collects data on crustacean dockside sales, horseshoe crabs, lobster (sea, port, and ventless surveys), aquaculture, and finfish port sampling. **Currently, the dockside sale, horseshoe crab, lobster, and aquaculture data is converted into the proper flat file format and submitted to ACCSP during the spring upload.** The data feed for the finfish port sampling is still being developed, once active, RI data will be submitted.

Approach:

All licensed seafood dealers in RI (approximately 125 dealers) are electronically entering trip level data into SAFIS at least twice weekly (RIMF, 2018). Dealers are provided support and initial SAFIS training regarding the SAFIS eDR system. **Technical support is provided to dealers who call or walk-in daily for questions regarding licensing, possession limits and seasons, reporting, and other topics.** Site visits are conducted if further support and training are necessary.

To ensure data quality and proper SAFIS reporting, RIDMF strictly monitors dealer compliance. Phone calls are made to dealers who fall behind in reporting, and in cases where dealers are found to be non-compliant, administrative action is taken. Rhode Island Department of Environmental Management (RIDEM) Division of Law Enforcement becomes involved when a dealer has repeatedly violated compliance regulations. To summarize a dealer's compliance performance, dealer "report cards" assigning qualitative grades are mailed quarterly to all dealers. It contains information regarding the number of reports made during a period, the number of reports that were submitted late, and the number of times RIDMF staff needed to contact the dealer regarding late reporting and reporting mistakes.

Landings entered by dealers are routinely checked for accuracy, both via SAFIS audit protocols daily, and through additional weekly audits. Any issues discovered during these audits are addressed with dealers and corrected via National Marine Fisheries Service (NMFS) JIRA or through eDR directly. **Licensing and commercial vessel data generated from RIDEM are kept up to date in SAFIS tables through weekly updates via the SAFIS Management System (SMS).** These audits and updates are of great importance and are necessary to maintain high standards of data quality.

Quota monitoring relies solely on accurate and up to date SAFIS data. Data are downloaded from SAFIS daily and analyzed using a software program developed in the statistical package R (R core team 2016). Once data are in the software program, they are sorted and filtered to detail daily landings of fluke, scup, black sea bass, striped bass, tautog, menhaden, bluefish, and smooth dogfish. **This data is then used to make fisheries management decisions, possession limit changes, and early seasonal closure decisions. Non-confidential, graphical updates of cumulative RI landings are then posted weekly to the RIDMF webpage as public information.**

Data requests and validations from fishermen, academics, stock assessment scientists, the RIDEM Licensing Division, and other stakeholders are also completed. **These requests support fisheries science and management decisions and are necessary to maintain the level of support required by RIDEM and other regional fisheries managers. The data obtained becomes available to support state and regional stock assessments, economic analyses, and research.** All requests include only non-confidential data unless confidential access is granted through ACCSP channels. RI ACCSP staff are needed both to complete these data requests and handle confidential data access requests originating from ACCSP.

In addition to monitoring SAFIS landings data, metadata and socio-economic data are also collected by RI ACCSP staff. Examples of metadata include but are not limited

information regarding weather (i.e. wind data), possession limits, and closed fishing seasons. Socio-economic data collected comes primarily from dockside sales of crustaceans from the state dockside sales logbook. Economic data entered by the dealers are used in monthly summaries for RI's two largest ports, Point Judith and Newport. The data are used to justify funding for port improvements and maintaining shoreside operations that enhance fisheries. Data are also used to highlight seafood availability and provide the basis for public outreach promoting local seafood consumption and improving the state's economy through support of the fishing industry.

Catch and effort data for all fisheries are essential to provide efficient and effective management. **Harvesters in all commercial fisheries are required by RI law to submit catch and effort data to RIDMF. Currently, all finfish, crustacean, squid, and whelk commercial fishermen are required to submit catch and effort information.** Shellfish fishermen are not required to submit catch and effort logbooks because the data is captured via a one-ticket system.

There are approximately 1600 commercially licensed fishermen in RI. Fishermen with a reporting requirement fall into two main categories: fishermen with a federal VTR requirement, and fishermen without a federal VTR requirement. Fishermen with a VTR requirement report to NMFS. Fishermen without a VTR requirement report to RIDMF and can elect to report either via the paper logbook, or electronically utilizing SAFIS eTRIPS. Due to the multiple reporting options, at the time of license renewal/purchase the **fishermen must declare a reporting method: federal VTR, state paper logbook, or eTRIPS. Fishermen who selected paper logbook are also required to purchase the paper logbook endorsement to help contribute to the printing, mailing, data entry, and administrative costs of the paper logbook program.**

Federal fishermen are exempt from the state logbook program to ensure there is not duplicate effort information being collected, however they are still required per regulation to submit reports. At the beginning of the year, all fishermen who declared VTR as their reporting method are mailed a "VTR Declaration Form," that asks for their federal permit and commercial fishing license number. **This information is then used to track compliance for the fishermen using the online NMFS database.** This system for VTR compliance eases the burden on both the fishermen and RIDMF. Fishermen are now reporting their catch and effort information to a single source (NMFS), decreasing confusion and mailing costs. This also decreases staff time used to track VTR compliance.

Fishermen without a VTR requirement must submit catch and effort information directly to RIDMF either via a paper logbook or through eTRIPS/eTRIPS Mobile. **All fishermen who report via the logbook need to submit quarterly catch and effort paper logbooks. They are provided postage-paid envelopes by RIDMF to ensure timely return of completed logbooks. Data quality is checked for each logbook submitted and any missing or inaccurate information is corrected through contacting the fishermen.** Any logbook not completed in full is returned to the fishermen for correction.

Since 2012, RI fishermen have had the ability to enter their catch reports directly into eTRIPS. Currently there are approximately 775 eTRIPS accounts in RI issued to fishermen who declared eTRIPS as their reporting method; **this is equivalent to 52% of all fishermen with a reporting requirement, a large increase as 26% of fishermen were utilizing eTRIPS in 2014**

(Figure 2: Reporting Method Breakdown). To help continue the trend to electronic reporting, RIDMF staff offers support to fishermen who want to learn and use the program. **Training materials are available on the RIDMF website, and staff routinely answer phone calls, emails, and walk-in questions about eTRIPS.** RIDMF will continue outreach for eTRIPS to continue to increase the number of fishermen using electronic reporting.

RIDMF also does outreach and support for eTRIPS-Mobile and will continue this in the future. The application allows for both real time data entry as well as post-trip entry. Reports submitted through this application fulfill both state reports and NMFS Greater Atlantic Regional Fisheries Office (GARFO) VTRs. RI has also adopted eTRIPS-Mobile as a mandatory reporting method for a pilot aggregate landing program, further increasing its use. In 2018 there were 39 users; however due to the ease of use, GARFO acceptance, and use in RI pilot programs use has been increasing. **Utilizing the mobile application and offering training on the program will allow fishermen to enter data in real time, resulting in more accurate and time sensitive entries.**

All reports directly entered by the fishermen electronically are audited; in the event an error is found, the fisherman is contacted and sent a report with any corrections that need to be made. In addition to audit reports, **emails are sent to all RI eTRIPS users detailing the common errors seen during the audit process and importance of accurate reporting.**

RI commercial licensees may not renew their licenses unless they have correctly completed their catch and effort logbooks or eTRIPS reports for the entire year. Additionally, **harvester license number, dealer, and sale date from the catch and effort data are used to match records with dealer reports for quality control and assurance of the landings data.**

Fishermen who hold a RI crustacean dockside sales endorsement must fill out a dockside sales logbook which details the quantity, market, grade, and price of all crustaceans sold at the dock. The dockside sales logbook is mailed to the 264 dockside endorsement holders and must be completed before the licensee can renew their license for the following year. **The dockside sales data captures some of RI's economic data, and this data is transmitted to the ACCSP as supplementary data.** RI staff is needed to oversee data entry, perform quality checks, and transfer the sale data to ACCSP in the proper format annually.

Reporting of all party and charter trips became mandatory in 2019. Per RIMF Regulations, all trips must be reported electronically through either eTRIPS or eTRIPS Mobile within 48 hours of landing. Staff are needed to train fishermen, audit data, check compliance, and provide support to the industry. **This data will also provide a clearer picture of the party/charter fleet in RI and allow more flexibility within the regulations for the fleet.**

RI will continue to utilize and promote the voluntary eLOGBOOK program. This data can be used for recreational effort estimates as well as for important management decisions. The eLOGBOOK data also contains lengths of both fish harvested and released. This data was useful for all partners in the **bluefish stock assessment, as discard data was used in the 2015 benchmark assessment.**

RIDMF has port and at-sea sampling programs for selected commercial fisheries within the state. **The port sampling program focuses on collecting biological samples required by ASMFC fishery management plans.** These species include striped bass, weakfish, tautog, bluefish, menhaden, and lobster. **RIDMF's at-sea lobster sampling program focuses on ASMFC management needs** as well as state specific data needs. **RIDMF provides the data feed of lobster port and at-sea sampling data to ACCSP via the ASMFC Lobster Assessment Database.** Neither the lobster sampling programs nor the finfish sampling programs receive funding from ACCSP.

RIDMF staff also sit on ACCSP committees including: Operations Committee, Biological Review Panel, Bycatch Prioritization Committee, Commercial Technical Committee, Information Systems Committee, Standard Codes Committee, and Recreational Technical Committee. RIDMF staff are heavily involved in all aspects of ACCSP and contribute in full to all partners' interest.

From 2002 through 2016, RI utilized primarily contract employees through ASMFC to manage the ACCSP data collection program funded through ACCSP. In February 2016, RIDMF hired a state full-time employee to fill the ACCSP Coordinator duties. Project staff will continue to provide support with processing and data entry of harvester logbooks, aiding with compliance monitoring and data auditing, quota monitoring and compliance issues relevant to SAFIS, SAFIS technical support and outreach, ACCSP committees, eTRIPS and eLOGBOOK outreach, grant management, and long-term program development.

This proposal represents a recurring project funded by ACCSP for the past sixteen years. With a total budget of \$189,169, 71% of the total cost is an in-kind contribution from RIDMF. Table 1 provides a brief project history of ACCSP Implementation in RI. Cost details for fiscal year 2019 are outlined in the requested budget while last year's requested funding is presented in Appendix A.

In a RIDMF white paper, Gibson and Lazar (2006) documented the deficiencies of the Rhode Island Marine Fisheries program and argued that significant infusion of funding and staff is needed. The RIDMF Marine Fisheries section has undergone a peer reviewed evaluation and need assessment, which concluded that RIDMF Marine Fisheries requires more staff to effectively maintain its services (Boreman et al., 2006). However, like many other states on the Atlantic Coast, the state of RI is experiencing fiscal shortfalls. **RIDMF is starting to actively assume some of the costs of ACCSP programs by devoting more staff time to the project and continues to seek alternate funding sources for the project.** In 2010 the state of RI implemented the RI Recreational Saltwater License. **Funds from license receipts are dedicated to the salary of a recreational biologist as well as improving data quality. The recreational biologist sits on the ACCSP recreational technical committee and manages eLOGBOOK and party and charter reporting, thus these funds now help support the ACCSP program. Encouraging commercial fishermen to transition from paper logbooks to the eTRIPS reporting method through incentives, training programs and regulations has already decreased and ultimately will eliminate some of the costs surrounding the distribution and data entry required for paper logbooks.** This will reduce the RIDMF's dependence upon ACCSP funds for maintaining timely and accurate data feeds and will be

completed as funding and staff time allows. **Furthermore, the transition the ACCSP coordinator from a fisheries specialist ASMFC employee to an RIDEM FTE (Principal Biologist) shows RIDMF’s dedication to covering the costs of the ACCSP program in the future, but asks for funding assistance during this transitional time.**

RIDMF also recognizes the recent changes made to maintenance proposals regarding funding opportunities. While a concrete plan is not in place to take over funding, **different options are being proposed including: the continued move to electronic reporting, licensing restructure, and other means to fund the program. Nothing is confirmed at this point, so the final years of available funding is important to RI and its ACCSP program.**

Geographic Location:

The project will be administered out of the Rhode Island Division Marine Fisheries office in Jamestown, RI. The scope of the project covers all of RI and adjacent state and federal waters fished by RI license holders.

Program Accomplishment Measurement Metrics:

The success of the project will be measured by the following metrics:

Goal	Metric	Accomplished
Data Delivery to ACCSP	Supplemental data complete, correct, and available for spring upload	Data delivered to ACCSP in March annually
Landings and Effort Data Delivery to ACCSP	Trips Entered in 2018 by application	eDR: 22,899 (56,940 including federal trips) eTRIPS: 26,259
Support to RI Licensed Seafood Dealers	Dealer trainings, site visits, and other outreach in 2018.	2 new dealers 2 site visits Phone call and email correspondence was made
Quota Monitoring	Number of possession limit changes and early closures during 2018 determined through accurate SAFIS data	25 changes in possession or early season closures

Table 1. Project History.

Year	Title	Cost	Results
2000	Implementation of the ACCSP Program in Rhode Island	230,938	Planning and development of ACCSP commercial module implementation
2001	Implementation of ACCSP Continuation	20,000	Implementation of trip level reporting for all RI lobster harvesters, Commercial fishing license reconstruction
2002	Implementation of Phase 2 of ACCSP in the State of Rhode Island	133,084	ACCSP coordinator hired, planning and development of electronic dealer reporting system (RIFIS)
2003	Implementation of Phase 3 of ACCSP in the State of Rhode Island	131,760	Phased Implementation of RIFIS with focus on high volume dealers
2004	Continued Implementation of the ACCSP Program in the State of Rhode Island	159,716	Transition of RIFIS to SAFIS, implementation of federally permitted dealers
2005	Continued Implementation of the ACCSP Program in the State of Rhode Island	95,365	Quota monitoring system developed using SAFIS data, regulation created requiring all RI dealers to report landings via SAFIS
2006	Continuation of SAFIS and Finfish Logbooks in Rhode Island	150,365	Implementation of SAFIS completed, Development of harvester logbook for finfish and crustacean fishery sectors
2007	Coordination and Development of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	145,697	Implementation of harvester logbook for finfish and crustacean fishery sectors

2008	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	128,647	Implementation of Dockside Sales Logbook, work begun on feeding data to ACCSP, maintenance of Data collection programs
2009	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	142,075	Data feeds of Logbook data and lobster biological sampling developed.
2010	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	100,983	eREC developed and eTrips pilot program started , data feeds continued, Fluke sector monitoring database developed, dealer report card system developed
2011	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	85,584	Automatic data feed for catch and effort data established via eTRIPS, eREC maintained and developed, data feeds continued
2012	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	99,379	Maintenance of automatic data feed for catch and effort data via eTRIPS on a real time basis, maintenance of eLOGBOOK, data feeds continued
2013	FY13: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	91,416	RSA tracking improved, maintenance of automatic data feed for catch and effort data via eTRIPS upload, maintenance of eLOGBOOK, data feeds continued
2014	FY14: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	85,408	RSA tracking improved, maintenance of automatic data feed for catch and effort data via eTRIPS upload, maintenance of eLOGBOOK, data feeds continued
2015	FY15: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	79,719	Maintenance of automatic data feed for catch and effort data via eTRIPS on a real time basis, maintenance of eLOGBOOK, data feeds continued. Improvements to party and charter industry tracking. eTRIPS user outreach and training
2016	FY16: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	79,736	Maintenance of automatic data feeds for catch and effort data via eTRIPS, maintenance of eLOGBOOK data feeds continued. Outreach of eTRIPS Mobile application. Continue eTRIPS user training and outreach.
2017	FY17: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	78,420	Maintenance of automatic data feeds for landings catch and effort data via SAFIS, eLOGBOOK data feeds, and supplemental data feeds. Outreach of eTRIPS-Mobile. Continue SAFIS user training and outreach.
2018	FY18: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	76,920	Maintenance of automatic data feeds for landings catch and effort data via SAFIS, eLOGBOOK data feeds, and supplemental data feeds. Outreach of eTRIPS-Mobile. Continue SAFIS user training and outreach.
2019	FY18: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	76,920	Maintenance of automatic data feeds for landings catch and effort data via SAFIS, eLOGBOOK data feeds, and supplemental data feeds. Outreach of eTRIPS-Mobile. Continue SAFIS user training and outreach.

Table 2. Milestone Schedule

Activity	Month														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SAFIS Support to RI Dealers	X	X	X	X	X	X	X	X	X	X	X	X			
Quota Monitoring	X	X	X	X	X	X	X	X	X	X	X	X			
eTRIPS support to industry	X	X	X	X	X	X	X	X	X	X	X	X			
eTRIPS logbook Data Entry	X	X	X	X	X	X	X	X	X	X	X	X			
Data Feeds to ACCSP	X	X	X	X	X	X	X	X	X	X	X	X			
Semi and Annual Report Writing							X					X	X	X	X

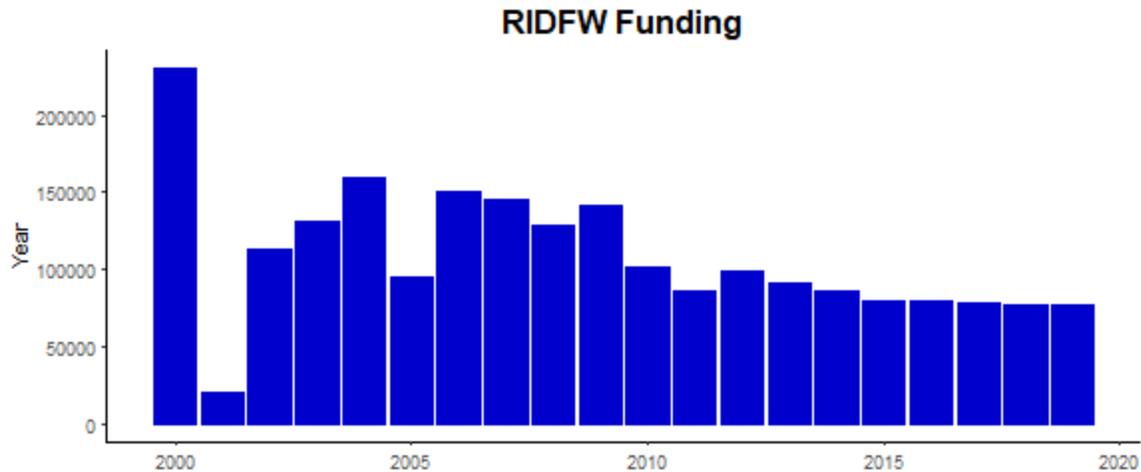


Figure 1. RIDMF past funding from ACCSP.

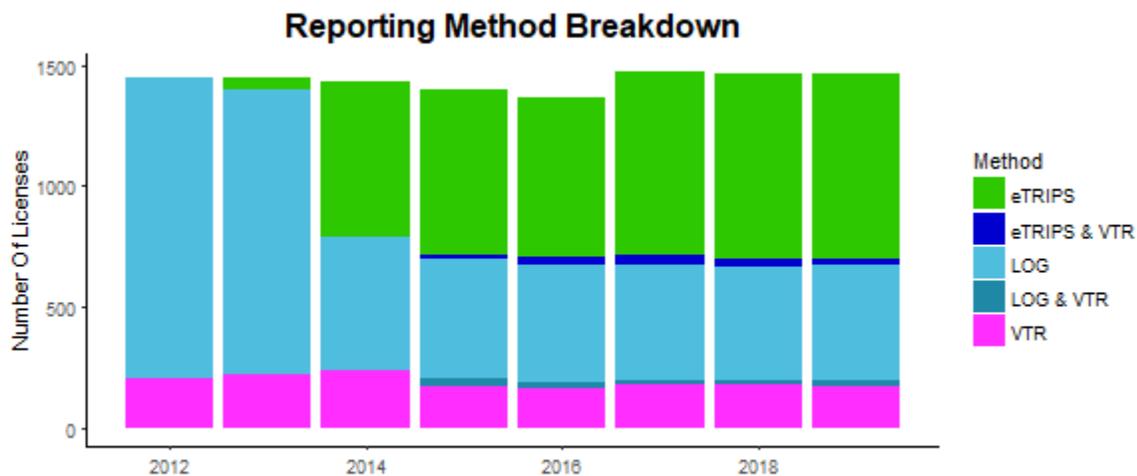


Figure 2: Reporting Method Breakdown

References:

Boreman, J., Diodati, P., O’Shea, and E. Smith. 2006. Assessment of the Rhode Island Department of Environmental Management’s Marine Fisheries Section. RIDEM Internal Document, October 2006.

Gibson M. and N. Lazar. 2006. Rhode Island Division of Fish and Wildlife, Marine Fisheries Section 2006: Current Activities, Funding, and an Appraisal of Future Needs. RIDEM Internal Document, August 2006.

Rhode Island Marine Fisheries Regulations (RIMFR), Part 7- Dealer Regulations, 2018

R Core Team (2016). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.

Requested Budget FY 2020 (August 1, 2020 to July 31, 2021)

Item	ACCSP Share	Direct State Share	Total
Supervising Biologist (FTE 10%)	\$0	\$12,312	\$12,312
Principal Biologist (FTE 50.9%)	\$0	\$50,159	\$50,159
Principal Biologist (FTE 34%)	\$38,391	0	\$38,391
Assistant Admin Officer (Contractual 50%)	\$0	\$21,139	\$21,139
Seasonal Interns - 2 (RIDEM 40% each)	\$8,554	\$10,692	\$19,246
Indirect Charges (RIDEM FTE 17.25%)	\$8,098	\$16,267	\$24,365
Total Personnel	\$55,043	\$110,569	\$165,612

EQUIPMENT & SUPPLY:

Item	ACCSP Share	Direct State Share	Total
Logbook Printing @ \$5.91 per logbook	\$0	\$3,546	\$3,546
Logbook Mailing @ \$4.75 per logbook	\$0	\$2,850	\$2,850
Dockside Printing @ \$4.96 per logbook	\$0	\$1,488	\$1,488
Dockside Mailing @ \$5.91 per logbook	\$0	\$1,773	\$1,773
Business reply envelope printing	\$0	\$2,500	\$2,500
Business reply account	\$0	\$1,500	\$1,500
Website development and updating	\$0	\$2,400	\$2,400
Outreach mailing	\$0	\$3,000	\$3,000
Office supplies	\$0	\$1,000	\$1,000
Telephone & Fax Usage	\$0	\$500	\$500
Vehicle Usage and Travel	\$0	\$3,000	\$3,000
Total Supply	\$0	\$23,557	\$23,557

TOTAL:

Item	ACCSP Share	Direct State Share	Total
Total Direct Charges	\$55,043	\$134,126	\$189,169
Percentage	29%	71%	

COST DETAILS:

Description of Budget categories and expenses for this project.

a. Salary

Each person spends a fraction of their time working on this grant in a team effort. The annual salaries for personnel and the percentage of their time spent on this project are as follows:

From ACCSP:

- i. **Principal Biologist/ ACCSP Coordinator:** 34% ACCSP funded position to act as support to the ACCSP Coordinator; 34% of salary and fringe benefits for one year = \$38,391.
- ii. **Seasonal Interns:** Support for 2 Seasonal Interns to assist with data entry 40% of annual salary = \$8,554.

From RIDEM as match:

- i. **Supervising Biologist:**
Approximately 10% of annual salary and fringe benefits equals \$12,312.
- ii. **Principal Biologist:**
Approximately 50.9% of annual salary and fringe benefits equals \$50,159.
- iii. **Seasonal Interns:**
Support for 2 Seasonal Interns to assist with data entry.
Approximately 50% of annual salary (\$10,692) X 2 = \$10,692.

b. Fringe benefits

Annual fringe benefits rates for all employees include the following:

Retirement 24%
Deferred Compensation 0.4%
FICA 6.2%
Medicare 1.45%
Health care \$21,937/year
Dental \$ 1,132/year
Vision Mercer - \$165/year
Assessed Fringe 4.25%
Retiree Health 6.75%

c. Travel

\$3,000 used for mileage, tolls for site visits and meetings, and to subsidize vehicle usage by ACCSP staff as well as any incurred travel expenses for dealer visits; RIDEM will assume the costs. These costs are based on historical used under the current award.

d. Equipment

No equipment will be purchased on this grant.

e. Supplies

From ACCSP:

- i. None.

From RIDEM:

- ii. **Logbook Printing:** 600 logbooks @ \$5.91/logbook – \$3,546.
- iii. **Logbook Mailing:** 600 logbooks @ \$4.75/book = \$2,850

- iv. **Dockside Printing:** 300 logbooks @ \$4.96/logbook - \$1,488
- v. **Dockside Mailing:** 300 logbooks @ \$5.91/logbook - \$1,773
- vi. **Business Reply Envelope Printing:** 20,000 Envelopes @ \$0.125/envelope = \$2,500.
- vii. **Business Reply Account:** \$100/month Mar-Nov; \$200/month Dec-Feb = \$1,500.
- viii. **Website Development and Updating:** Costs for maintaining current website and creating a website section dedicated to online reporting, including the creation training materials. Estimated at \$2,400.
- ix. **Telephone and Fax usage** - \$500
- x. **Office Supplies** \$1,000
- xi. **Miscellaneous and outreach mailing:**
 - 1. **Compliance mailing:** 1,600*\$0.50 = \$800
 - 2. **License renewal mailing to notify license holders of renewal regulations and changes:** 3,000*\$0.50 = \$1,500
 - 3. **Dealer Report Cards:** 140*4*\$0.50 = \$280
 - 4. **Returned Logs:** ~2% per month of 1,600 = 32*12 = 384*\$0.50 = \$192
 - 5. **Miscellaneous/Outreach mailings:** ~\$228

f. Contractual

Contractual will include the time spent for a contractual employee: Assistant Administrative Officer. Contractual annual salary and administrative charges total \$42,279. The employee will be spending 40% of their time on this grant and will be supported by RIDEM. 50% equals \$21,139.

g. Construction

There will be no construction as part of this grant.

h. Other

There is nothing in this category

i. Total Direct Charges

This is the sum of all direct charges to the grant, listed above.

j. Indirect charges.

Indirect charges are only calculated using RIDEM personnel charges. The negotiated Indirect Rate for fiscal year 2019 is 17.25%.

Summary of Proposal for Ranking

Proposal Type: Maintenance

Primary Program Priority: Catch and Effort (100%)

- 100% of dealers report trip level landings data for all species.
- 100% of commercial fishermen report trip level catch and effort data, which is entered into SAFIS (except federal permit holders that report on VTRs to NMFS) or via a 1-ticket system for shellfish entered at trip level by the dealer in the eDR.
- 100% of all party and charter captains report trip level data, which is entered into SAFIS.
- Metadata and socioeconomic that is detailed on page 6 are also collected to enhance and describe data sets that are important to RI's commercial fisheries.

Project Quality Factors:

Partners

- **Multi-Partner/Regional impact including broad applications** –To collect and manage catch and effort, landings, and recreational data in RI. However data on many regionally managed species, such as American lobster, striped bass, black sea bass, bluefish, tautog, and others is collected. As these species are regionally managed, the data collected are used in coastwide and regional stock assessments, therefore other partners benefit from having access to this data.

Funding

- **Contains funding transition plan** – This proposal contains a transition to funding plan on page 8-9. Changes in maintenance proposal funding has been addressed by RIDMF and the ACCSP Coordinator role has been transitioned to a Principal Biologist FTE. While RIDMF continues to ask for funds during this transitional period, it is understood there is a definite end date to the funds available to RI for this project.
- **In-kind contribution-** 71% of this project is funded by the RIDMF.

Data

- **Improvement in data quality/quantity/timeliness** – RI provides timely catch and effort data and landings data to the ACCSP. This is done by fully utilizing ACCSP data entry products (eTRIPS, eDR, eLOGBOOK, and eTRIPS Mobile) as well as having standards backed up by Marine Fisheries regulations that require reporting that meets ACCSP standards. RI has successfully begun to push fishermen to using eTRIPS for direct data entry resulting in timelier data entry and is embracing eTRIPS Mobile for data entry. Additionally, all supplemental data (port and sea sampling, aquaculture, dockside sales, and horseshoe crab data) is provided to ACCSP annually in the proper format.
- **Potential secondary module as a by-product** – Social and economic data that is described on pages 6 is collected regularly and used in fisheries models to characterize and understand RI fisheries. This data has also been made available to regional partners upon request and has been used in groundfish disaster relief funding to determine how the money is to be distributed.
- **Impact on stock assessment-** Data collected in this program is regularly used for many “in-house” stock assessments done on local species such as whelk, quahog, and soft shell clam. This data also includes information on regionally or jointly managed species and is used for their science and management programs as well. Partners, like surrounding states, the ASMFC, and the NOAA Fisheries can and do use this information for various stock assessments.

Appendix A: Prior year budget

Budget FY 2019 (August 1, 2019 to July 31, 2020)

PERSONNEL COSTS:

Item	ACCSP Share	Direct State Share	Total
Supervising Biologist (FTE 10%)	\$0	\$12,312	\$12,312
Principal Biologist (FTE 60.5%)	\$0	\$50,159	\$50,159
Principal Biologist (FTE 49.5%)	\$39,315	0	\$39,315
Assistant Admin Officer (Contractual 40%/50%)	\$16,912	\$21,139	\$38,051
Seasonal Interns - 2 (RIDEM 50%)	\$10,692	\$10,692	\$21,384
Indirect Charges (RIDEM FTE 16%)	\$8,501	\$11,706	\$20,207
Total Personnel	\$75,420	\$106,008	\$181,428

EQUIPMENT & SUPPLY:

Item	ACCSP Share	Direct State Share	Total
Logbook Printing @ \$5.91 per logbook	\$0	\$3,546	\$3,546
Logbook Mailing @ \$4.75 per logbook	\$0	\$2,850	\$2,850
Dockside Printing @ \$4.96 per logbook	\$0	\$1,488	\$1,488
Dockside Mailing @ \$5.91 per logbook	\$0	\$1,773	\$1,773
Business reply envelope printing	\$0	\$2,500	\$2,500
Business reply account	\$0	\$1,500	\$1,500
Website development and updating	\$0	\$2,400	\$2,400
Outreach mailing	\$0	\$3,000	\$3,000
Office supplies	\$0	\$1,000	\$1,000
Telephone & Fax Usage	\$0	\$500	\$500
Vehicle Usage and Travel	\$1,500	\$1,500	\$3,000
Total Supply	\$1,500	\$22,057	\$23,557

TOTAL:

Item	ACCSP Share	Direct State Share	Total
Total Direct Charges	\$76,920	\$128,065	\$204,985
Percentage	38%	62%	

Appendix B: Curriculum Vitae for Principal Investigator

Nichole L. Ausfresser Ares

Nichole.Ares@gmail.com

(978) 833- 4017

Education

Roger Williams University

Bristol, RI

Bachelor of Science in Marine Biology

Dec. 2010

Minor in Mathematics

Atlantic States Marine Fisheries Commission

October 2015

Introduction to Stock Assessment

Intermediate Stock Assessment Training

December 2017

Work Experience

Rhode Island Department of Environmental Management

February 2016-Present

Principal Biologist

- Coordinate and improve the Atlantic Coastal Cooperative Statistics Program (ACCSP) in Rhode Island.
- Monitor commercial fishing quotas, lead quota management meetings and determination of seasonal closures and possession limit changes.
- Reporting compliance for ~1500 RI commercially licensed fishermen. Including tracking compliance, training and support to fishermen on report submissions and utilization of the electronic reporting system. Supervise and train staff on data entry of collected catch and effort data. Audit data quality of submitted reports.
- Data accuracy and quality of dealer reported landings data for the ~140 RI commercial licensed seafood dealers. Correction of inaccuracies in data, training new seafood dealers, and retraining dealers with data entry issues.
- Serve on ACCSP committees, including Commercial Technical Committee, Information Systems Committee and Standard Codes Committee.
- Assist in field work as necessary including but not limited to otter trawl, ventless lobster pot, beach seine, fyke net, and ventless fish pot surveys.
- Write and submit project plans, compliance reports, and grant proposals.

Atlantic States Marine Fisheries Commission

May 2014- February 2016

Fisheries Specialist 1- ACCSP Coordinator

- Coordinate and improve the Atlantic Coastal Cooperative Statistics Program (ACCSP) in Rhode Island under the supervision of Rhode Island Division of Fish and Wildlife Marine Fisheries Section.
- Monitor commercial fishing quotas, lead quota management meetings and determination of seasonal closures and possession limit changes.
- Track reporting compliance for ~1500 RI commercially licensed fishermen. Train fishermen and seasonal staff on report submissions. Audit data quality of submitted reports.
- Audit and correct data of dealer reported landings data for the ~140 RI commercial licensed seafood dealers. Train new seafood dealers and retraining dealers with data entry issues.
- Write and submit project plans, compliance reports, and grant proposals.

- Member of various ACCSP committees, including Commercial Technical Committee and Information Systems Committee.
- Assist in field work as needed, including beach seine, lobster ventless pot, and otter trawl surveys.

East West Technical Services LLC Feb. 2012- May 2014
At-Sea Monitor and Scallop Observer

- Organize fishing trips with federal commercial fishermen of the North Eastern United States.
- Collect catch and discard data on groundfish (trawl, gillnet, and longline) and scallop dredge fishing vessels. Identify all species brought on board and take biological measurements and samples including; length, weight, scales, vertebrae, and otoliths.

Rhode Island Department of Environmental Management June. 2011-Dec. 2011
Division of Fish and Wildlife- Marine Fisheries Student Researcher April 2013-Oct. 2013

- Data and logbook entry using Microsoft Access, Microsoft Excel, SAFIS, and Telnet.
- Contact fishermen when questions arise with logbook submissions.
- Assist in field work sampling in beach seine, otter trawl, clam suction, clam dredge, lobster pots, fish pots, and finfish port sampling.
- Fish aging structure removal (operculum, scales, and otoliths) and preparation.

Research Experience

Roger Williams University June 2009- June 2011

- Project goals are to examine mercury bioaccumulation in fish tissues, examine selenium concentrations in tissues, and examine selenium mercury relationships.
- Includes sampling methods of rod & reel and otter trawl surveys, the extraction of muscle, liver, brain tissues, and otoliths. Preparing tissues samples for atomic absorption spectroscopy and inductively coupled plasma mass spectroscopy. Use of Microsoft Excel and SAS to analyze the data, PowerPoint to present data at conferences. Organize the laboratory and help keep scientific equipment running correctly.
- Mentor: Dr. David L. Taylor, Assistant Professor

Technology, Skills, and Certifications

- Proficient in Microsoft Word, PowerPoint, Excel, Access, and Picture Manager, SAFIS info systems, Telnet, HTML, Adobe DreamWeaver, Oracle Databases (SAFIS Interface and Business Objects), and R.
- Familiar with SQL.
- Large dataset management
- Certified PADI Open Water Scuba Diver
- RIDEM Certificate of Boating Safety Education
- U.S Coastguard Auxiliary Boating Safety Course
- Fisheries sampling techniques including fish and invertebrate identification, trawl, beach seine, lobster and fish pots, gillnets, and dissections.



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
NATURAL AND HISTORIC RESOURCES
DIVISION OF FISH AND WILDLIFE
P.O. BOX 420; MAIL CODE: 501-03
TRENTON, NJ 08625-0420
TEL: (609) 292-2965; FAX: (609) 984-1414
VISIT OUR WEBSITE: WWW.NJFISHANDWILDLIFE.COM
David Golden, Acting Director

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

CATHERINE R. McCABE
Commissioner

Atlantic Coastal Cooperative Statistics Program

Operations and Advisory Committee

1050 N. Highland Street., Suite200 A-N

Arlington, VA 22201

June 7, 2019

I am pleased to submit the proposal titled "Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries". Please feel free to contact me with any questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Hinks", written over a light gray grid background.

Greg Hinks, Principal Biologist

NJ Marine Fisheries Administration

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 North Highland Street, Suite 200 A-N
Arlington, VA 22201

Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries

Submitted by;
Gregory Hinks
New Jersey Division of Fish and Wildlife
P.O. Box 418
Port Republic, NJ 08241

Proposal for FY2020 ACCSP Funding

Applicant Name: New Jersey Division of Fish and Wildlife
Bureau of Marine Fisheries
P.O. Box 418
Port Republic, NJ 08241

Project Title: Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries

Project Type: Maintenance

ACCSP Program Priorities: 1) Catch/Effort (55%), 2) Biological (45%)

Project Supervisor: Greg Hinks, Principal Biologist (NJDFW)

Principal Investigator: Chad Power, Assistant Biologist (NJDFW)

State Staff: Matthew Heyl, Biologist Trainee (NJDFW)

Project Staff: Laura Versaggi, NJ ACCSP Fisheries Specialist

Requested Amount: \$93,408

Requested Award Period: September 1, 2020 to August 31, 2021

1. Objective

To continue New Jersey's trip level catch and effort data collection, dependent at-sea observer coverage, and biological characterization of commercial fisheries, a program that started in 2001.

2. Need

Since 2001, several programs have been implemented by the New Jersey Division of Fish and Wildlife (NJDFW) through funds provided by the Atlantic Coastal Cooperative Statistics Program (ACCSP). These funds have been vital in proactive management of the marine resources in New Jersey (NJ). Loss of funding for these critical programs would result in a significant loss of commercial fisheries data collection for the State of NJ, the ACCSP, and the Atlantic States Marine Fisheries Commission (ASMFC).

NJ programs currently funded under the ACCSP grant include commercial trip level data collection via eTRIPS for all commercially important species including American eel, Atlantic menhaden, blue crab, and tautog; port sampling of the American eel, Atlantic menhaden, Atlantic croaker, weakfish, and American shad fisheries; at-sea observer coverage for American lobster off the NJ coast, and trip level dealer reporting and quota management through the Standard Atlantic Fisheries Information System (SAFIS) electronic Dealer Reporting (eDR). Five of the species that NJ collects biological data for occur in the upper quartile of the ACCSP Biological Priority Matrix. These species include American lobster, American eel, black sea bass, river herring and weakfish. The major scope of work for the current FY2020 proposal has not changed from the accepted FY2019 proposal. As part of the ACCSP funding process, NJ has submitted all progress reports to date covering the FY2018 project to the ACCSP. The final FY2018 Report will be due on November 30, 2019. The NJ FY2019 project will begin on September 1, 2019.

2.A. Fisheries Dependent At-Sea Observer Program

Project staff has used at-sea observer coverage to describe fishing activities and aid in biological characterization of American lobster and tautog. In addition, port sampling for tautog is also performed as a source of characterizing the commercial landings. The information collected is critical to accurate stock assessments and ultimately sustainable harvest practices for these species. Characterization of the NJ commercial tautog fishery began in 2007 and will continue through FY2020 to document sex ratios, length: weight relationships and age information. Project staff have been sampling federally and state permitted American lobster pot vessels since 2008 and will continue to do so based on Addenda VIII and X of the American Lobster Fishery Management Plan, which mandates at-sea observer coverage as a means of describing the fishing activities in southern New England. The ASMFC American Lobster Technical Committee encourages sampling at-sea as a way of monitoring commercial bycatch and discards in the fishery.

2.B. Biological Characterization of Commercial Fisheries

The NJ biological characterization sampling program provides accurate length, weight, age, and temporal data for stock assessment and management of commercial harvest for the NJDFW, ASMFC, and NMFS. Target sample sizes identified through the ASMFC's Fishery Management Plans (FMP) achieved from 2019 are found in Table 3 of the Appendix. Sampling is conducted through port of landings intercepts and will be continued in FY2020 for American eel, American shad, Atlantic croaker, Atlantic menhaden, tautog and weakfish. NJ will continue sampling for Atlantic croaker, black sea bass, river herring, summer flounder, tautog and weakfish through independent sampling on the NJ Ocean Trawl Survey. Data collected will provide information on sex ratios/mean length/weight as identified by the Stock Assessment Review Committee (SARC) on June 20, 2008.

2.C. ACCSP Data Feeds

NJ is currently conducting several projects under the auspices of the ACCSP, most of which are mandates from the ASMFC and require compliance by the State of New Jersey to fulfill various ASMFC's FMPs. Equally important to the collection of fisheries dependent data is the guarantee of accurate data entry and quality assurance before these data are used as fisheries management tools. The ACCSP has increasingly taken on more duties as the data depot starting with SAFIS and moving to Fisheries of the US for the NMFS. As such, it is advantageous to the success of not only the ACCSP, but to all 23 ACCSP partners that partner data be supplied to the ACCSP in a timely and accurate fashion facilitating the movement of data into fisheries management.

2.D. Commercial Trip and Dealer Reporting (eTRIPS, eDR, Commercial Harvester & Dealer Reports)

The importance of a standardized trip and dealer reporting system is clear. The effort put forth to use an all-inclusive standardized data entry program is critical for the NJDFW to provide a single location to find harvest data for multiple fisheries/species/years. Further, the importance of single source harvest data is like that for dealer data entry and warehousing: allowing managers and scientists to pull accurate landings data through a query database using common ACCSP data formats. Project Staff provide support to federal/state permitted dealers facilitating weekly eDR reporting. Additionally, it is the responsibility of project staff to monitor landings through eDR, correct erroneous data when trip landings and dealer reports are inconsistent, and recommend closures when seasonal quotas are reached within the state. NJ has shifted to entering trip reporting data directly to SAFIS to increase efficiency in supplying the ACCSP and its partners with fishery dependent data. This was initiated in FY2016 and will continue for FY2020.

3. Results and Benefits

The ACCSP Coordinating Council approved NJ's proposal "Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ" for FY2019. Included again in the FY2020 proposal is the request for salary for staff on the project with a small amount of funds allocated towards aging summer flounder and black sea bass otoliths by the NMFS Woods Hole Laboratory. The FY2020 proposal will ensure that ongoing projects in NJ will continue to maintain NJ's participation in the ACCSP/ASMFC's mandated compliance programs. In kind state match, has averaged over 50% for the past seven fiscal years (2010-2018) for the NJ ACCSP Program and for FY2020 state match is 75% due to the addition of new state staff. (See page 14).

3.A. Fisheries Dependent Sampling Program

Lobster At-Sea Observer Coverage. In January 2008, at-sea sampling commenced aboard lobster vessels fishing in Lobster Conservation Management Areas (LCMA) 4 and 5 off the coast of NJ. Staff will continue at-sea observer coverage in FY2020 to characterize the NJ lobster fishery except during each LCMA closed seasons occurring April 30 - May 31 in LCMA 4, and February 1 – March 31 in LCMA 5. All data collected resulting from this program will be delivered to the ACCSP for inclusion into the Lobster Database. As this is the only at-sea observer program in LCMA 4 and 5, it is imperative to continue at-sea sampling.

3.B. Biological Characterization of Commercial Fisheries

Biological sampling for American eel, American shad, Atlantic croaker, Atlantic menhaden, black sea bass, river herring, summer flounder, tautog, and weakfish was a maintenance project for FY2018. Sampling targets were near 100% of set goals during the first 13 years (2006-2019, Table 1) and will be similar for FY2020.

Commercial American eel, American shad, Atlantic croaker, tautog and weakfish samples collected are processed and aged at the NJDFW Nacote Creek aging facility in Port Republic, New Jersey. Atlantic menhaden samples collected from the NJ commercial purse seine, pound net, gillnet, and cast net fisheries are processed at the NJDFW Nacote Creek facility and forwarded to the NMFS Beaufort Laboratory, Beaufort, North Carolina for aging. Black sea bass and summer flounder samples collected on the NJDFW Ocean Trawl Survey are processed for length, weight, and sex at the NJDFW Nacote Creek facility. Hard parts are collected and sent to the NMFS Woods Hole Laboratory for processing and age determination. Future samples collected will be processed and aged using the same protocol as in previous years. A current summary of species processed and aged by the NJDFW staff in support of this proposal are found in Table 1 of the Appendix.

A NJDFW Biological Characterization data entry system was developed in 2006 to warehouse all data collected under the biological characterization program. The NJ

biological database consists of trip level effort information from which the samples were collected and biological data taken from each individual sample. To date, all biological data collected for American eel, American shad, Atlantic croaker, Atlantic menhaden, black sea bass, river herring, summer flounder, tautog and weakfish have been entered, processed for QA/QC, and are available for assessment purposes.

The ACCSP and ASMFC have established species specific biological sample size goals for each partner state based on the total annual landings for each specific species. Sampling targets for species not based on commercial landings were developed by NJDFW staff at the initiation of this project and may exceed what is mandated by ASMFC through species specific FMPs. All data entry is standardized in the ACCSP format and queried when needed by NJDFW staff members for inclusion in technical reports, stock assessments, etc.

4. Data Delivery Plan

4.A. ACCSP Data Feeds

The project staff provides the ACCSP with support tables to facilitate timely and accurate landings for all species in which trip level data are collected. FY2016 initiated the direct entry of trip level data into SAFIS. This will ensure a more efficient process for quality assurance and quality control performed by NJDFW and NJ ACCSP staff. It will also allow for a smooth transfer of data for the “End of the Year” Fisheries of the U.S. report submission.

4.B. Commercial Trip and Dealer Reporting (eTRIPS, eDR, Commercial Harvester & Dealer Reports)

The ACCSP and the State of NJ have accumulated a significant number of commercial landings data while improving accuracy and efficiency through the use of eTRIPS and eDR. The eTRIPS program encourages fishermen to enter their own catch and effort data providing each fisherman the ability to review data without staff involvement. Commercial trip level reporting is mandatory for American eel, Atlantic menhaden, blue crab, and tautog in NJ. Additionally, commercial trip level data are available to authorized NJDFW staff for query purposes used in harvest compliance, and stock management. NJ has gained a significantly larger number of commercial landings data through eDR for American eel, Atlantic menhaden, blue crab and tautog. Project staff remove duplicate reports from multiple sources (paper, e-TRIPS) prior to ACCSP data uploads, ensuring accurate landings. Continuation and maintenance of eDR is imperative for the improvement of NJ’s commercial fishery landings data collection. SAFIS eDR is the exclusive method of quota monitoring in NJ and has proven itself as a central management tool for monitoring fisheries status in NJ.

A major goal from the onset of the NJ ACCSP program was to develop and implement an all-encompassing commercial trip and dealer reporting system for the NJDFW. This goal was accomplished by project staff on January 1, 2016, through the New Jersey

Commercial Harvester Trip Reporting Program. The New Jersey Harvester Trip Reporting Form was created to help standardize all trip level data collected and to provide fishermen with a single comprehensive reporting form for all issued commercial licenses. The New Jersey Harvester Trip and Dealer Reporting Forms collect catch, effort, bycatch and discards data. A copy of the harvester trip form can be found in Figure 4. A summary of New Jersey Division of Fish and Wildlife commercial trip reporting since the NJ ACCSP project's initiation is described in Table 2.

The New Jersey Commercial Harvester Trip Report Database was developed and is the primary database for New Jersey Trip Harvester Trip Reports submitted by fishermen. In combination with SAFIS eTRIPS, the New Jersey Commercial Harvester Reporting Form will comprehensively characterize the commercial fisheries within New Jersey State Waters. All paper reporting forms are entered into SAFIS, reviewed for quality assurance, and are available to the ACCSP immediately.

5. Approach

5.A. Fisheries Dependent Sampling Program 30% Allocated Funds

Lobster At-Sea Observer Coverage. The primary location of commercial lobster landings during the past 5 years off NJ takes place in LCMA 4 with some landings occurring in LCMAs 3 and 5. Therefore, at-sea observer sampling will consist of 13 trips per year in LCMA 4. During each sampling effort, every lobster brought aboard the vessel is measured for carapace length in addition to biological observations including sex, egg development on females, cull status (number of claws), shell condition (diseased or not), and shell hardness.

Tautog At-Sea Observer Coverage. NJDFW will continue to collect filleted fish (racks) from the recreational hook and line fishery, as well as whole samples from the commercial hook and line fishery. Data collected from both sectors include, sex, length, weight, area fished, and effort data. This data is taken for collected fish as well as those that are discarded. Total targeted lengths and ages of tautog can be found in Table 3 of the Appendix. Data from the recreational and commercial observer coverage will be entered into the NJDFW Biological Characterization database. Data will be formatted to ACCSP standards and submitted annually.

5.B. Biological Characterization 15% Allocated Funds

Sampling of American eel, American shad, Atlantic croaker, Atlantic menhaden, black sea bass, river herring, summer flounder, tautog and weakfish will continue in FY2020 based on 2018 annual landings of each species. Five of the species sampled by NJ are ranked in the top quartile of the biological sampling priority matrix. Effort, either at-sea

or dockside, is assigned in accordance with guidelines defined in the ASMFC's FMPs for each species. NJDFW and ACCSP staff will continue to collect biological samples. Staff will process (cut and/or mount) all hard structures to be aged. The project staff at the NJDFW Nacote Creek facility in Port Republic, NJ will age all hard parts collected, except Atlantic menhaden, black sea bass and summer flounder. Atlantic menhaden are sent to the NMFS aging lab in Beaufort, NC throughout the sampling year and are aged pro-bono. We have been providing samples for over 14 years and this has been beneficial to the coastwide stock assessment for Atlantic menhaden (Ray Mroch, Ray.Mroch@noaa.gov); black sea bass and summer flounder were sent to the NMFS aging lab in Woods Hole, MA in early 2019 (Eric Robillard, Eric.Robillard@noaa.gov). For all other species, NJDFW and ACCSP staff have received the necessary training to process and read all the collected otolith samples (Table 1 of the Appendix). NJ will coordinate with NOAA Fisheries-Greater Atlantic Regional Fisheries Office (GARFO) to avoid duplicate aging.

Data collected from each sample is transferred to electronic format by NJDFW and NJ ACCSP staff. After data are successfully entered and quality control measures have been performed, project staff will send data feeds to the ACCSP for integration into the ACCSP Data Warehouse. This method will allow stock assessment committees, technical committees, and operations committees to view the status of the NJ biological sampling program. Species specific sampling and data collection methodology will follow previous sampling protocol. Species specific target samples sizes for 2019 can be found in Table 3 of the Appendix.

5.C. ACCSP Data Feeds 15% Allocated Funds

The NJ ACCSP Program supplies the ACCSP with data from multiple sources including paper/electronic landings data and biological characterization programs. Some NJ landings data are not collected via eTRIPS or eDR and must be converted from paper to electronic records. Included in paper reports are trip level landings of all commercially harvested fish by state permitted fishermen. Biological characterization data are collected for American eel, American lobster, American shad, Atlantic croaker, black sea bass, river herring, summer flounder, tautog and weakfish. Following collection, the data are then input into SAFIS for future use and analyses by NJ and all other partners.

5.D. Commercial Trip and Dealer Reporting (eTRIPS, eDR, Commercial Harvester & Dealer Reports) 40% Allocated Funds

The continuation of SAFIS implementation includes components for web-based dealer reporting (eDR), web-based fishermen reporting (eTRIPS), paper-based data entry by project staff, report compliance monitoring, and site administration (user access, look-up tables, data correction, etc.). The NJDFW and NJ ACCSP Fisheries Specialist supervise the implementation of the NJ eTRIPS application. Project staff provides state permitted fishermen with user accounts, establishes favorites lists and facilitate the usage of the eTRIPS application, a web-based trip level reporting form. Staff develop and present

training seminars for groups and conduct individual meetings when necessary to support fishermen in the use and customization of the eTRIPS application. These training tools include Power Point presentations at local libraries, firehouses, and other public meeting venues. The NJ ACCSP project attempts to train multiple individuals at each meeting, however, there are frequently cases when individual attention and support is required outside of these announced seminars. In addition, staff conducts compliance monitoring of reporting and perform QA/QC analyses of collected data. NJDFW and ACCSP Fisheries Specialist identify and complete data gaps/user support for state-permitted dealers, fishermen, and managers. Cross validation for all species entered into eTRIPS with SAFIS eDR is completed during each reporting period to assure that duplicate reporting is not taking place by comparing electronic reports to those received in paper logbook format by the NJDFW for all commercial species. Compliance of fishermen monthly reports is facilitated using the eTRIPS program and the New Jersey Harvester Trip Reporting forms.

Project staff lends support to the majority of state permitted dealers, typically providing logistical information regarding quota status, vessel recognition, gear selection, and general state regulations. Staff will travel to commercial fishing facilities, to provide assistance to permitted dealers pertaining to data entry for the eDR application as needed. NJ ACCSP staff travel for dealer and fishermen support pertaining to SAFIS and eTRIPS data entry, meetings for the further development of NJ commercial fisheries landing statistics program, and training expenses incurred will be covered by the NJ ACCSP.

In addition to all trip and dealer reports entered electronically through SAFIS, NJDFW and ACCSP staff collects all paper trip reports submitted on NJ Commercial Harvester and Dealer Reporting Forms. Harvester and Dealer Reports are due at the same frequency as electronic reports. Trip and dealer reports are entered into SAFIS and are processed for QA/QC. Project staff enter all harvest data received by paper trip report forms directly into SAFIS to increase efficiency.

6. Geographic Location

The ACCSP Fisheries Specialist will serve as the project staff. The project will be administered from the New Jersey Department of Environmental Protection (NJDEP), Division of Fish & Wildlife Nacote Creek Research Station in Port Republic, New Jersey.

7. Milestone Schedule: Month 1 following receipt of grant approval.

Description of Activity	Month														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Electronic Vessel Trip Reporting (monitor existing fishermen reports, train new fishers, rollout system for additional species, data entry of data collected via paper based reports)	X	X	X	X	X	X	X	X	X	X	X	X			
Biological Characterization of Commercial Fisheries (Collect lengths, weights and age structures from NJ's commercial fisheries. Process and age scales, opercula or otoliths collected)	X	X	X	X	X	X	X	X	X	X	X	X			
Lobster Landing Statistics (Lobster harvest data collection with components of eVTR, dealer data, at-sea sampling, port sampling)	X			X		X	X	X	X	X	X	X			
Tautog Landing Statistics (collection of commercial at-sea coverage data)	X	X	X	X	X	X	X	X	X	X	X	X			
ACCSP Data Feeds (data entry of all biological samples collected by the NJDFW, transmission of all data to the ACCSP through monthly data feeds, SAFIS support tables)			X			X			X			X			
Electronic Dealer Reporting (continue to perform quota monitoring and the online reporting of commercial fisheries landings data for summer flounder, black sea bass and scup)	X	X	X	X	X	X	X	X	X	X	X	X			
Semi-annual report 1							X								
Semi-annual report 2													X		
Final report															X

8. Project Accomplishment Measurements update

Project Component	Goal	Measurement
SAFIS Electronic Trip Reporting (eTRIPS) Phase I	Successfully collect data from fishermen reports, check for compliance, and perform quality assurance.	All data checked, and compliance performed prior to the 10 th of the following month.
SAFIS Electronic Trip Reporting (eTRIPS) Phase II	Enter all received data submitted by fishermen, perform quality assurance measures.	All data entered and checked prior to the 10 th of the following month.
Biological Characterization of Commercial Fisheries	Meet all target sample sizes for length, sex, age for each species.	Number of samples collected.
Dependent Fisheries At-Sea Observer Program	Conduct the prescribed number of trips and collect target number of samples by species and management area.	Number of trips made, and number of samples collected.
ACCSP Data Feeds	Supply the ACCSP with data feeds as described including participant, and landings data on the schedule described	Were the data feeds performed by the deadlines identified?
SAFIS Electronic Dealer Reporting (eDR)	Supply support to participating eDR dealers with NJ state dealer permits when requested. Perform report compliance monthly. Manage summer flounder, black sea bass, and bluefish quota as allocated to the State of NJ.	Was support provided and quotas managed?
New Jersey Commercial Harvester Trip Report	Create an all-encompassing reporting form for all state issued commercial marine fishing licenses.	All trip reports are entered and checked for quality assurance and accuracy.

9. FY2020 Budget (Letters in parenthesis pertain to Federal Grant Object Codes)

<i>Item</i>	<i>Total NJ DFW in-kind support</i>
Salaries (NJDFW)	
Supervising Biologist 5% in-kind (current FTE)	\$4,821
Principal Biologist-Lab Supervisor- 15% in-kind (current FTE)	\$12,739
2- Assistant Biologists- 50% in-kind (current FTE)	\$49,263
Biologist Trainee - 90% in-kind (current FTE)	\$44,100
Clerical 10%	\$2,600
Fringe benefits (46.35% on FTEs)	\$50,972
Hourly Technician (current PTE)	\$11,700
Fringe benefits (7.65% on PTE)	\$895
Supplies & Materials	
Scientific Equipment (Measuring boards, scales, calipers)	\$250
Materials for collection and preparation of scales, otoliths, operculi, etc.	\$350
purchase of samples (American eels)	\$600
Other	
NJDFW Trawl Survey (\$5,900 per day x 10 days)	\$59,000
Department Network account (OIRM)	\$4,000
NJ DFW indirect costs (20.29% of salaries)	\$36,859
Subtotal NJ funds	\$278,149
Append to ACCSP Administrative Grant	
Salaries (NJ ACCSP Staff)	
1 ACCSP Fisheries Specialist (ASMFC employee)	\$43,500
Benefits 25%	\$10,875
Other	
Travel (mileage and tolls)	\$2,000
NMFS Contract; process and age summer flounder/black sea bass otoliths, (\$12.94/sample, 1,000 samples)	\$12,940
Biological Collection	\$15,000
ASMFC Overhead (16.13%)	\$9,093
ACCSP Admin Grant Project Costs	\$93,408
Total Project Costs (includes in-kind)	\$371,557

Budget Narrative

(a). Salaries; ACCSP Fisheries Specialists:

(1) NJ ACCSP Fisheries Specialist's annual salary.

(b). benefits of above employees

25% of the annual salary for the one NJ ACCSP staff.

(c). Travel (mileage and tolls):

The average number of miles traveled over the last three years to commercial docks, vessels, and instate meetings with industry representatives for the entire project = 3,450 miles / year.

$3,450 \times \$0.58 = \$2,001$ dollars.

(d). NMFS Contract:

For aging otoliths from summer flounder and black sea bass collected by NJ ACCSP Staff:

500 black sea bass otoliths x \$12.94 per otolith = \$6,470.

500 summer flounder otoliths x \$12.94 per otoliths = \$6,470.

1,000 total otoliths to be aged x \$12.94 per otoliths = \$12,940.

(e). Biological Collection:

Additional requested funds to purchase market sized fish not encountered with current biological sampling methods.

(f). ASMFC Overhead:

16.13% of the sum of budget items a, b, and c.

(g). ACCSP Administrative Grant Project Costs:

Total of (a) through (f) does not include in-kind support. No funds are being directly received by the State of NJ.

The FY2020 budget is in two parts, the first part details the amount that is being provided as in-kind match by the NJDFW, while the second part is the amount to be amended to the ACCSP Administrative Grant. The \$93,408 covers the salaries for one Fisheries Specialist position that was hired by the ACCSP and works out of the NJDFW's field office in Port Republic, NJ. This covers their fringe and indirect, the ASMFC's overhead, their travel for mileage, and tolls during port sampling and at-sea observer trips, in addition to attendance at ACCSP Committee meetings. The ACCSP is also able to administer funds to have the summer flounder and black sea bass otoliths prepared and ages determined by the NMFS Northeast Fisheries Science Center staff.

Additional funds of \$15,000 are being requested for the purchase of biological samples from commercial fishermen at fair market value. With current biological sampling methods, there is a size class gap amongst larger fish. Being able to purchase additional samples will allow the NJDFW to expand age data, in turn aiding Stock Assessment Scientists in effective management of the resources. The species targeted for purchasing include: Atlantic croaker, American shad, black sea bass, summer flounder, tautog, and weakfish.

The requested ACCSP Administrative Grant amount achieves the 33% mandatory reduction for FY2020, based on the average amount of the 4 previously awarded proposals.

The in-kind funding provided by the NJDFW includes salaries for NJDFW full time employees under the titles of Supervising Biologist, Principal Biologist, two Assistant Biologists, Biologist Trainee, and Clerical. **The addition of a Biologist Trainee devoted to the project exemplifies the commitment of the NJDFW to transition staff, while maintaining the objectives and goals of the project.** Additional in-kind funds include: supplies for port sampling, aging laboratory materials, and purchasing American eel samples; staff time for independent samples taken aboard the NJ Ocean Trawl Survey and processed at the NJDFW's Port Republic field station, as well as Department network support for online reporting systems, and computer support for staff working under the ACCSP Project. Sources of in-kind funding come from the annual state appropriation for the Marine Fisheries Administration (MFA) and from the Atlantic Coastal Grant.

9.1 FY2018 Budget (Letters in parenthesis pertain to Federal Grant Object Codes)

<i>Item</i>	<i>Calculation</i>	<i>Total NJ DFW in-kind support</i>
Salaries (NJDFW)		
Supervising Biologist 5% in-kind (current FTE)		\$4,821
Principal Biologist-Lab Supervisor- 15% in-kind (current FTE)		\$12,739
Assistant Biologist- 50% in-kind (current FTE)		\$24,632
Biologist Trainee - 50% in-kind (current FTE)		\$22,527
Clerical 10%		\$2,600
Fringe benefits (46.35% on FTEs)		\$31,202
Hourly Technician (current PTE)		\$11,700
Fringe benefits (7.65% on PTE)		\$895
Supplies & Materials		
Scientific Equipment (Measuring boards, scales, Materials for collection and preparation of scales, otoliths, operculi, etc.)		\$250
purchase of samples (American eels)		\$600
Other		
NJDFW Trawl Survey (\$5,900 per day x 10 days)		\$59,000
Department Network account (OIRM)		\$4,000
NJ DFW indirect costs (20.29% of salaries)		\$23,601
Subtotal NJ funds		\$198,916
Append to ACCSP Administrative Grant		
Salaries (NJ ACCSP Staff)		
(a) 2 ACCSP Fisheries Specialists (ASMFC employees)	2x(2080hrs x 20.80/hr	\$86,528
(b) Benefits 25%	25% of total salaries	\$21,632
(c) Travel (mileage and tolls)	7,408 Miles x &.054/mile	\$4,000
(d) NMFS Contract; process and age summer flounder/black sea bass otoliths,	\$12.94/sample, 1,000 samples	\$12,940
(f) * ASMFC Overhead (35%)	35% of the sum of budget items a, b, c	\$39,256
(g) ACCSP Admin Grant Project Costs		\$164,356
Total Project Costs (includes in-kind)		\$363,272

10. Maintenance Projects

Amount of funds received directly by the NJDFW, the amount appended to the ACCSP Admin. Grant for NJ ACCSP Staff salaries, and the amount and percentage of in-kind funds supplied by the NJDFW for the ACCSP projects.

History Details for NJDFW ACCSP Funded Projects						
Fiscal Year	Period	Project	NJ ACCSP Funds Request	Appended to ACCSP Admin Grant	NJDFW In-Kind	In-Kind Percentage of Total Project Cost
2001	3/01/2001 through 8/31/2002	Integration of Commercial Blue Crab Harvest Data into the ACCSP	\$133,368	\$0	\$0	0%
2005	5/01/2005 through 4/30/2006	Implementation of Phase 2 of the ACCSP for the State of New Jersey	\$89,180	\$84,375	\$41,831	19%
2006	3/01/2006 through 8/31/2007	Biological Characterization of Four New Jersey Commercial Fisheries	\$79,722	\$0	\$59,366	43%
2006	3/01/2006 through 8/31/2007	Continuance of Phase 2 of the ACCSP for the State of New Jersey	\$81,264	\$78,975	\$63,556	28%
2007	3/01/2007 through 8/31/2008	Implementation of eVTR, Biological Characterization and Continuance of SAFIS Coordination for the State of New Jersey	\$167,544	\$87,413	\$111,617	30%
2008	3/1/2008 through 8/31/2009	NJ Implementation of ACCSP Commercial Fisheries Data Collection; Electronic Vessel Trip Reporting, Electronic Dealer Reporting, and Biological Characterization.	\$128,536	\$150,525	\$86,609	24%
2009	3/1/2009 through 8/31/2010	Introduction & Continuance of SAFIS and Biological Characterization of Commercial Fisheries in NJ	\$52,814	\$174,036	\$132,008	37%
2010	3/1/2010 through 8/31/2011	Further Development of SAFIS and Biological Characterization of Commercial Fisheries in NJ	\$24,301	\$174,036	\$131,008	43%
2011	3/1/2011 through 8/31/2012	Continued Expansion of SAFIS and Biological Sampling for the Commercial Fisheries of NJ	\$0	\$188,779	\$131,008	50%
2012	3/1/2012 through 8/31/2013	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$0	\$192,100	\$240,897	56%
2013	3/1/2013 through 8/31/2014	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$0	\$192,100	\$240,897	56%
2014	3/1/2014 through 8/31/2015	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$75,368	\$152,602	\$159,227	41%
2015	3/1/2015 through 8/31/2016	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$0	\$158,740	\$205,725	56%
2016	3/1/2016 through 8/31/2017	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$0	\$167,356	\$205,725	55%
2017	3/1/2017 through 8/31/2018	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$0	\$158,547	\$205,725	56%
2018	3/1/2018 through 8/31/2019	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$0	\$164,356	\$138,316	55%
Total Amount for all ACCSP Projects			\$833,337	\$2,124,660	\$2,334,735	44%

Proposal Summary for Ranking Criteria

PROPOSAL TYPE: *Maintenance*

PRIMARY PROGRAM PRIORITY:

Catch and Effort: 100% of permitted dealers in NJ will be submitting dealer reports through SAFIS eDR, for 100% of the species they purchase. 100% of the 21 commercial harvester license types will be submitting trip level catch and effort data, the remaining harvester licenses are collected through the federal NMFS VTR program.

PROJECT QUALITY FACTORS (Partners, Funding, and Data):

Partners-

Multi-Partner/Regional impact including broad application:

Although this project focuses on the activities of NJ permitted fishermen and dealers, it includes the data collection of species harvested regionally such as lobster, bluefish, summer flounder, black sea bass, scup, tautog, river herring, and weakfish. Thus, the ASMFC will benefit from the dealer and harvester data collected from this project.

Funding-

Transition Plan:

The NJ ACCSP Project in FY2013 included funds that went directly to the NJDFW for salaries and supplies. The NJDFW has proposed a landing license for all state fisheries several times over the years. The efforts have been thwarted by industry lobbyists who are opposed to any license. The NJDFW has been able to create an Atlantic menhaden landing license, the funds of which will be directed towards commercial fisheries research and management for that specific fishery. This specific license is limited entry with very specific qualifying factors to remain in the fishery. Because of this recent development, there are several commercial bases realizing the importance of mandatory reporting. These license funds will provide NJ with a source of revenue further relieving funding away from the ACCSP. These costs were removed in FY2014 and will continue to be covered as NJDFW in-kind match for FY2020.

Additionally, a Biologist trainee was hired in January of 2019, as the first phase of transitioning staff under NJDFW authority. The addition of the Biologist Trainee, whose main task is devoted to the objectives and goals of this project, allowed NJDFW to meet the mandatory 33% reduction. NJDFW anticipates the addition of another new staff member devoted to the project prior to the final year of funding for this maintenance project.

In-kind Contribution:

The NJDFW is providing **75%** of the project cost (see section 9).

Data:

Improvement in data quality/quantity:

The NJDFW has been able to provide commercial harvest landings data to the ACCSP for American lobster, Atlantic menhaden, blue crab, and American eel through annual data feeds. Additionally, the NJDFW will be able to provide all commercial state harvester landings

through the Commercial Harvester Trip Report Program. The NJ eDR program continues to be monitored by the project staff. This type of project and data management has ensured improvements in data quality, quantity and timeliness.

SECONDARY PROGRAM MODULE:

Biological Sampling:

NJDFW is collecting biological characterization data through port sampling and at-sea observer coverage for 10 species, 5 of which are listed in the upper 25% on the ACCSP Biological Priority Matrix.

PROJECT QUALITY FACTORS (Partners, Funding, and Data):

Partners:

NJDFW is collecting biological characterization data for 10 species, all of which are regionally managed through the ASMFC's FMPs including weakfish, Atlantic croaker, American shad/river herring, tautog, Atlantic menhaden, American eel, American lobster, black sea bass, and summer flounder.

- American lobster at-sea observer data coverage includes trips in LCMA 4.
- American eel sampling covers water bodies bordered by NY, NJ, PA, and DE.

Data:

All biological data collected by the NJDFW and NJ ACCSP staff are available for coast-wide stock assessment. NJDFW blue crab harvest trip level catch and effort data are used by the state of Delaware to conduct their stock assessment within the Delaware Bay. NJDFW tautog biological sampling and aging data are used by coast-wide and regional stock assessment committees. NJDFW at-sea lobster observer data are utilized regionally for stock assessment and recruit abundance. NJDFW American eel and weakfish biological characterization data are used for stock assessment.

Appendix:

Table 1. History of ALL biological samples collected by the NJ ACCSP program. American eel, American lobster, black sea bass, river herring and weakfish, all appear on the upper quartile of the ACCSP Biological Priority Matrix. (NJDFW recognizes biological samples by calendar year, not project year) American shad and river herring have been aged by scales in the past, otoliths were collected and will be processed for aging.

NJ ACCSP Biological Sampling Summary (Calendar Year)															
Year	Weakfish			American Eel			Atlantic Croaker			American Shad			Atlantic Menhaden		
	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged	Lengths	Scales	Scales Aged
2004	71	57	57	0	0	0	0	0	0	0	0	0	0	0	0
2005	148	148	148	0	0	0	0	0	0	0	0	0	0	0	0
2006	379	311	300	457	141	104	364	364	364	0	0	0	310	310	230
2007	566	546	543	237	0	0	340	340	338	7	0	0	630	630	486
2008	457	451	448	547	508	259	608	500	498	36	34	0	760	760	667
2009	254	254	254	478	418	274	960	560	558	28	28	0	430	430	386
2010	650	571	571	399	384	346	750	750	749	42	42	0	560	560	421
2011	313	313	310	289	289	265	274	274	240	0	0	0	530	530	448
2012	202	202	154	140	60	60	660	635	635	0	0	0	890	890	826
2013	216	216	212	175	173	175	0	0	0	162	162	0	570	570	474
2014	108	108	108	197	197	188	27	27	27	81	77	0	890	890	814
2015	88	88	86	256	256	136	170	169	166	130	128	0	1300	1300	1078
2016	80	80	76	279	279	170	166	166	163	149	148	0	1120	1120	778
2017	116	116	114	167	167	113	50	50	50	83	82	0	1461	1461	1345
2018	144	144	144	341	339	*	52	52	52	23	23	0	946	946	*
TOTAL	3792	3605	3525	3962	3211	2090	4421	3887	3840	741	724	0	10397	10397	7953

* All samples denoted by an asterisk have not been aged at the time of submission. Please note that 2019 samples are in the process of being collected

Year	Tautog			American Lobster		Black Sea Bass			River Herring			Summer Flounder		
	Lengths	Opercles	Opercles Aged	Lengths	Trips Made	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged
2004	176	176	176	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2005	208	208	208	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2006	339	339	339	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2007	467	313	313	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2008	983	505	505	6330	11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2009	902	569	200	6785	14	N/A	N/A	N/A	2009	1850	0	N/A	N/A	N/A
2010	563	486	486	5569	10	91	91	90	378	306	0	247	247	231
2011	363	346	346	8661	14	106	106	106	655	509	0	340	340	335
2012	265	259	259	23690	20	109	109	108	891	889	0	393	393	377
2013	460	431	300	9954	9	142	142	141	226	226	0	360	360	350
2014	783	783	294	13482	13	113	113	113	319	319	0	347	343	323
2015	569	536	200	6352	10	126	120	120	156	156	0	360	359	336
2016	637	637	253	3710	5	113	113	109	49	48	0	327	327	324
2017	504	504	*	9543	10	119	119	119	247	243	0	315	315	295
2018	359	359	*	1615	5	150	150	150	152	149	0	286	286	285
TOTAL	7578	6451	3879	95691	121	1069	1063	1056	5082	4695	N/A	2975	2970	2856

* All samples denoted by an asterisk have not been aged at the time of submission. Please note that 2019 samples are in the process of being collected

Table 2. History of reported commercial fisheries in New Jersey state waters.

Fishery	Year								
	2008	2009	2010	2011	2012	2013	2014	2015	2016- 2019
AMERICAN SHAD	X	X	X	X	X	X	X	X	X
CRAB DREDGE	X	X	X	X	X	X	X	X	X
BAIT NET									X
CRAB POT	X	X	X	X	X	X	X	X	X
LOBSTER, FISH, CONCH POTS									X
DRIFTING GILL NET									X
FYKE NET									X
GILL NET MESH EXEMPTION PERMIT (GNMEP)	X	X	X	X	X	X	X	X	X
HAUL SEINE									X
MENHADEN							X	X	X
MINIATURE FYKES OR POTS	X	X	X	X	X	X	X	X	X
POUND NET									X
SHIRRED NET, PURSE SEINES, OTTER/BEAM TRAWLS									X
SHRIMP TRAWL									X
STAKED AND ANCHORED GILL NET									X
TAUTOG	X	X	X	X	X	X	X	X	X
WIRE POUND NET									X

Table 3. 2019 sampling targets for each of the nine species currently funded through the ACCSP.

2019 NJ ACCSP Sampling Targets

Species	Target Lengths	Target Ages
American eel	350	350
American shad	250	250
Atlantic croaker	540	540
Atlantic menhaden	709	709
Black sea bass	500	500
River herring	500	500
Summer flounder	500	500
Tautog	200	200
Weakfish	270	135

Figure 1. Historical summary of the NJDFW tautog aging program (1993-2016).

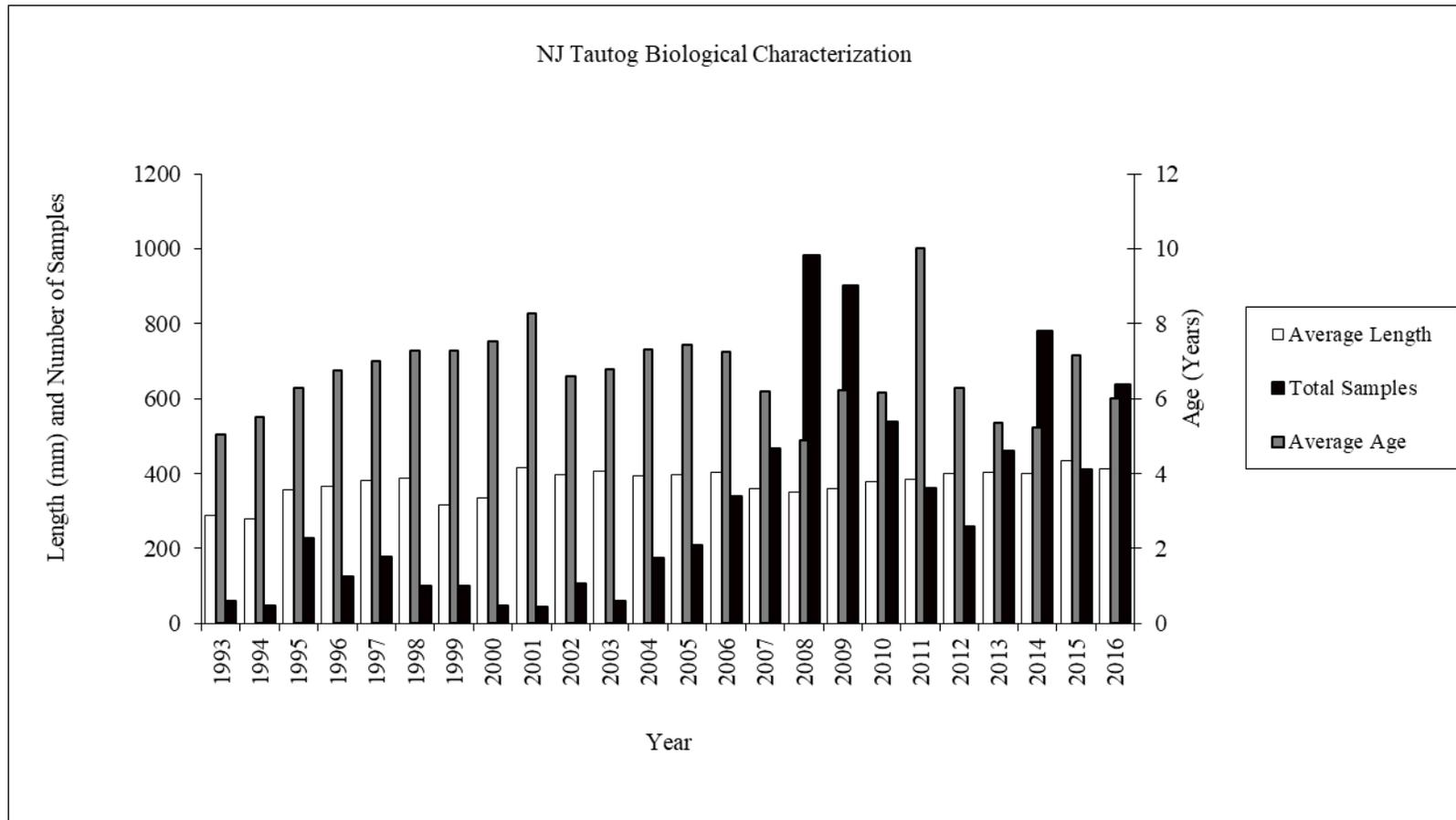


Figure 2. Average length at age for summer flounder samples collected through the NJ ACCSP Project (2010-2018).

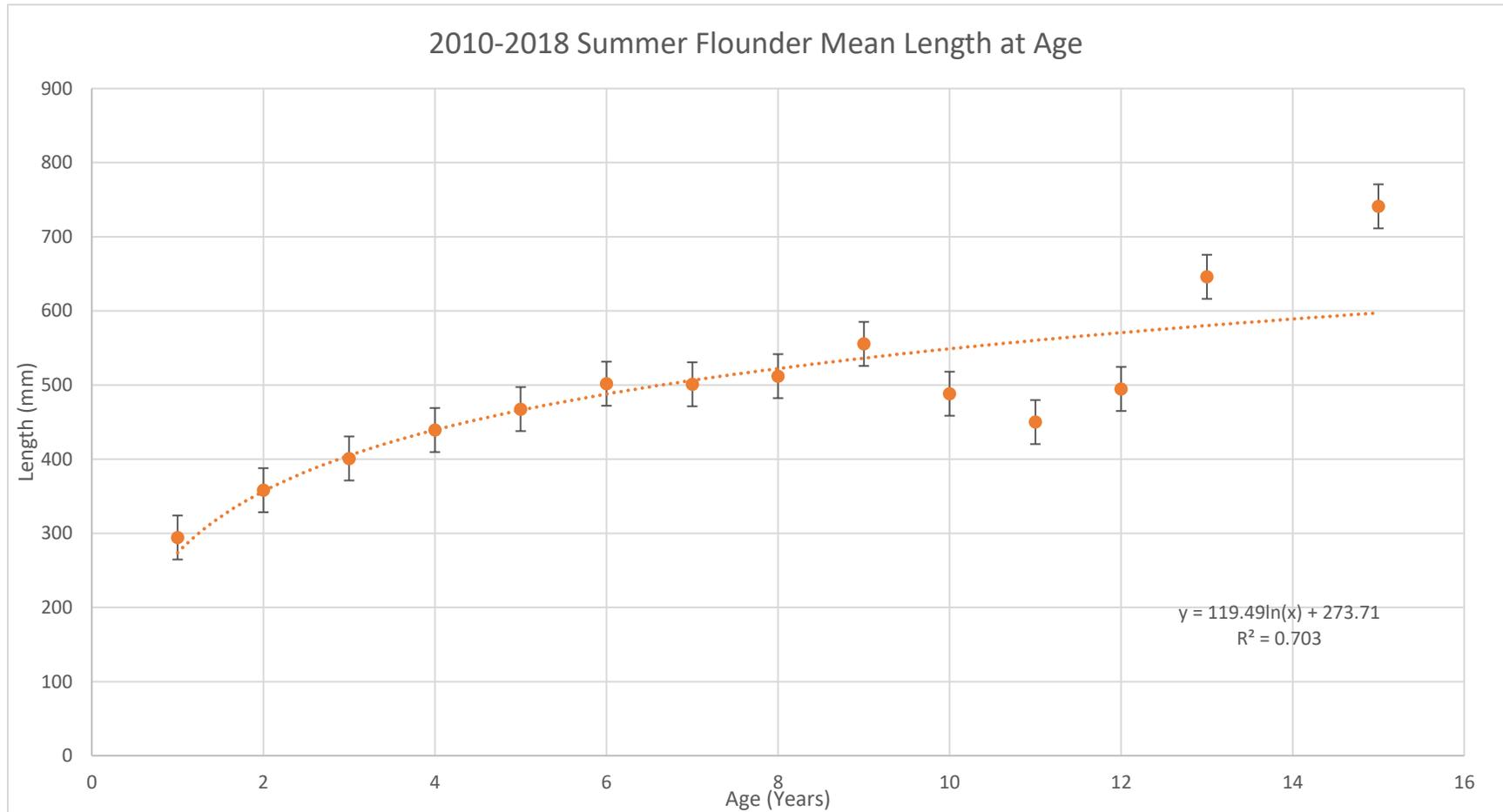
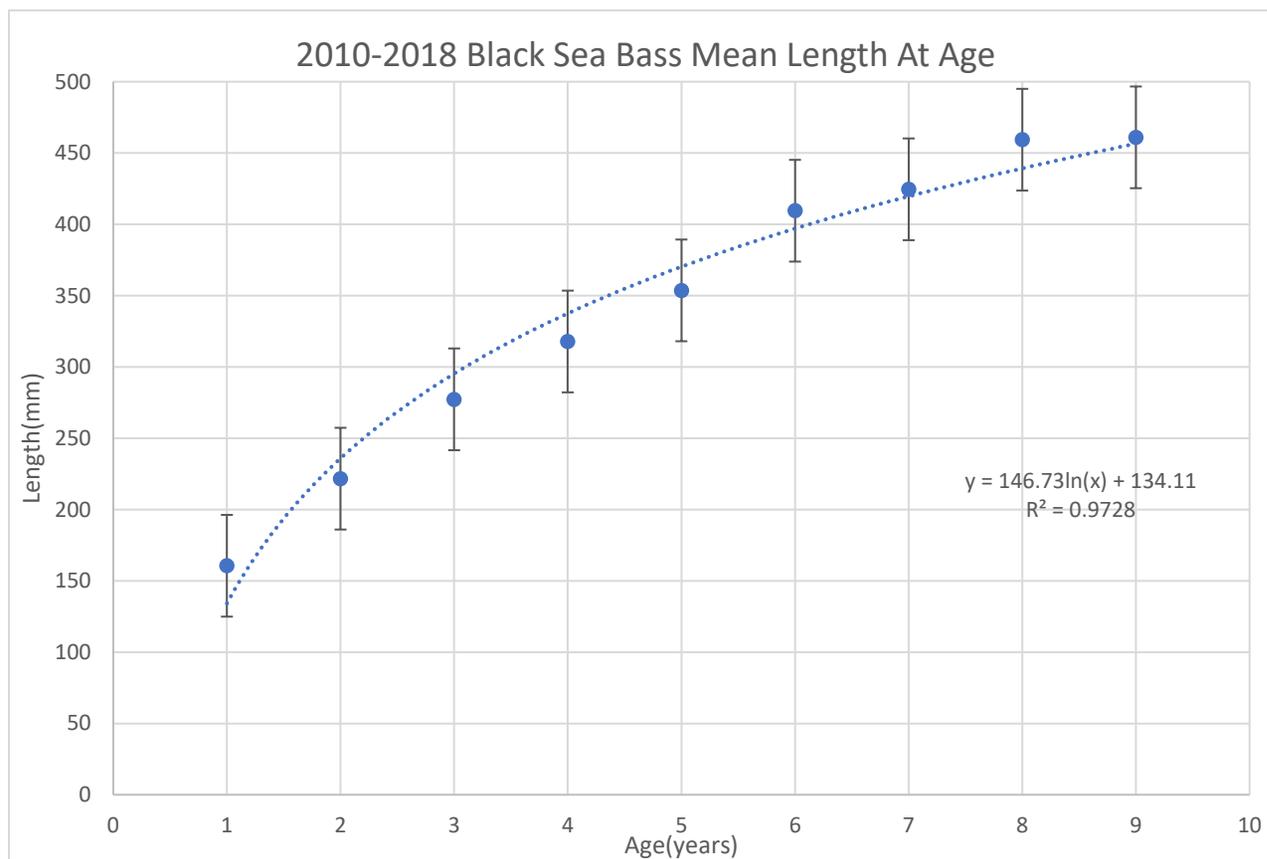


Figure 3. Average length at age for black sea bass samples collected through the NJ ACCSP Project (2010-2018).



Chad A. Power

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Education

Bachelors of Science, Marine Science, 2012 GPA- 3.68
Stockton University, Pomona, N.J

Associates of Chemistry, 2010 GPA- 3.30
Gloucester County College, Sewell, N.J

Employment

APRIL 2017- PRESENT
WILDLIFE

NEW JERSEY DIVISION OF FISH AND

Marine Fisheries Biologist

- Manage and Monitor allocations and seasonal quotas for New Jersey's commercial fisheries
- Oversee the duties and responsibilities of New Jersey's Atlantic Coastal Cooperative Statistics Program's (ACCSP) contracted fisheries specialists
- Lead and assist numerous field and lab oriented projects administered by the New Jersey Division of Fish and Wildlife
 - Lead on NJ's yellow eel survey
 - Support crew on NJ's Ocean Trawl Stock Assessment Survey
 - Lead on NJ's Gut Content Analysis Project
- Active member of the Atlantic States Marine Fisheries Commission's (ASMFC) American lobster Technical Committee, and the acting chair ACCSP's Biological Review Panel
- Oversee operations and maintenance of New Jersey's Commercial Harvester Trip Reporting Program

Chad A. Power

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OCTOBER 2013- APRIL 2017
STATISTICS PROGRAM

ATLANTIC COASTAL COOPERATIVE

NJ ACCSP Fisheries Specialist

- Interact and assist New Jersey fishermen and dealers on submitting commercial harvest and landings reporting forms on both paper and electronic formats through the Standard Atlantic Fisheries Information System (SAFIS)
- Draft and design formal documents, including request for funding (RFP) documents and regulatory correspondence letters
- Created and implemented New Jersey's first Commercial Harvester Trip Reporting Program
- Coordinate with upper management on commercial fishery closures based on monitoring quotas
- Supervision of seasonal and part time New Jersey Division of Fish and Wildlife employees
- Supervise and take part in at sea observing and dock side sampling programs to assess New Jersey fisheries species populations

JUNE 2012- JUNE 2013
WILDLIFE

NEW JERSEY DIVISION OF FISH AND

Marine Fisheries Technician

- Exportation and evaluation of collection data, using both software and online applications
 - Microsoft Office
 - SAFIS
 - Infoview, a database application of SAP BusinessObjects
- Outreach to commercial fishermen about monthly reporting issues and violations
- Extraction of fish otoliths and other hard parts for use in aging
- Operation and maintenance of sampling equipment
 - haul seines, dredges, fyke nets, benthic grabs, trawls, gill nets

Chad A. Power

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JUNE 2012- OCTOBER 2013

Field Station Technician

STOCKTON UNIVERSITY

Marine Science and Environmental Field Station

- Provide support to research and educational activities; participate in vessel trips including assisting with field oriented classes
- Vessel and equipment preparation, deployment, and operation
- Oversight of equipment, facility, and vessel maintenance
- Remote operated vehicle, side scan sonar towfish, depth finders, YSI water quality sondes, Boat Motors
- Maintenance shop, storage units, office buildings
- Upkeep and Husbandry on lab's multiple aquaculture systems

Matthew Heyl

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Objective

To obtain a responsible and challenging position, where I can apply my experience and educational background and contribute with my desire to learn and work with others.

Experience

FISHERIES MARINE BIOLOGIST | NEW JERSEY DIVISION OF FISH AND WILDLIFE | 11/18 TO CURRENT

- Oversee New Jersey's commercial fisherman and dealer reporting
 - Supervising the entry in the state's compliance file, entry of report in SAFIS eTRIPS, QA/QC of entry, and uploading of data to ACCSP
 - Reviewing commercial dealer reports in SAFIS eDR for accuracy
 - Reaching out to commercial fisherman via by phone, email, letter or in person to discuss reporting requirements
- Oversee New Jersey's commercial biological sampling
 - At sea observer trips for American lobster and tautog
 - Communicating with commercial fisherman for dockside sampling
 - Supervise and participate in the processing of commercially important species
- Active member on the ACCSP Commercial Technical, Information Systems, and Standard Codes committees
- New Jersey's contact for confidential data access for ACCSP's data warehouse
- Processing of data request from ACCSP and state biologist
- Participating in NJDFW field sampling
- Supervising hourly and summer employees

FISHERIES SPECIALIST | ATLANTIC COASTAL COOPERATIVE STATISTICS PROGRAM | 01/18 TO 11/18

- Monitor multiple databases to keep track of all state and federal seafood dealers and fishermen as regulated by the Atlantic States Marine Fisheries Commission (ASMFC) and the New Jersey Division of Fish and Wildlife
- Conducting dockside sampling of marine fish from commercial and recreational fisherman
- Field sampling that includes fisheries dependent and independent surveys
- Biological sampling of marine fish while in a lab and in the field which includes extracting otolith, operculum, and scales for aging
- Work with New Jersey seafood dealers and fishermen, and with state, federal, and ACCSP staff to implement the ACCSP Standard Atlantic Fisheries Information System (SAFIS) for electronic Dealer Reporting, and electronic Vessel Trip Reporting
- Perform entry of commercial fisheries data collected from individual fishermen for the use of stock assessment
- Provide New Jersey biologist commercial fisheries data upon request
- Supervise hourly and summer workers and proof reading and editing work before submission

Matthew Heyl

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HOURLY MARINE BIOLOGIST | NEW JERSEY FISH AND WILDLIFE | 05/2008 TO 01/2018

- Successfully helped create and lead New Jersey's River Herring Project which resulted in much needed data and a time line that will be used in management and regulation of the fishery
- Knowledge and experience conducting fisheries surveys of adult and juvenile saltwater, freshwater and estuarine fishes with a focus on anadromous fish
- Provide supervision and training to hourly and summer workers
- Documented and collected fisheries data while working in the field and at the office
- Created and monitored river herring field survey database keeping track of fisheries data using Microsoft office
- Certified and experienced using electro-fishing equipment
- Monitored water quality, atmospheric conditions, and flow rates of various water bodies
- Processing and aging of otoliths and scales
- Prepares time restricted reports for supervisors
- Knowledge and experience of various sampling methods including Seine Nets, Gill Nets, Otter Trawl, and Fyke Nets
- Maintenance and purchasing of nets, vehicles, boats, trailers and field equipment

CONSERVATION OFFICER | NEW JERSEY FISH AND WILDLIFE | 01/2016 TO 03/2017

- Full law enforcement powers
- Conducting field investigations, inspections and surveying and patrolling a designated area of the State by motor vehicle, boat, and foot
- Conducts environmental inspections and investigations and collects field information to determine compliance with the appropriate environmental laws and regulations
- Educates and informs the public regarding rules, laws, procedures and management practices regarding the recreational and commercial uses of fish, game and wildlife to ensure the protection of the environment
- Prepares investigating reports of hunter-related accidents, and completion of a thorough and comprehensive report on all such incidents
- Maintain field notes and prepare for record retention

LAB PROFESSOR | BROOKDALE COMMUNITY COLLEGE | 09/2013 TO 01/2016

- Teach college age student Oceanography and Environmental Science concepts
- Plan and lead labs and field trips
- Grade students work including lab practical, class work, and research papers

Matthew Heyl

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Education

BACHELOR OF SCIENCE | 2008 | RICHARD STOCKTON COLLEGE OF NEW JERSEY

- Major: Marine Biology

BROOKDALE COMMUNITY COLLEGE

- Major: Environmental Science
 - transferred

Skills & Abilities

ACCOMPLISHMENTS

Gloucester County, New Jersey Police Academy Graduate

Boy Scout Eagle Scout Award

PUBLICATIONS

Books:

- Heyl, M. River Herring Status: Research Hold the Key, NJ Fish and Wildlife Marine Fish Digest, 2018.
- Heyl, M. It's a Short! Safely Releasing Summer Flounder Unharmed, NJ Fish and Wildlife Marine Fish Digest 2017

LAURA E. VERSAGGI

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EDUCATION

Stockton University

B.S. in Marine Science: Marine Biology Concentration
GPA: 3.10

Galloway, NJ
Graduated: May 2017

Rowan College at Gloucester County (RCGC)

A.S. in Marine Science
GPA: 3.59

Sewell, NJ
Graduated: December 2014

PROFESSIONAL EXPERIENCE

Fisheries Specialist

Atlantic States Marine Fisheries Commission

February 2019 – present
Port Republic, NJ

- Contracted with *Atlantic Coastal Cooperative Statistics Program (ACCSP)* to work with *New Jersey Division of Fish & Wildlife (NJDFW)*
- Manage New Jersey commercial fisheries data and ensure accuracy of fishery dependent data being submitted in *Standard Atlantic Fisheries Information System (SAFIS)*
- Work within the SAFIS Management System to manage data such as participants, permits, and SAFIS accounts
- Work with fishermen to provide accurate reporting on their NJ Harvester Trip Reports
- Dockside sampling and data collection for New Jersey commercial fisheries
- Extract hard parts (otoliths, scales, and opercula) from commercially important NJ marine species
- Prepare and submit proposals, semi-annual reports, and final reports for each grant period.
- Prepare and submit New Jersey participant and dealer information for data uploads to Data Warehouse
- Complete data requests for NJDFW staff involving confidential and non-confidential fisheries data

Hourly Fisheries Technician

New Jersey Division of Fish & Wildlife

May 2018 – February 2019
Port Republic, NJ

- Assist in field activities, including inshore and at-sea sampling surveys of important NJ species
- Dockside sampling and data collection of commercial and recreational fisheries
- Work with *Atlantic Coastal Cooperative Statistics Program (ACCSP)* staff to enter and ensure accuracy of fishery dependent data using *Standard Atlantic Fisheries Information System (SAFIS)*
- Work with fishermen to provide accurate data on their NJ Harvester Trip Reports
- Extract hard parts (otoliths, scales, and opercula) from commercially important NJ marine species

LAURA E. VERSAGGI

29 Briar Creek Road
Sicklerville, NJ 08081

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(856)-562-7903

- Follow laboratory procedures to mount scales and clean opercula to prepare them for aging
- Review proposals and reports for errors and suggest edits
- Transcribe audio from lobster vessel observer trips into database
- Conduct public outreach events
- Maintenance of field and laboratory equipment

Assessment Coordinator

November 2015 – February 2019

Conserve Wildlife Foundation of New Jersey

Manahawkin, NJ

- Sub-contracted by *Marine Academy of Technology and Environmental Science*.
- Assist in removal of derelict fishing gear from Barnegat Bay
- Assess the condition, by-catch, and organism growth of derelict fishing gear
- Database management and analysis

Program Coordinator

May 2015 – February 2019

Marine Academy of Technology and Environmental Science

Manahawkin, NJ

- Assist in activities, programs and projects for Project Terrapin
- Assist in raising diamondback terrapin hatchlings
- Assist in creating nesting habitats
- Create educational materials and conduct outreach events
- Database management and analysis

PRESENTATIONS

NJ Diamondback Terrapin Meeting, The Wetlands Institute

October 13, 2017

- Poster: Removal and Assessments of Derelict Fishing Gear from Barnegat Bay

Stockton University NAMS Research Symposium

April 28, 2017

- Poster: Removal and Assessments of Derelict Fishing Gear from Barnegat Bay
- Poster: Determination of Important Chemical and Nutrient Trends Along an Estuarine Salinity Gradient

Ocean Planet: Where the River Meets the Sea, Stockton University

October 29, 2015

- Guest Lecture on diamondback terrapins with hatchling measurement activity

CERTIFICATIONS AND SKILLS

- Microsoft Office Suite
- Standard Atlantic Fisheries Information System (SAFIS)
- NJ Boating Safety Certificate

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COURSEWORK

Barnegat Crab Pot Project

- Independent study student research project
- Collected and analyzed data for poster presentation at student research symposium

Spring 2017
Stockton University

Analysis of Sediments and Seawater

- Independent laboratory analysis of dissolved micronutrients.
- Analyzed results for poster presentation at student research symposium

Spring 2017
Stockton University

Biostatistics I & II

- Statistical analysis of biological data
- Statistical analysis in Excel and WinSTAT

Fall 2016-Spring 2017
Stockton University

FY 2020
Atlantic Coastal Cooperative Statistics Program (ACCSP)
Funding Request Proposal – June 10, 2019
Revised – August 12, 2019

Applicant: South Carolina Department of Natural Resources (SCDNR)
Marine Resources Division, Charleston, SC

Principal Investigator: Amy Dukes, SCDNR Statistics Section Leader

Project Title: ACCSP Data Reporting from South Carolina’s Commercial Fisheries
1) 100 % Trip-Level Catch and Effort Data Collection (70%)
2) Biological Sampling for Hard Part/Aging of Offshore Species (30%)

Project Type: Maintenance Project: One-year
(No change in scope of work, continued emphasis on Electronic Data Reporting)

Requested Award Amount: \$113,846 (Excludes 5% NOAA Administrative Fee)

Requested Award Period: One-year, September 1, 2020 thru August 31, 2021, or after receipt of funds

Objective: The objective of this study is to successfully execute two ACCSP Primary Program Priorities with South Carolina Commercial Fisheries:
Catch/Effort Data Collection (70%)
Biological Sampling (30%)

Currently, SCDNR is actively engaged in collecting consistent ACCSP standardized trip-level data for 100% of all marine and diadromous commercial fisheries in South Carolina. The proposed funding would allow SCDNR to maintain compliance with ACCSP data requirements and standards through the continuation of commercial catch and effort data collection, data entry, database management, and administrative support. It will also enable the collection of biological samples, including otoliths and length frequencies, from species in the Snapper/Grouper, Pelagic, and Coastal Migratory complexes landed commercially in South Carolina. These data serve as an integral aspect of the development, implementation, assessment and maintenance of fisheries management plans for Atlantic Coastal fish stocks.

Need: It is crucial to assess comprehensive catch/effort data and to collect biological samples in order to effectively and efficiently manage fisheries. Fishery dependent data, provided by commercial fishermen, has a direct impact on fisheries management and the sustainability of the industry. The information gathered is used to evaluate the need for potential changes to fisheries regulations and to monitor commercial fishing quotas across the southeast. These data are used to support stock assessment analyses for state and federally managed species, and are responsible for the assessment of finfish stocks to identify fisheries trends and assess management priorities while meeting regulatory requirements under the Magnuson-Stevens Act. The Atlantic States Marine Fisheries Commission also needs reliable and detailed data to evaluate the effectiveness of Fisheries Management Plans.

Catch and Effort - Since 1976, South Carolina has required mandatory reporting (regulatory authority, Title 50, Section 50-5-380, SC Code of Laws) of monthly totals of commercial landings from licensed wholesale seafood dealers. Since 2003, these data have been provided on a trip-level basis. **Currently, 100% of all commercial fisheries products landed in South Carolina are required to be reported through ACCSP compliant trip-level logbooks/electronic applications.** These data are collected through a one ticket system, denoting that all fishing effort (provided by the harvester at the time of sell/purchase), pounds of catch and product values (provided by the purchaser) are obtained and reported by the licensed wholesale seafood dealer and/or bait dealers on logbook forms provided by the Agency. These logbooks were designed to be fishery/species-specific to allow detailed and complete catch per unit effort data to be recorded for each fishery type. The logbooks/electronic applications collect the following data fields: product volume (i.e. pounds, bushels), product price, disposition (i.e. gutted, whole) and market category (i.e. small, large), gear type (i.e. trawl, hook and line), area and sub-area fished (i.e. river system, port), commercial fisherman information (name and license), vessel name and registration numbers, number of crew, time fished (gear soak time), and specific information on amount of gear effort (i.e. number of nets/lines/traps, number of hooks per line, number of sets/hauls, line length). The logbooks are bound and are carbon copied, as they serve as business receipts for the harvesters, and dealers can use them as a bill of lading. Examples of three commercial trip-logbooks, Daily Crab, Offshore Finfish and Bait Dealer, are provided below in Appendix 1, 2 and 3. Currently there are 1,571 licensed commercial saltwater fishermen, 55 bait dealers, and 271 wholesale seafood dealers in South Carolina, of which 243 are reporting via paper logbook and 28 federal dealers. Commercial fishermen, wholesale seafood dealers, and/or bait dealers who fail to make accurate, timely and complete reports are subject to Law Enforcement actions, including fines and possible suspension of licenses.

Electronic data collection has continued to be a major focus in South Carolina, as National Marine Fisheries Service (NMFS) has collected electronic data from federally permitted seafood dealers since 2011 (Southeast Regional Office, SERO) and 2013 (Highly Migratory Species, HMS) in order to track species for quota monitoring. The initial outreach efforts by SCDNR have been restricted solely to federal dealers. Although the concept of electronic data reporting was not well received by the majority of dealers, the 24 federal dealers (still actively engaged in outreach and education for several new/retuning dealers) that are currently using the provided data platforms have successfully transitioned to this reporting method. A dedicated staff member was hired in October 2015 to focus on electronic data reporting, which was initially funded through ACCSP allocations in FY2014. The Commercial Outreach Coordinator's goal has been to provide outreach, education, and support to **federal dealers and fishermen** while initiating efforts to have state-only dealers utilize the electronic infrastructure. There are very few state only dealers that have shown interests or pilot tested the electronic platform. The coordinator continues to excel in this position with respect to best practices for commercial data collections, building relationships with existing federal dealers and partner agency staff, and providing technical support to dealers and federal partners with request to data requests/corrections. Additionally, work has begun with ACCSP staff to revise the existing SAFIS platform, which was developed in 2010, to ensure that all of the data parameters are updated. This process is very slow to progress giving the high demand on ACCSP staff with no increase in infrastructure. The final step, which is under developmental construction now, is to provide functional outreach tools on the agencies commercial data information website, and will include video tutorials, a frequently asked questions list, etc. for SAFIS users to utilize. **To date, 8,496 commercial trips have been collected through SAFIS which includes 187 unique commercial fisherman.** It is the Agency's intent to create a seamless transition to electronic data reporting for all dealers, while ensuring compliance and data integrity. Although electronic data collections are a priority, at this time, staff are not prepared to request that state legislation change regulations to require mandatory electronic data. As federal agencies continue to increase electronic monitoring programs for many fishing sectors, their momentum may serve as a catalyst to increase state only fishing sectors to report electronically as well. Quality of data remains the critical foundation for fisheries data collections, and provided that electronic reporting has not been well received by all, staff feel that at this time, requiring electronic data reporting would not result in maintaining the highest quality of data possible.

The requested funding for this project would allow SCDNR to continue to employ Fisheries Statistics Section (FSS) staff, including a Commercial Outreach Coordinator, Data Manager, Compliance Coordinator and a data entry position, as well as support for printing and postage costs associated with these data collections.

Biological Sampling - SCDNR currently conducts dock-side sampling efforts on commercially landed finfish, collecting biological samples including, but not limited to, otoliths and length frequencies. **ACCSP-compliant biological sampling data from the Snapper/Grouper complex and Coastal Migratory and Pelagic species are collected through the Southeast Fisheries Science Center (SEFSC) Trip Interview Program (TIP).** Through TIP, port agents often collect additional biological data including tissue (DNA), stomach and gonad samples from species over and above the sampling targets, as these species are of interest to SCDNR and are related to project goals under the Agency's overall mission to manage and protect South Carolina fisheries. These additional samples will be analyzed in-house under the direction of SCDNR Marine Resources Monitoring, Assessment, and Prediction (MARMAP) program staff, and will increase the amount of available data for future stock assessments. These additional samples will not utilize ACCSP requested funds except to cover the port agents' salaries and travel expenses, since these additional samples are taken cohesively.

The requested funding for this project would allow SCDNR to maintain these consistent biological sampling efforts by continuing to employ two port agents with the FSS.

Results and Benefits:

FSS staff and port agents facilitate the partnership between the commercial fishing sector and state/federal management entities to maintain positive working relationships between all parties. SCDNR will work to maintain open and effective lines of communication with all commercial fishermen, bait harvesters, and wholesale dealers to ensure that everyone understands the importance of timely, accurate and complete data submissions associated with the management of marine fisheries.

Catch and Effort - The trip-level data collected will provide comprehensive and comparable landings data, which will be used to evaluate the current effectiveness of fisheries management and to develop and set priorities for new Fisheries Management Plans in conjunction with state and federal partners and councils.

Biological Sampling - This level of biological sampling is vital for the evaluation of finfish stocks, and the resulting comprehensive and comparable dataset will be essential to set priorities for and evaluate the effectiveness of current and future fisheries regulations, quotas and management plans.

Data Delivery Plan:

All available South Carolina trip-level catch and effort data will be converted to ACCSP codes and follow all established standards. Data will be transmitted to ACCSP at minimum quarterly, followed by complete calendar year data being transmitted on or prior to typical March deadlines established by ACCSP. Additionally, when unique data needs are requested (i.e. related to quota monitoring), SCDNR staff will work with SERO, HMS, and ACCSP staff to provide the most accurate and complete data in order to fulfill the request.

Electronic data collections of offshore fisheries products from federally permitted dealers through SAFIS and Bluefin data applications continue to be a primary focus for the Agency. Electronic data allows for better efficiency with respect to quota monitoring efforts. SCDNR staff continue to work with federally permitted dealers to insure they understand and can utilize the available electronic applications to enter and submit data in order to meet compliance deadlines. This outreach effort has resulted in improved timeliness and completeness of this data, as well as the state managed fisheries data. QA/QC checks of the offshore federal data, within the

quarterly submission timeframe, will occur in order to ensure that the provided data is accurate and complete. The SAFIS data will be loaded directly into the data warehouse on a similar quarterly basis.

Approach:

Catch and Effort Tasks

1. Collection and entry of all commercial fisheries trip-level catch and effort data through a mandatory trip ticket reporting system in accordance with ACCSP protocols and standards.
 - SCDNR will continue to employ two Data Specialists, one Data Administrative Assistant, one Data Manager, one Commercial Outreach Coordinator, and one Section Manager Leader responsible for all commercial catch and effort compliance, data entry, editing, and submission to ACCSP.
 - Individual trip tickets will be required from dealers and tracked for compliance for all commercial fisheries products landed in South Carolina.
 - Non-compliance offenders will be reported to SCDNR Law Enforcement and are subject to action. Statistics staff will assist with prosecution efforts by providing evidence in court.
 - Trip tickets will be reviewed for completeness, edited as necessary, entered and verified.
 - Trip ticket logbooks will periodically undergo a review process in order to identify areas for data collection improvements, and to ensure that dealers understand all data fields.
 - Efforts to QA/QC licensing data will continue as necessary to ensure the cohesion and integrity of FSS databases.
 - Data will be converted to ACCSP codes and transmitted to ACCSP.
2. Editing and verifying commercial fisheries trip-level catch and effort data through electronic data reporting.
 - Staff will continue to focus efforts on compliance, outreach and education to federal dealers and continue to urge state dealers to utilize the ACCSP's Standard Atlantic Fisheries Information System (SAFIS) or Bluefin platforms to report catch and effort data electronically.
 - FSS staff will examine inconsistencies and as necessary edit catch and effort data reported between mandatory trip tickets and electronic data submissions.

Biological Sampling Tasks

1. Collection of biological samples from commercially landed species within the Snapper/Grouper, Coastal Migratory and Pelagic fisheries, in compliance with ACCSP Biological Sampling standards.
 - SCDNR will continue to employ one full-time and one part-time port agent to collect age structure (otoliths) and length frequencies from targeted species.
 - Port agents will focus their efforts on intercepting commercial vessel trips at specific wholesale dealers/docks where these species are typically landed.
 - As the catch is unloaded, specimens will be randomly selected (in order to avoid sampling bias), identified to species, length recorded and otoliths collected. Otoliths will be extracted through the gill plate in a manner that the market condition of the fish is not compromised.
 - Species selection does incorporate the ACCSP Biological Review Panel species list and/or Southeast Fisheries Science Center (SEFSC) staff recommendations. Port agents do have the ability to collect biological samples for species of interest to SCDNR.
 - Port agents help to ensure that wholesale seafood dealers are completing the mandatory trip tickets both accurately and in a timely manner.
2. Biological sampling data will be edited, entered and verified in the TIP online database and submitted on a monthly basis.
 - As part of the TIP protocol, in-person interviews will be conducted at the time of biological sampling to gather necessary catch and effort information from vessel captains.

- Catch and effort data will be compared and verified with the trip ticket logbook data. All data collected will be entered into the TIP online database following established protocols including QA/QC practices.
- Age structure samples (otoliths) will be prepared, packed and shipped to be analyzed at the SEFSC Beaufort Marine Laboratory for aging and data processing following TIP protocols.
- Once processed, these age and length samples will be used in stock assessments, primarily for age at length models and/or used to proportion unclassified finfish grouping to individual species (triggerfishes).

Geographic Location:

The project will be headquartered at the SCDNR Marine Resources Division facility in Charleston, South Carolina. Project personnel are responsible for all data collections for marine commercial fisheries from multiple ports along the South Carolina coast.

Project Accomplishments Goals and Measurement:

The success of this project will be measured by the following metrics:

Catch and Effort - SCDNR will continue to meet a data dissemination goal, which will deliver South Carolina landings data to ACCSP no more than 90 days after the end of each quarter (every three months). Biological Sampling - SCDNR will continue to achieve set TIP sampling targets yearly, with data entry into the TIP online database and delivery of collected samples monthly.

- Quality assured quality controlled data transmissions to ACCSP, submitted on time and in approved formats.
- Catch/effort and biological sample data collections program maintained through internal databases with electronic data collections from the SAFIS/Bluefin programs.
- Provide support to SC licenses wholesale seafood dealers, with focused efforts to improve data collection quality, timeliness and accuracy.
- Commercial landings from state and federal dealers will be effectively used to monitor quota species, track data compliance, verify licensed fishermen and there fishing activities, and support best management practices.

Program Priorities/ Project Component	Goal	Measurement
Catch and Effort	Collection of 100% of all SC commercial fishery products landed at trip-level in accordance with ACCSP standards.	Data entered, verified and delivered to the ACCSP no more than 90 days after the landing date.
Catch and Effort	Continuation of Electronic Data Reporting by Federally Permitted Dealers and advocate the initiation for state-only dealers.	Dealers reporting on a weekly basis, completely and accurately. NMFS SERO/HMS to enforce and regulate.
Biological Sampling	Collection of all species targeted and identified by the ACCSP Biological Committee and TIP as data deficient.	Number of samples collected by representing number of species.
Biological Sampling	Validate, enter, and edit all biological data into TIP on-line and provide samples to Beaufort Lab.	Timeliness and accuracy of data/samples provided.

Funding Transition:

SCDNR continues to have discussions with state representatives and legislators about securing reoccurring state appropriated funds to accomplish the ACCSP Catch/Effort and Biological Sampling priorities, however, at this time there is no direct long-term state funding available. Several funding proposals have been submitted to the SC Legislature for consideration; unfortunately, at this time the requested funds have not been approved. Efforts will continue to be made to attempt to procure state funding, and it is the goal of the Agency to secure state funds in the near future.

Milestone Schedule:

Catch and Effort	A	S	O	N	D	J	F	M	A	M	J	J	A	S
Task 1 Collection of trip-level commercial catch data and related effort data in accordance with ACCSP standards.	X	X	X	X	X	X	X	X	X	X	X	X		
Task 2 Data entry, editing and verification of fisheries trip-level reporting data.	X	X	X	X	X	X	X	X	X	X	X	X	X	
Task 3 Conversion of data to ACCSP codes and data transmission to ACCSP in a timely manner.	X	X	X	X	X	X	X	X	X	X	X	X	X	
Task 4 Report writing period.											X	X	X	X
Biological Sampling	A	S	O	N	D	J	F	M	A	M	J	J	A	S
Task 1 Collection and preparation of data on length frequencies and hard-part samples for commercially landed Snapper/Grouper, Pelagic, and Coastal Migratory species.	X	X	X	X	X	X	X	X	X	X	X	X		
Task 2 Preparation and shipment of hard-part samples to Beaufort Marine Lab in North Carolina for processing and aging.	X	X	X	X	X	X	X	X	X	X	X	X		
Task 3 Data editing (coding), verification and entry into the TIP online database.	X	X	X	X	X	X	X	X	X	X	X	X	X	
Task 4 Report writing period.											X	X	X	X

Cost Summary:

1. BUDGET FOR PROPOSAL PLANNING - FY2020

	ACCSP Operational Costs Request		SCDNR In-Kind Contributions	
	Monthly Time	Salary Funds	Monthly Time	Salary Funds
Personnel Expenses: All current staff, no new hires.				
Statistics Leader (Catch & Effort, & Biological - AWD)	0	\$0	9	\$41,404
Database Manager (Catch & Effort - EH)	2.5	\$11,188	4	\$17,900
Biologist I (Commercial Outreach - JD)	3	\$9,558	3	\$9,558
Data Administrator (Catch & Effort - VG)	3	\$9,993	4	\$9,994
Biologist I (Biological - DP)	6	\$18,744	4	\$12,498
Biologist I (Biological - EM)	6	\$18,744	4	\$12,498
Total Salary Costs		\$68,227		\$103,852
Fringe Costs (38%)		\$25,926		\$39,464
Indirect Costs (16.47%)		\$11,237		\$17,104
Total Personnel Expenses		\$105,389		\$160,420
Miscellaneous Expenses				
Printing & binding (forms, surveys, tickets) SCDNR currently has 9 logbook forms necessary to collect 100% mandatory trip-level data. Printing of the logbooks is based on size and quantity ordered. The average price per book last FY was \$8.60. Typical usage of these logbooks varies from year to year. During the last fiscal year, just over 320 logbooks were distributed to dealers, with a replacement cost of \$2,608.19.		\$2,550		\$1,000
Postage (incoming, business reply mail) The yearly fee to hold a USPS Business Reply account is \$945.00. SCDNR paid an additional \$1,856 in returned mail during the 2019 FY. Providing free return mail is an incentive for accurate and timely reporting from dealers, and has proven to be very successful.		\$500		\$2,500
Postage (outgoing, forms, notices) This amount reflects the average amount typically spent to send mail to dealers. Monthly reminder letters are sent to delinquent dealers, and upon request, user manuals, logbook, and additional forms are sent out to dealers.		\$500		\$1,500
Office and Sampling Supplies General supplies including envelopes (letter and large mailers), pens, printing paper, three-ring binders (for user manuals), and file organizational materials, clip boards, fin-clip vials, file knives.		\$2,700		\$1,000
Travel Port Agents will travel to dealers to intercept commercial fishing vessels to collect Biological samples. Current rates for SCDNR vehicles are 50.5 cents per mile. Round trip daily trips can average as high 200 miles.		\$2,207		\$6,000
Total Miscellaneous Expenses		\$8,457		\$12,000
Total Costs		\$113,846		\$172,420
Total Project Cost		\$285,266		
Percentage Contribution		40%		60%

2. BUDGET – FY19 – Approved By ACCSP

	ACCSP Operational Costs Request		SCDNR In-Kind Contributions	
	Monthly Time	Salary Funds	Monthly Time	Salary Funds
Personnel Expenses: All current staff, no new hires.				
Statistics Leader (Catch & Effort, & Biological - AWD)	0	\$0	9	\$40,590
Database Manager (Catch & Effort - EH)	4	\$17,548	4	\$17,548
Biologist I (Commercial Outreach - JD)	6	\$19,308	3	\$9,654
Data Administrator (Catch & Effort - VG)	3	\$9,798	4	\$13,064
Data Coordinator I (Catch & Effort - SM)	5	\$14,080	4	\$11,264
Biologist I (Biological - DP)	6	\$18,378	4	\$12,252
Biologist I (Biological - EM)	6	\$18,378	4	\$12,252
Total Salary Costs		\$97,490		\$116,624
Fringe Costs (38%)		\$37,046		\$44,317
Indirect Costs (28.55%)		\$27,833		\$33,296
Total Personnel Expenses		\$162,370		\$194,237
Miscellaneous Expenses				
Printing & binding (forms, surveys, tickets) SCDNR currently has 9 logbook forms necessary to collect 100% mandatory trip-level data. Printing of the logbooks is based on size and quantity ordered. The average price per book last FY was \$9.12. Typical usage of these logbooks varies from year to year. During the last fiscal year, just over 300 logbooks were distributed to dealers, with a replacement cost of \$2,736.		\$2,000		\$1,000
Postage (incoming, business reply mail) The yearly fee to hold a USPS Business Reply account is \$965.00. SCDNR paid an additional \$1,598 in returned mail during the 2018 FY. Providing free return mail is an incentive for accurate and timely reporting from dealers, and has proven to be very successful.		\$1,000		\$1,500
Postage (outgoing, forms, notices) This amount reflects the average amount typically spent to send mail to dealers. Monthly reminder letters are sent to delinquent dealers, and upon request, user manuals, logbook, and additional forms are sent out to dealers.		\$500		\$1,500
Office and Sampling Supplies General supplies including envelopes (letter and large mailers), pens, printing paper, three-ring binders (for user manuals), and file organizational materials, clip boards, fin-clip vials, file knives.		\$1,000		\$1,000
Travel Port Agents will travel to dealers to intercept commercial fishing vessels to collect Biological samples. Current rates for SCDNR vehicles are 50.5 cents per mile. Round trip daily trips can average as high 200 miles.		\$2,000		\$8,000
Total Miscellaneous Expenses		\$6,500		\$13,000
Total Costs		\$168,870		\$207,237
Total Project Cost				\$376,107
Percentage Contribution		45%		55%

BUDGET NARRATIVE
(Requested Funding Period, FY20)

Project: ACCSP Data Reporting from South Carolina's Commercial Fisheries
1) 100 % Trip-Level Catch and Effort Data Collection
2) Biological Sampling for Hard Part/Aging of Offshore Species
FFO#: NOAA-NMFS-SE-2020- TBD
Project Period: 1 September 2020 – 31 August 2021
1 Year Funding: \$113,846
Prepared by: Amy Dukes (PI)

Personnel (Salaries) \$68,227: Five SCDNR employees' salary time will be utilized with these funds. The five current employees are: Database Manager, for 2.5 months (\$11,188); Commercial Outreach Coordinator, for 3 months (\$9,558); Wildlife Biologist I (Port Agent) for 6 months (\$18,744); Wildlife Biologist I (Port Agent) for 6 months (\$18,744); and a Data Compliance Administrator for 3 months (\$9,993).

Fringe Benefits \$25,926: The current SCDNR fringe benefit cost is set at 38% for salary employees. These rates are within the maximum range set forth by NOAA.

Contractual: \$3,550: The contractual budgeted funds will be used to cover expenses to the grant associated with monthly cell phone charges, printing, copying, and freight charges. A primary function of this project will entail the printing of carbon copied logbooks that will be distributed to licensed individuals to collect data. During last fiscal year, 320 logbooks were distributed to dealers, with an average price of \$8.60 per book.

Supplies and Materials \$2,700: General office supplies including envelopes (letter and large mailers), pens, printing paper, three-ring binders (for user manuals), and file organizational materials will be purchased with these funds. In addition, postage paid envelopes are distributed through a business reply account with the US Postal Service. These funds will cover the yearly accounting fees and postage, both to and from licensed individuals.

Travel \$2,207: Vehicle mileage is to be covered under this category. Staff will travel to seafood docks to collect catch and biological data. The current SCDNR travel rate is 50.5 cents per mile.

Indirect Charges \$11,237: The current SCDNR indirect cost is set at 16.47% which is only applied toward salaries and wages.

Totals: \$113,846

BUDGET NARAVTIVE
(Approved Funding Period, FY19)

Project: ACCSP Data Reporting from South Carolina's Commercial Fisheries
1) 100 % Trip-Level Catch and Effort Data Collection
2) Biological Sampling for Hard Part/Aging of Offshore Species
FFO#: NOAA-NMFS-SE-2019- TBD
Project Period: 1 September 2019 – 31 August 2020
1 Year Funding: \$168,870
Prepared by: Amy Dukes (PI)

Personnel (Salaries) \$97,490: Six SCDNR employees' salary time will be utilized with these funds. The six current employees are: Database Manager, for 4 months (\$17,548); Commercial Outreach Coordinator, for 6 months (\$19,308); Wildlife Biologist I (Port Agent) for 6 months (\$18,378); Wildlife Biologist I (Port Agent) for 6 months (\$18,378); a Data Compliance Administrator for 3 months (\$9,798); and a Data Coordinator for 5 months (\$14,080).

Fringe Benefits \$37,046: The current SCDNR fringe benefit cost is set at 38% for salary employees. These rates are within the maximum range set forth by NOAA.

Contractual: \$3,500: The contractual budgeted funds will be used to cover expenses to the grant associated with monthly cell phone charges, printing, copying, and freight charges. A primary function of this project will entail the printing of carbon copied logbooks that will be distributed to licensed individuals to collect data. During last fiscal year, 350 logbooks were distributed to dealers, with an average price of \$8.17 per book.

Supplies and Materials \$1,000: General office supplies including envelopes (letter and large mailers), pens, printing paper, three-ring binders (for user manuals), and file organizational materials will be purchased with these funds. In addition, postage paid envelopes are distributed through a business reply account with the US Postal Service. These funds will cover the yearly accounting fees and postage, both to and from licensed individuals.

Travel \$2,000: Vehicle mileage is to be covered under this category. Staff will travel to seafood docks to collect catch and biological data. The current SCDNR travel rate is 50.5 cents per mile.

Indirect Charges \$27,834: The current SCDNR indirect cost is set at 28.55% which is only applied toward salaries and wages.

Totals: \$168,870

Maintenance Projects History for Primary Program Priorities: Catch and Effort (white), Biological Sampling (grey) – Beginning in 2011, the funded proposal included both Primary Program Priorities.

Funding Fiscal Year	Amount	Time Period	Results/Comments
2001	\$132,228	1 June 2001 – 31 May 2002 (extended thru 31 May 2003)	Implementation of ACCSP Commercial Module
2003	\$94,760	1 June 2003 – 31 May 2004 (extended thru 30 April 2006)	Continuation of ACCSP Commercial Module
2004	\$39,532	1 June 2004 – 31 May 2005	Biological Sampling. Grant money was awarded in August 2004. State hiring freeze in effect. One year no-cost extension awarded in May 2005.
2005 and 2006		1 June 2005 – 31 May 2006 (extended thru 30 November 2006)	Biological Sampling. State hiring freeze still in effect, lifted in Sept. 2005. Port sampler hired Oct. 2005. Award period extended to Nov. 2006.
2006	\$60,990	1 May 2006 – 30 April 2007 (extended thru 30 April 2008)	Continuation of ACCSP Commercial Module
2007	\$34,958	1 May 2007 – 30 April 2008	Biological Sampling. Grant money was awarded in August 2007.
2008	\$42,261	1 May 2008 – 30 April 2009	Biological Sampling.
2009	\$0	1 May 2009 – 30 April 2010	Biological Sampling. No proposal submitted, approved for a 6-month no cost extension
2009	\$0	1 May 2009 – 30 April 2010	Continuation of ACCSP Commercial Module. No proposal submitted, approved for a 6-month no cost extension to spend remainder of funds
2010	\$92,098	1 July 2010 – 30 June 30 2011	Catch and Effort data collection from the Commercial Module
2010	\$54,091	1 July 2010 – 30 June 2011	Biological Sampling.
2011	\$191,807	1 July 2011 – 30 June 2012	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2012	\$186,558	1 July 2012 – 30 June 2013	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2013	\$163,627 * Post budget cut	1 July 2013 – 30 June 2014	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2014	\$175,716	1 July 2014 – 30 June 2015	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2015	\$165,824	1 July 2015 – 30 June 2016	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2016	\$161,504	1 July 2016 – 30 June 2017	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2017	\$163,221	1 July 2017 – 30 June 2018	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2018	\$168,870	1 July 2018 – 30 June 2019	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.

ACCSP - Ranking Criteria Summary – Full Ranking Process

Proposal Type – Maintenance, no change in scope of work

Primary Program Priority – This proposal contains two Primary Program Priorities that fit the current ACCSP Program Design.

- Catch and Effort (70%) – SCDNR collects data from 100% of all commercial fisheries products landed in this state on a trip-level basis, following standardized data elements and code formats required by ACCSP. **Increased efforts to improve and further promote electric data reporting.** Metadata is not collected.
- Biological Sampling (30%) (**to be considered during the Project Quality Factors**) – SCDNR collects biological samples, including length measurements and otolith collections, from many species within the Snapper/Grouper complex, Coastal Migratory and Pelagic species. Twelve of the species sampled fall within the ACCSP Biological Sampling Priority Matrix.
- Data Delivery Plan - Data will be transmitted to ACCSP quarterly, ensuring that all SC trip-level catch and effort data has been converted to ACCSP codes and follow all established standards.

Project Quality Factors –

- Partners – Although this proposal does not have a multi-state partnership, it does have a regional impact. The South Atlantic Fisheries Management Council makes recommendations to NMFS-SERO based in part by SCDNR fisheries data collections, both independent and dependent data. The Catch and Effort data and Biological Sampling data provided to ACCSP impacts these regional recommendations.
- Funding Transition – SCDNR continues to have discussions with state representatives and legislators about securing reoccurring state appropriated funds to accomplish the ACCSP Catch/Effort and Biological Sampling priorities, however at this time there is no direct long-term state funding available. Several funding proposals have been submitted to the SC Legislature for consideration, unfortunately at this time, the requested funds have not been approved. Efforts will continue to be made to attempt to procure state funding, and it is the goal of the agency to secure state funds in the near future.
- In-kind Contribution - The agency does utilize other funding sources to offset the non-existent state funds, which represents the 55% in-kind contributions.
- Data Improvement – Through the initiation of electronic data collection, primarily from dealers that handle offshore fisheries products, SCDNR will be improving the timeliness of data. QA/QC checks of the data prior to SAFIS data loads to the warehouse will continue in order to ensure accurate and complete data.
- Secondary Program Priority – Biological Sampling (see above).
- Impact on Stock Assessments – The Catch and Effort data collected and provided to the ACCSP Data Warehouse is suitable to be provided for future stock assessments. In addition, the finfish lengths measured and otoliths collected through Biological Sampling efforts are also provided for stock assessments.

Other Factors –

- Properly Prepared – This proposal follows the guidelines under the ACCSP Funding Decision Process Document.
- Merit – These funds are essential to continue seamless commercial catch/effort and biological data collections in SC until reoccurring state appropriate funds can be established. A delay or stoppage in these data collections may be unfavorable for fisheries management and regulations.

ACCSP - Ranking Criteria Summary – Abridged Ranking Process

Achieved Goals – This project has and will continue to meet and endeavor to exceed established project goals. SCDNR staff diligently and consistently work with ACCSP staff to ensure quality data is provided in a timely manner in a clean format which is consistent with established data standards.

Data Delivery Plan - Data will be transmitted to ACCSP quarterly, at minimum, ensuring that all SC trip-level catch and effort data has been converted to ACCSP codes and follow all established standards. Any data refresh, based upon continuous QA/QC efforts by SCDNR staff, will be provided as necessary.

Level Funding – This proposal is the first in the “Step Down” process to reduce and eventually eliminate funding on long-term Maintenance project. The submitted proposal does match the maximum step down amount allowed in year 6, with a 33% reductions from previously funded project.

Properly Prepared – This proposal follows the guidelines under the ACCSP Funding Decision Process Document.

Merit – These funds are essential to continue seamless commercial catch/effort and biological data collections in SC until reoccurring state appropriate funds can be established. A delay or stoppage in these data collections may be unfavorable for fisheries management and regulations.

SOUTH CAROLINA TRIP TICKET (DAILY CRAB POT)

2-

DEALER NAME:	CRABBY JOE INC.		
DEALER NUMBER:	570345678		
FISHERMAN NAME:	MARY JOE CRABBE	TRAP ID #	T0001
FISHERMAN ID # or CUSTOMER ID #:	11CEM55090		
NO. OF CREW: (INCLUDE CAPT)	1	VESSEL NUMBER:	SC475DH
TRIP START DATE:	07 / 01 / 15	UNLOADING DATE:	07 / 01 / 15
NUMBER OF TRAPS PULLED:	50	SOAK TIME (HOURS):	24

CIRCLE WATERBODY WHERE MOST OF CATCH WAS MADE

020	Ashley River	300	ICWW: Pines Inlet-Sullivans	420	South Edisto
030	Broad River	310	Little River	430	St. Helena Sound
050	Bulls Bay	330	May River	490	Stono River
070	Calibogue Sound	370	Murrells Inlet	510	Waccamaw River
110	Charleston Harbor	130	North Edisto	530	Wando River
090	Combahee River	410	Port Royal Sound	550	Winyah Bay
100	Cooper River	450	Santee River	241	Atlantic Ocean
290	Folly River	470	Savannah River		

SPECIES	CODE	VOLUME	UNITS (circle one)	UNIT PRICE	TOTAL
#1 (L.g. Males)	7001	4.2	BU LBS DZ	70.00	294.00
#2 (L.g. Females / Sm. Males)	7002	35	BU LBS DZ	1.50	52.50
#3 (Sm. Females)	7003	6	BU LBS DZ	50.00	300.00
MIXED #2 & #3	7004		BU LBS DZ		
JUMBO	7005		BU LBS DZ		
UNGRADED	7000		BU LBS DZ		
PEELERS	7028		EA DZ		
STONE CRAB CLAWS	7180	1	LBS	2.00	2.00
WHELKS	7750		BU LBS		
FLOUNDER	1209		LBS		
CATFISH	0660		LBS		
(List Species)					
				Bait 2 flats	-20.00
				Total	626.50

Dealer/Fisherman Use

SC Dept. of Natural Resources, Fisheries Statistics Section, PO Box 12559, Charleston SC 29422-2559 (843) 953-0313 FAX (843) 953-0362

WHITE SCDNR

YELLOW DEALER

PINK FISHERMAN

Appendix 2. Example of the logbooks used by SCDNR, Offshore Finfish Trip Ticket.

5. **XXXXX**

DEALER NAME: FISH R US		DEALER NUMBER: 570123456	
FISHERMAN NAME: JOHN WANNAFISH		FISHERMAN ID # OR CUSTOMER ID #: 11WHJ55090	
NO. OF CREW (INCLUDE CAPT): 4	VESSEL NAME: WANNA FISH	VESSEL NUMBER: 676543	
TRIP START DATE: MM/DD/YYYY 07 / 01 / 2014		UNLOADING DATE: MM/DD/YYYY 07 / 06 / 2014	

CIRCLE ALL GEARS CODES USED AND FILL IN INFO.	# CP LINES	# CP HOOKS PER LINE	TOTAL LBS FISHED	# CP SETS	# TRAPS USED	# DEVIERS
	631 ROD & REEL (manul)			# CP HOOKS PER SET	# HALLS	HOURS
	613 BARNET REEL	4	3	52	TOTAL SOAK TIME (HRS)	# CP SQUARES
	636 ELJCTHAMATI				TOTAL SOAK TIME (HRS)	# CP DEVIS
	660 TROLL	1	1	4		
665 MACKEREL TROLL				DAYS FISHED	GREEN STICK	
490 GILL NET	LENGTH (TRIP)	TOTAL SOAK TIME (HRS)	HOURS FISHED	LPHI LENGTH (FT)	# CP HOOKS	HRS FISHED

CIRCLE AREA WHERE MOST OF CATCH WAS MADE							
3377	<= 60 MILES OFF GUYTON TO CAPE Fear (50000)	3377	> 60 MILES, PRYING PAN SHOALS (50000)	3477	<= 60 MILES OFF SOUTHPORT - MORRISHEAD CITY	3276	<= 60 MILES OFF CHARLESTON (60000 - 60000)
3276	> 60 MILES OFF CHARLESTON - CHAS. HUMP	3176	BLANK PLATEAU				

Code	KIND	SIZE	HP	GEAR	LBS	BOAT PRICE	TOTAL	Code	KIND	SIZE	HP	GEAR	LBS	BOAT PRICE	TOTAL	
1423	Gag Grouper	U	GP	613	975	2.90	2827.50	4473	Golden Tilefish	S	S	CP				
1424	Scamp	U	GP	613	295	2.90	855.50	4475		M	M	CP				
1416	Road Grouper	U	GP	613	26	2.35	61.10	4471		L	L	CP				
1412	Rock Hind Strawberry	U	GP	613	34	2.85	96.90	4470	Ungraded	U	CP					
1414	Snoney Grouper	S	S	GP	613	150	2.55	382.50	1070	Cobia	U	CP				
1414		M	M	CP	613	321	2.65	850.65	1090	Dolphin	U	CP	660	80	2.30	184
1414		L	L	CP				4710	Wahoo	U	CP					
1414	Ungraded	U	GP					1940	King Mackerel	U	CP					
1415	Yellowedge Grouper	U	GP					0180	Hamlet	U	CP					
1422	Black Grouper	U	GP					1807	African Pompano	U	CP					
1425	Yellowmouth	U	GP					2420	Roadfish	U	RP					
1426	Yellowfin Grouper	U	GP					1142	Hai	U	RP					
	Other Grouper	U	GP					1590	Haka	U	RP					
3777	B-line	3/4 - 1	S	CP				4321	Seawolf	100+	J	CP				
3776		1 - 2	M	CP				4322		50-99	L	CP				
3775		2 - 4	L	CP				4323		26-49	M	CP				
3365	Ungraded	U	GP					4327	Chunks	U	CP					
3302	Road Parry (Ponka)	U	CP					4320	Ungraded	U	CP					
3364	Road Snapper	U	GP	613	38	2.90	110.20	5131	Wreckfish	U						
3363	Madon Snapper	U	GP					0195	Hamlet	U						
3367	Yellowtail Snapper	U	GP					4635	Yellowfin Tuna	U	HC	660	42	2.90	121.80	
	Other Snapper	U	GP					4638	Blackfin Tuna	S	HC					
3390	Hogfish	U	GP	613	7	2.55	17.85	4636	Tuna, unclassified	M	HC					
3355	Black Seabass	S	S	RP				2905	Shortfin Mako Shark	L						
3353		M	M	RP				3495	Blacktip Shark	U						
3351		L	L	RP				3903	Spiny Dogfish	U						
3351		XL	XL	RP				3518	A. Sharpnose	U						
3360	Ungraded	U	RP					3511	Smooth Dogfish	U						
3308	Knobbed Pony Gole	U	RP					3485	Blacknose	U						
3441	White Grouper	U	RP					3481	Finetooth	U						
4560	Triggerfish	U	RP					3475	Shark Fin	U						
5260	Mixed Fish	U	RP						Other Shark	U						
1810	Almaco Jack	U	GP						Albacore			660	220	40	88.00	
1812	Greater Amberjack	U	GP												TOTAL	
1817	Banded Rubberfish	U	GP													
4474	Grey Tilefish	U	GP													

Dealer/Business Use

Appendix 3. Example of the logbooks used by SCDNR, Bait Dealer Trip Ticket.

0000001

SOUTH CAROLINA BAIT TICKET				0000001	
FISHERMAN NAME:		Lady Fishalot		FISHERMAN ID# Or CUSTOMER ID #:	
				03FTL79240	
NO. OF CREW (INCLUDE CAPT)	2	VESSEL NUMBER:	999999	VESSEL NAME:	Sea Robin
TRIP START DATE:	06 / 04 / 16	UNLOAD DATE:	06 / 04 / 16		

CIRCLE GEAR USED AND FILL IN INFORMATION

830	HANDLINES (ROD & REEL)	545	TRAPS	830	HAUL SEINE
# OF LINES		# TRAPS USED	30	LENGTH OF NET (FT)	
# OF HOOKS PER LINE		# HAULS	1	TOTAL SOAK TIME (HRS)	
TOTAL HOURS FISHED		TOTAL SOAK TIME (HRS)	48		

	TOTAL LENGTH OF NET(S)	TOTAL SOAK TIME (HRS)	955	BY HAND	876	BOTTOM LONGLINE
			760	GIG	883	FISH TROTLINE
982	HAND CAPTURE		733	CAST NET	880	CRAB TROTLINE
705	DIP NET	FEET	HOURS ACTIVELY FISHING	# OF SETS		
425	SET SHAD NET	FEET		# OF HOOKS PER SET		
465	DRIFT SHAD NET	FEET		TOTAL SOAK TIME (HRS)		
401	HERRING GILL NET	FEET		LENGTH (FEET) - FISH GEAR ONLY		
400	GILL NET	FEET				

CIRCLE WATERBODY WHERE MOST OF CATCH WAS MADE

245	Atlantic Ocean	290	Folly River	470	Savannah River
020	Ashley River	300	ICWW - Princes Inlet - Sullivan	420	South Edisto
030	Black River	310	Little River	430	St. Helena Sound
030	Broad River	330	May River	480	Stono River
050	Bulls Bay	370	Murrells Inlet	510	Waccamaw River
070	Calibogue Sound	330	North Edisto	530	Wando River
110	Charleston Harbor	390	Pee Dee River	550	Winya Bay
090	Combahee River	410	Port Royal Sound		
100	Cooper River	450	Santee River		

CODE	SPECIES	VOLUME	UNITS (CIRCLE ONE)	UNIT PRICE	TOTAL	FISHERMAN USE
7000	Blue Crab		BU LBS OZ			
7190	Fiddler Crab		BU LBS OZ			
7750	Whelks		BU			
7811	Mussels		BU			
7472	Clams		BU			
7890	Oysters		BU			
7899	Periwinkles		LBS			
8145	Jellyfish		LBS			
1970	Whiting		LBS EA			
4060	Spot		LBS EA			
0925	Atlantic Croaker		LBS EA			
2670	Pinfish		LBS EA			
3112	Silver Perch		LBS EA			
2341	Mullet		LBS EA			
3340	Spanish Mackerel		LBS EA			
2370	Mud Minnows	17	LBS EA	6.00	102.00	
1141	Eel		LBS EA			
2210	Menhaden		LBS EA			
5470	Threadfin Shad		LBS EA			
5474	American Shad		LBS EA			
1340	Gizzard Shad		LBS EA			
1730	Hickory Shad		LBS EA			
1689	Herring		LBS EA OZ BU			
0660	Catfish		LBS			
7301	Shrimp		LBS			

SC Department of Natural Resources, Fisheries Statistics Section, P.O. Box 12559, Charleston, SC 29422-2559 (843) 953-9313 FAX (843) 953-9362 14 10195

Principle Investigator: Curriculum Vitae

Name: Amy Whitaker Dukes

Professional Address:

217 Fort Johnson Road
Charleston, SC 29412-9641

Position: Fisheries Biologist III
Office of Fisheries Management
Fisheries Statistics Section

Phone: (843) 953-9365 Voice
(843) 953-9386 Fax

E-mail: DukesA@dnr.sc.gov

EDUCATION:

Spartanburg Methodist College (SMC),
Spartanburg SC
Associate in Science, Biology
August 1994 to May 1996

Coastal Carolina University (CCU),
Conway, SC
Bachelor of Science, Marine Science
August 1996 to May 1999

CAREER-RELATED EXPERIENCE:

Jan. 2008 Department of Natural Resources, Charleston, SC
To present Marine Resources Division in the Office of Fisheries Management:
Serves as the Fisheries Management Section Leader, participating in data collection, management, and administration activities associated with the Fisheries Statistics Section

Supervises, coordinates, and oversees daily operations in the collection of both commercial (Trip ticket Program, Trip Interview Program) and recreational (For-hire logbook, MRIP, special projects/programs) fisheries dependent catch/effort data collections and biological sampling efforts; including but limited to establishing and standardizing operational procedures for field sampling and administrative activities, constituent education and outreach activities, data management (compliance, entry and QA/QC), transmission of data to state/federal/partner agency fisheries managers/data users, Commercial and For-hire License and Permit coordination and support, Law Enforcement coordination and support (Magistrate Court Appearances), report writing, grant submissions and administration (applying for funding opportunities, budgeting and allocations) for approximately \$1 million dollars in state and federal funds. Directly supervise 7 staff, collaborate and assist in funding 17 employees. In addition, duties include serving as the agencies representative to several state and federal committees and working groups associated with the funding agencies including but not limited to the National Marine Fisheries Service (Fisheries Science Center), the Atlantic States Marine Fisheries Commission, the Atlantic Coastal Cooperative Statistics Program (Vice-Chair of the Operations Committee, Commercial Technical Committee), and the Atlantic Coastal Fisheries Cooperative Management Act. Active participate with the South Atlantic Fisheries Management Council meeting/discussions, and serves as a panelist with SEDAR Stock Assessments.

Serves as the Tournament Coordinator for the SC Governor's Cup Billfishing Series. The three goals of the Series are conservation, education, and research. All related activities ensure that the goals are met and often exceeded. Fundraising and management of the 501-c-3 funds.

Sept. 2000- Department of Natural Resources, Charleston, SC
To Jan 2008

ACE Basin National Estuarine Research Reserve (NERR): Participation in comprehensive research activities within the ACE Basin NERR. Manage data collection, sampling instrumentation, and compiling of databases in support of the Reserve's participation in the System-Wide Monitoring Program (SWMP). Responsible for entry,

verification, editing, and statistical analysis of all data; assist with compellation of technical reports; preparing and delivering of presentations at conferences and workshops; and managing the ACE Basin NERR research budget.

Feb. 2000- Department of Natural Resources, Charleston, SC
To Sept. 2000

Marine Resources Division in the Office of Fishery Management: Assisting in the execution of an East Coast fin fish management plan. Anadromous species of American Shad and both Atlantic and Shortnose Sturgeon were collected, evaluated, tagged and released. Knowledgeable in the principles and practices of fish, statistical analysis, equipment maintenance and boat handling. Additionally, American Eel (elver) Young of the Year Survey; responsible for project set-up, daily sample collection, database management and analysis. (Currently the PI of this project)

Sept. 1999- Department of Natural Resources, Charleston, SC
To Feb. 2000

Marine Resources Research Institute: Sorted plankton samples to collect and identify three species of post-larval Peneaus shrimp. Responsible for continuation of project organization and data management.

UNDERGRADUATE EXPERIENCE (established the principles and practices that propelled my career):

Jan. 1997 Peer-Mentoring Program, Coastal Carolina University, Conway, SC
To May 1999

Co-instructor with the Dean of Sciences for a three hour, fall semester class. Served as a mentor and advisor for freshman Marine Science students throughout their first year of study.

May 1997 - Sea World of Florida, Orlando, FL
To Aug. 1997

Internship, Marine Education Instructor and Animal Care Assistant.

Dec. 1996 Coastal Carolina University, Coke and Topsail Islands, NC
To Dec. 1997

Undergraduate research assistant for a NSF grant-funded project to examine the long-range effects of hurricane damage/erosion on coastal barrier islands and marsh ecosystems. Conducted pre and post hurricane on-site surveys of sediment core sample collection. Analysis and results for the project were presented through reports and oral presentations.

EQUIPMENT KNOWLEDGE:

Outboard Motor Boats
Fishing Gear (Gill, Fyke, Trammel and Trawl Nets, and Electrofishing)
Biological Sampling procedures (length, otolith and gonad removal)
YSI and Nutrient data loggers/samplers

ADDITIONAL SPECIAL SKILLS:

Grant Principle Investigator
Certified Federal Grant Project Leader for USFWS
Microsoft Office Products
Excellent Communication Skills to Diverse Audiences



United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
NOAA Beaufort Laboratory
101 Pivers Island Road
Beaufort, NC 28516 USA

August 9, 2019

Operations and Advisory Committee
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland St
Suite 200A-N
Arlington, VA 22201

Dear Committee members,

Thank you for taking the time to review my proposal “Continued processing and aging of biological samples collected from U.S. South Atlantic commercial and recreational fisheries” and considering it for FY20 funding. I feel that I have addressed your comments in the proposal, but also want to take to opportunity to answer some of the comments in more detail here.

Please accept my apologies for not fully understanding the RFP and the maximum funding allowed as presented in Appendix A. I have amended the budget to meet the maximum allowed amount and provided more information in the budget narrative to address the questions regarding some of the budget items.

I appreciate the need to phase out maintenance projects and have made the leadership of the Southeast Fisheries Science Center (SEFSC) aware of the plan for the past few years. My supervisor and I have been consulting with leadership of the SEFSC regarding a transition plan. Within the priority-based resource (PBR) process, an activity plan has been submitted to the SEFSC requesting base funds to cover permanent federal employee positions and/or contract positions for fish ageing work at the Beaufort Laboratory. The activity plan is under review.

The level of samples the Beaufort Laboratory receives per year has required at least three contract staff in addition to the two federal employee positions to manage the databases and provide annual age data for stock assessments. Since the first proposal for funding for processing and ageing fish samples from the South Atlantic fisheries was submitted, the request has been made for three contract positions. Initially, the request was for one biologist and two technicians. As the government negotiated with new contract vendors, those position distinctions were changed. Starting with the FY18 funding request, the three contract positions were put under one category by the vendor. Thus the perceived change in the proposal request.

The SEFSC and I are grateful for the support of your organization over the years. The NOAA Beaufort Laboratory Life History Group has been able to produce substantial amounts of timely age data in support of SEDAR stock assessments because of the grant funding from ACCSP. I wish to thank you and the panel for reviewing my proposal.

Sincerely,

Jennifer Potts

Attachment:
FY2020 Maintenance Project Proposal



Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22204

Continued processing and ageing of biological samples collected from U.S. South Atlantic commercial and recreational fisheries

Submitted by:
Jennifer Potts
NOAA National Marine Fisheries Service
SEFSC/Beaufort Laboratory
101 Pivers Island Rd.
Beaufort, NC 28516
Jennifer.Potts@noaa.gov

NOAA National Marine Fisheries Service ACCSP
Funding Proposal: Continue ageing of US South Atlantic reef fish species.

Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on page20-21.

Applicant: NOAA Fisheries Service, Southeast Fisheries Science Center, Beaufort, NC

Principal Investigator:
Jennifer C. Potts

Project Title: Continued processing and ageing of biological samples collected from U.S. South Atlantic commercial and recreational

Project Type: Maintenance

Requested Award Amount: \$177,861

Requested Award Period: For one year, beginning after the receipt of funds

Original Date Submitted: June 10, 2019

Date of Revision Submitted: August 9, 2019

Objectives:

The primary objective of the proposed work is to continue processing and ageing ACCSP-prioritized reef fish species in support of stock assessments for those species. **This project aims to cover 100% of the biological module through item 1b, improvement in biological data, of the Program Goals as stated in the 2020 RFP, specifically by providing age data for 10 of the upper 25% of species in the Biological Sampling Priority matrix.** The goal of this project is to process prioritized age samples as they are received annually. Focal species have been and/or will be assessed through the Southeast Data, Assessment, and Review (SEDAR) process and periodically updated in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). The NOAA Beaufort Laboratory receives the majority of the fishery-dependent age samples collected within the **U.S. South Atlantic. Our laboratory works closely with other regional ageing laboratories to provide age data inputs for the stock assessment models.** Thus, another objective of this study is **to participate in ageing workshops and exchange reference, or calibration sets, of processed otolith samples.** These collaborations will allow us to address, collectively, issues of **consistency in processing methodology and interpretation of age structures** between laboratories, allowing data sets to be combined for stock assessments. Staff at the NOAA Beaufort Laboratory have been actively involved in the **GSMFC/ASMFC Age Manual** update. The manual will further standardize processing and age reading methodology throughout the entire Atlantic coast. Also, because the NOAA Beaufort Laboratory receives biological samples from various state agencies and federally managed fishery-dependent surveys, the data associated with each sample will be verified, standardized to ACCSP protocols, and logged into the Beaufort bio-sample inventory (BFT) or the Bio-sample Database (BSD) linked directly to the NMFS Trip Interview Program and Southeast Region Headboat Survey databases, which can be shared with ACCSP. Metadata associated with the age data from fishery-dependent sources will be provided to ACCSP in accordance with the Atlantic Coast Fisheries Data Collection Standards (http://www.accsp.org/sites/default/files/ACCSP_StandardsandAppendices2012_Final05082012.pdf). All of these objectives directly fulfill the mission statement of the ACCSP 2014 – 2018 Strategic Plan.

Need:

NOAA Fisheries Service (NMFS) in the southeast region has instituted the Southeast Data, Assessment and Review (SEDAR) process for conducting stock assessments, through which model outputs are used to inform management in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). After more than 60 SEDARs, the most cited research recommendation has been the need for more comprehensive, validated, and consistent age composition data. In concurrence with the SEDAR and ACCSP recommendations is research conducted by Yin and Sampson (2004) and Siegfried et al. (2016). Their studies looked at the many factors influencing stock assessment models (e.g., length of data series, natural mortality, fishery selectivity curve, fishing mortality, recruitment, survey biomass index, fishery and survey age composition, fishing effort, and sampling error in catch data). Of the

factors affecting estimates of ending biomass and projected catch, Yin and Sampson's study suggests improvement to the models can be made with increased age composition sampling, for the least cost. Siegfried et al. found that increased age composition data, specifically commercial age composition, had the greatest effect on the accuracy of assessments.

NOAA Beaufort Laboratory is in a unique position of holding fishery-dependent age data for many of the most important reef fish species of the U.S. South Atlantic dating back to the 1970s. These collections have been greatly enhanced because state agency partners and NMFS Southeast Fisheries Science Center have placed greater emphasis on collecting age structures along with fish lengths from the fishery landings. Following the NMFS review of stock assessment science, a National Otolith Sample Size Working Group was formed by NMFS to explore the question of how many age structures are sampled and how many are needed for a reliable stock assessments. This group has brought a lot of attention to the need for more age structure sampling. ACCSP has also funded or is reviewing proposals for funding state agencies to collect biological samples from the commercial fishery. **The Beaufort Laboratory now is receiving upwards of 25,000 age samples per year from commercial and recreational fishery landings contributed by many agencies including the North Carolina Division of Marine Fisheries (NCDMF), South Carolina Department of Natural Resources (SCDNR), Florida Fish and Wildlife Commission (FWC), NMFS Headboat Survey, and NMFS Trip Intercept Program (TIP).** These new samples will provide the age composition data for stock assessments, but funding is required for processing and ageing the samples.

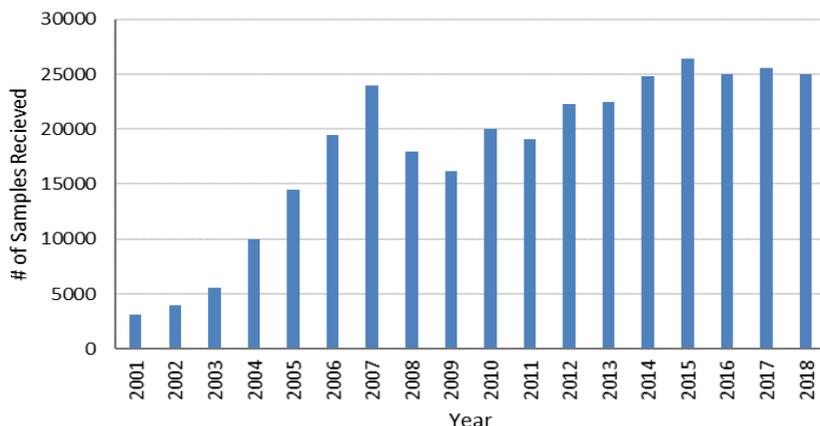
Another strong research recommendation from several SEDARs pertained to age and growth studies of the same species performed by more than one laboratory. Researchers have been asked to standardize processing techniques, be consistent in age determination analysis, and resolve ageing discrepancies between laboratories. **The NOAA Beaufort Laboratory works closely with SCDNR, NCDMF, FWC and NMFS Panama City Laboratory to exchange processed samples for age comparison studies. Recently, Virginia Marine Resources Commission (VMRC) and Old Dominion University (ODU) have collaborated with NOAA Beaufort in ageing of blueline tilefish, snowy grouper and cobia.** Funding is required to support workshops to discuss processing methodology and interpretation of the ageing structures. As a result of these workshops, consistency in ageing will be met and paired age readings will be used to create age error matrices that will be used as input data to stock assessment models.

Validation of ages is another critical factor in stock assessments. Consistency between age readers produces precision, but accuracy is more important. Several southeast regional laboratories are currently conducting age validation projects for reef fish species. NOAA Beaufort Laboratory has finished age validation studies on red porgy and gray triggerfish through chemical marking and rearing experiment and engaged in a similar study for vermilion snapper and black sea bass; SCDNR has conducted age validation studies on deep-water species such as blueline tilefish and wreckfish (Lytton et al, 2016) using bomb radio-carbon in otoliths; and NMFS Panama City has used bomb radio-carbon or radiometric age validation techniques on golden tilefish and speckled hind (Lombardi-Carlson and Andrew, 2015; Allen et al., 2013).

Funding will need to be sought for more in depth age validation of blueline tilefish and other deep-water species within their entire U. S. range (Atlantic and Gulf of Mexico). The regional laboratories are also collaborating with other state agencies and universities to expand the validation studies. These data will improve our between lab consistency in ageing, direct age workshops and improve stock assessments for management of the fisheries.

Ageing of reef fish species and fiscal support of that work at the Beaufort Laboratory have evolved over the years. Initially, ageing studies conducted by FTE staff of the Beaufort Laboratory were done on a species-by-species basis, but not specifically for stock assessment purposes. Those studies were also considered snap shots in time, rather than many years' worth of samples. Following the retirement of the lead scientist, leaving one FTE to carry on the work, and with the advent of the SEDAR process, a more concerted effort was needed to age fish for stock assessments. In 2003, one contract position was added to the lab funded through MARFIN funds, and the lab was able to provide a total of 4,300 ages for two species. MARFIN funded the ageing work through 2009, but then could no longer support it. Expanded annual stock assessment (EASA) funds were used to support one contract position, from 2008 - 2014. The number of assessments requested each year increased, and commensurately the number of age samples collected and sent to Beaufort increased (Figure 1). With the support for biological sampling by ACCSP, the Beaufort Laboratory turned to ACCSP for funding in 2012, 2013, 2015 - 2019, which is the primary source of funding for production ageing work at the Beaufort Laboratory. Through ACCSP funds for contracted support staff and NMFS FTE staff, the lab was able to show an increase in production processing from 5,000 to currently 24,000 age samples per year and from 4,300 to currently 18,000 actual ages per year for stock assessments. Also, the lab was able to process and age valuable samples collected prior to 1990 which included economically valuable species such as red snapper, gag, red grouper, black sea bass, gray triggerfish, and gray snapper. In addition, the Beaufort Laboratory has cleared the back-log of lane snapper age samples, which dated back to the early 1980s. These data were able to show potential shifts in age structure (e.g., age truncation), growth, and effects of minimum size limits over time. All of these elements are important indicators in stock assessments.

Figure 1. Number of age samples received at the Beaufort Laboratory 2001 – 2018.



Results/Benefits:

The NOAA Beaufort Laboratory has been collecting samples and ageing reef fish species for more than 40 years, and is able to provide those data for assessment models for species of the snapper grouper complex of the U. S. South Atlantic. Funding for this project would be directed at the processing and ageing of fish for the 2020 - 2021 proposed SEDAR species list, as well as continued processing of the highest priority species to ACCSP and in the SAFMC Snapper Grouper FMP. That work will begin during the summer of 2020, following the completion of the data input requirements for scamp, tilefish and snowy grouper. Also, ongoing efforts to stay up to date on black sea bass, vermilion snapper, gag, red snapper, red grouper, red pogy and greater amberjack will be continued. All age data provided from the Beaufort Laboratory have been included in stock assessments. The age data are broken down by year, fishery and gear, and state. For several of the species, the number of age samples has been inadequate for fully characterizing all years, fisheries and gears, and the request at the end of each SEDAR assessment has been for more comprehensive biological samples. The data provided will reduce uncertainty about the stock assessment models of important commercial and recreational species. Also, the data would be used to characterize fishery landings and provide information on year class strength, effects of fishing on age structure, and growth of fish in the population.

Ten species currently managed in the SAFMC Snapper Grouper FMP are listed in the upper 25% of the ACCSP Bio-Sampling Priority Matrix. Scamp is on a SEDAR “Research Track” schedule to start in early 2020, which includes the South Atlantic and Gulf of Mexico, with assessments to follow later in 2020. Data for snowy grouper and tilefish will be due to SEDAR in early 2020. In addition, gag will be assessed starting in mid-2020. Red snapper may start on a “Research Track” in January 2021, and gray triggerfish in June 2021. For the other species in the upper portion of the matrix, which include black sea bass and red grouper, the staff at the Beaufort Laboratory have been processing the annual age samples with a maximum lag time of one year. Past funding from ACCSP has allowed the lab to meet all of the needs of SEDAR without delays.

Along with the ten snapper-grouper species in the Priority Matrix, the Beaufort Laboratory includes seven additional species as our top priority for age processing (Table 1). Those fifteen species make greater than 75% of total samples received annually. To process and read the annual samples received would take at least 400 person days to complete. In Addition, of those species, lane snapper and white grunt have not undergone a SEDAR assessment, nor are they on the SEDAR schedule to date. The Beaufort Laboratory has inventoried over 25,000 white grunt samples dating back to the early 1980s. Over 600 days will be needed to process and read the backlog of white grunt. The estimate of time required does not include the time spent verifying all the data and updating the inventories, exchange of calibration sets with other laboratories and age workshops, data analysis and report writing.

During the past several years, there have been changes to the SEDAR schedule by the SEDAR Steering Committee that have caused the NOAA Beaufort Laboratory staff to shift their species of focus. Due to the changes, the staff has had to sub-sample the collection for particular species, namely vermilion snapper, gray triggerfish and red grouper, to meet shortened deadlines, thus possibly compromising the data for the stock assessment. The past funding from ACCSP has allowed the staff to process those samples previously excluded due to sub-sampling. Prioritized species of the SAFMC Snapper Grouper FMP are listed in Table 1 along with the number of age samples received in 2013 - 2018. The average annual cost estimate per species for processing and ageing of the samples has also been calculated and included in Table 1. The cost estimate does not include inter-laboratory calibration component of study. Samples from yellowtail snapper, mutton snapper and black grouper are sent to Florida's FWC in cooperation with that lab to age those species. FWC returns the age data to the Beaufort Laboratory for inclusion in the BFT and BSD.

Table 1. 2013-2018 Fishery-dependent age samples of the top priority species received at the NOAA Beaufort Laboratory. Average annual cost to process and age each species based on average salary cost and time per sample. Estimate does not include inter-laboratory calibration, age workshops, or data analyses.

Species	2013	2014	2015	2016	2017	2018	Cost
Black Sea Bass	2289	2196	2423	1448	1685	1248	\$28,241
Blueline Tilefish	811	494	262	328	458	299	\$16,834
Gag	734	890	650	585	516	691	\$18,177
Gray Snapper	607	1336	1238	1325	713	596	\$18,166
Gray Triggerfish	1008	1112	1125	1594	1527	1759	\$39,628
Lane Snapper	544	830	562	950	1309	809	\$15,762
Red Grouper	448	521	230	349	318	307	\$10,909
Red Porgy	868	939	673	740	693	759	\$25,512
Red Snapper	700	912	64	0	856	1255	\$28,229
Scamp	647	825	452	752	547	621	\$22,581

NOAA National Marine Fisheries Service ACCSP
 Funding Proposal: Continue ageing of US South Atlantic reef fish species.

Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on page20-21.

Snowy Grouper	644	818	861	787	726	955	\$22,468
Tilefish	1035	911	558	895	836	742	\$27,341
Vermilion Snapper	4219	4121	3751	5187	4545	5508	\$104,995
White Grunt	1635	2374	2415	2649	1767	1604	\$42,715
TOTAL	16189	18279	15264	19605	16496	19171	\$421,559

The total number of otoliths or spines that can be processed and read in a single year is dependent on several factors, including the number of trained personnel in the lab, the type of processing required, and the difficulty in interpretation of the structure. Processing techniques include low-speed saws that may result in higher quality sections and allow for more than one section per sample, or a high-speed saw that results in one section and is adequate for easier to age fish. The two staff hired through ACCSP funds along with two FTEs will be able to process and read ~16,000 age samples in one year, which is a reduction from past years.

The people hired into these contract positions would be required to participate in SEDAR Life History Groups. They would become intimately knowledgeable of the data associated with the age samples and with the methodology to age the fish. They would contribute to discussion of each species as an expert. They would be required to contribute to analysis of the life history data inputs for the SEDAR assessment and contribute to the report writing.

Various state and federal laboratories each house their own collections of age samples, such as fishery-independent survey samples or special project samples. They will be working independently to process and read samples of many marine fish species. They will then work collaboratively by combining data with the other laboratories to give more complete life history information to assessment biologists. The funding of this proposal will ensure greater coordination between laboratories for exchanging processed samples and ensuring reader precision between laboratories.

Approach/Procedures:

Biological samples collected by port agents at various locations from North Carolina through the east coast of Florida will be shipped to the Beaufort Laboratory. Once received, staff will review the electronic and hard copy data for each sample, ensure the samples are properly labeled, sort the samples by species and store them for future processing. All sample data collected by port samplers will be entered into a searchable database that will be updated and maintained. This information can be shared with ACCSP and NMFS SEFSC bio-sample databases. Staff will also respond to requests for samples from other regional ageing facilities, thus creating greater cooperation with those facilities.

Staff of the NOAA Beaufort Laboratory will be responsible for processing the fishery-dependent age structures of species needed for SEDAR stock assessments. The samples will be sectioned

and aged following the methods of Potts and Manooch (1999) and Cowan et al. (1995) in concurrence with other fish ageing laboratories and the GSMFC/ASMFC Age Manual. Existing sectioning equipment will be provided by NMFS. The age data will be recorded for each sample and provided to assessment biologists. After the data have been vetted through the SEDAR process or published, they will be made available to ACCSP and the NMFS Bio-sample databases.

All staff involved with these studies will be trained by the principal investigator, who has 29 years of experience ageing marine fish. Also, they will be required to read reference collections and meet acceptable standards of between reader consistency with no bias. Image analysis software will be used to take pictures of the age samples, apply measurements to them and annotate the images for training purposes. NMFS is updating image analysis systems and computers in FY19 to keep abreast of technological changes. This equipment is required to perform the work and is being provided at no cost to ACCSP funds. The staff will cross train with researchers at other laboratories. Age workshops will be held to standardize sample processing methodology and interpretation of the age structures, followed by exchanges of each lab's calibration sets. Many of the ageing laboratories in the Southeast region have worked together and exchanged information in the past, making cooperation between these facilities easier.

NOAA Beaufort Laboratory will provide to ACCSP metadata for all age samples in accordance with ACCSP's standards included in Atlantic Coast Fisheries Data collection Standards part 3

(http://www.accsp.org/sites/default/files/ACCSP_StandardsandAppendices2012_Final05082012.pdf). "Other Biological Standards: Until these documents are completed and the methodologies approved as standard partners are encouraged to submit metadata on any biological data submitted to the ACCSP. These metadata parameters should include the following by species, for each data type (e.g., otoliths, fecundity, etc.): 1. Agency submitting data 2. Name of principle investigator 3. Description of interpretation methodologies used."

Geographic locations:

Biological samples for ageing will be collected from commercial and recreational fishery landings from North Carolina through the east coast of Florida and the Florida Keys through routine, on-going sampling activities. Recently, samples of deep-water reef fish species (e.g., blueline tilefish and snowy grouper) caught off Virginia and Maryland have been included in the stocks from the U.S. South Atlantic. Funding for this proposal will result in contract research support personnel to be located at NMFS/SEFSC, Beaufort, NC.

Consequences of Reduced Funding and Transition Plan :

With the requirement to cut maintenance projects entering year-5 of funding, a transition plan is being considered by the Southeast Fisheries Science Center (SEFSC). Managers at the Beaufort

Laboratory and the P.I. have been consulting with leadership of the SEFSC. Within the priority-based resource (PBR) process, an activity plan has been submitted to the SEFSC requesting base funds to cover permanent federal employee positions and/or contract positions for fish ageing work at the Beaufort Laboratory. The activity plan is under review.

The allowed request for funds for this proposal will result in the loss of some of the work we will be able to accomplish, if the SEFSC cannot provide support. The largest impact will be the loss of one contract staff. Not only will we lose that person's expertise, but we will not be able to process and age all annual samples for the priority species. One option may be to select to provide age data for every other year or every third year. This decision will be made with the input from stock assessment biologists. A consequence to that strategy will be the loss of tracking strong year classes. The funds will not allow for travel for the contract staff, which will limit their ability to participate in age workshops or other offsite training opportunities. The funds will not cover the supplies needed for the contract staff, which may have an additional effect of limiting the number of samples that can be processed. All of these concerns and impacts have been raised with SEFSC leadership and stock assessment staff.

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Milestone Schedule:

TASKS	J	J	A	S	O	N	D	J	F	M	A	M
Receiving and storing hard parts	X	X	X	X	X	X	X	X	X	X	X	X
Processing hard parts	X	X	X	X	X	X	X	X	X	X	X	X
Ageing hard parts			X	X	X	X	X	X	X	X	X	X
Provide hard parts to cooperative institutions		X	X	X	X	X	X	X	X	X	X	X
Provide samples for reference collections	X	X	X	X	X	X	X					
Quarterly progress reports			X			X			X			
Final Report												X

Project Accomplishments Measurement:

The ultimate accomplishment measurement of this project will be the successful completion of all age data for SEDAR scheduled species in FY2020-2021. Five species are currently on the schedule for 2020– 2021 which include Scamp, snowy grouper, tilefish, gag, red snapper, and gray triggerfish. The work will have been begun prior to the funding of this project. Some processing has already been done on those species, but the high volume of snowy grouper, gag, red snapper, and gray triggerfish will take most of the staff’s time to complete in time to meet the SEDAR schedule. Also, the lab intends to continue the ageing of samples collected in 2019 for the species listed in Table 1. As a result of age validation projects, gray triggerfish samples previously aged may need to be re-aged, creating a heavy workload on the staff.

Cost Summary:

	ACCSP	NMFS In-Kind	Total
Personnel Services/Salaries			
P.I. Salary		\$94,400	\$94,400
FTE Biologist salary		\$64,000	\$64,000
Contract staff (2)	\$174,374		\$174,374
Subtotal	\$174,374	\$158,400	\$332,774
Fringe Benefits			
\$158,500 *36%		\$57,060	\$57,060
Equipment		\$49,100	\$49,100
AGO Fee	\$3,487		\$3,487
TOTAL	\$177,861	\$264,560	\$442,421

BUDGET NARRATIVE for REQUESTED FUNDING

July 1, 2020 – June 30, 2021

Category	Cost	Justification
Personnel	\$174,374	Contract staff positions are negotiated pricing through the federal government. (1920 hrs x \$45.41/hr x 2 staff).
AGO fee	\$3,487	NOAA's Acquisitions and Grants Office charges a 2% fee to process contract services. The SEFSC has required all proposals that include contract services to include this fee.
Total Request	\$177,861	

BUDGET NARRATIVE for NMFS IN-KIND FUNDING

July 1, 2020 – June 30, 2021

Category	Cost	Justification
Personnel	\$158,400	Includes salary for PI and FTE biologist. The personnel are directly involved with the day to day processing and ageing of samples, laboratory management and data analyses.
Fringe Benefits	\$57,060	Fringe benefits of the two FTE positions listed. The rate for calculating benefits is 36-38% per OPM website.

Equipment	\$49,100	This proposal is not requesting any equipment to be purchased to accomplish the work. The equipment has been provided by NOAA and includes computers, saws and image analysis systems needed for two (2) staff to perform the work as laid out in this proposal. Cost basis is computed from current market value and depreciation. Image analysis systems required complete upgrades in FY19 due to technological advances that rendered older systems to become obsolete.
Total	\$264,560	

Maintenance Project:

Table 2. History of related projects funded by ACCSP.

Funding Year	Project Title	ACCSP Funds	In-Kind Funds
2019	Continued processing and ageing of biological samples collected from U.S. South Atlantic commercial and recreational fisheries	\$300,550	\$426,872 (NMFS had to cover cost not covered by award amount)
2018	Continued processing and ageing of biological samples collected from U.S. South Atlantic commercial and recreational fisheries	\$251,600	\$248,400
2017	Continued processing and ageing of biological samples collected from U.S. South Atlantic commercial and recreational fisheries in response to ACCSP bio-sample targets	\$256,038	\$232,809
2016	Continued processing and ageing of biological samples collected from U.S. South Atlantic commercial and recreational fisheries in response to ACCSP bio-sample targets	\$254,706	\$266,306
2015	Continued processing and ageing of biological samples collected from U.S. South Atlantic commercial and recreational fisheries in response to ACCSP bio-sample targets	250,831	\$264,601
2013	Processing and ageing biological samples collected from U.S. South Atlantic commercial and recreational fisheries in response to ACCSP bio-sample targets	\$205,636 (partially funded; requested amount \$249,946)	\$98,800
2012	Processing and ageing biological samples collected from U.S. South Atlantic commercial and recreational fisheries in response to ACCSP bio-sample targets	\$236,440	\$74,915

Table 3. Budget Narrative from FY 2019 (A), FY 2018 (B), FY 2017 (C), FY2016 (D), FY 2015 (E), FY 2013 (F), and 2012 (G) funding.

A. 2019

Category	Cost	Justification
Personnel	\$285,000	Contract staff positions are negotiated pricing through the federal government. (2080 hrs x \$45.67/hr x 3 staff). The purchase agreement with one vendor, whom we have used in the past, expired, and the new vendor cost was considerably higher. We anticipate an additional increase in the fee schedule, thus the higher hourly rate calculated in this request.
Travel	\$2,000	Travel for 3 contract personnel to age workshop for 3 days (\$2,000).
Supplies	\$5,000	Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide storage, saw blades, etc.
AGO fee	\$8,550	As of July 2016 NOAA's Acquisitions and Grants Office charges a 3% fee to process contract services. The SEFSC has required all proposals that include contract services to include this fee.
Total Request	\$300,550	Received \$203,028

B. 2018

Category	Cost	Justification
Personnel	\$245,000	Contract staff positions are negotiated pricing through the federal government. (2080 hrs x \$39.26/hr x 3 staff).
Travel	\$1,600	Travel for 3 contract personnel to age workshop for 3 days (\$1,600).
Supplies	\$5,000	Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide storage, saw blades, etc.
Total Request	\$251,600	

C. FY2017

Category	Cost	Justification
Personnel	\$249,438	Contract Biologist position to take lead on project (2080 hrs x \$43.10); Two contract technician positions to process age samples and assist in ageing (2 x 2080 hrs x \$37.69). These labor costs are negotiated pricing through the federal government.
Travel	\$1,600	Travel for 3 contract personnel to age workshop for 3 days (\$1,600).
Supplies	\$5,000	Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide storage, saw blades, etc.
Total Request	\$258,038	

D. FY2016

Category	Cost	Justification
Personnel	\$252,480	Contract Biologist position to take lead on project (2080 hrs x \$43.10); Two contract technician positions to process age samples and assist in ageing (2 x 2080 hrs x \$39.14). These labor costs are negotiated pricing through the federal government.
Travel	\$1,500	Travel for 3 contract personnel to age workshop for 3 days (\$1,500).
Supplies	\$3,726	Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide storage, saw blades, etc.
Total Request	\$254,706	

E. FY2015

Category	Cost	Justification
Personnel	\$244,531	Contract Biologist position to take lead on project (2080 hrs x \$42.25); Two contract technician positions to process age samples and assist in ageing (2 x 2080 hrs x \$37.68). These labor costs are negotiated pricing through the federal government.
Travel	\$1,300	Travel for 3 contract personnel to age workshop for 3 days (\$1,300).
Supplies	\$5,000	Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide storage, saw blades, etc.
Total Request	\$250,831	

F. FY2013

Category	Cost	Actual	Justification
Personnel	\$218,828	\$205,636 Note: All money went to contract labor cost. Supplies and travel were paid by other projects.	Contract Biologist position to take lead on project (1928 hrs x \$41.50); Two contract technician positions to process age samples and assist in ageing (2 x 1928 hrs x \$36.00). These labor costs are negotiated pricing through the federal government.
Travel	\$6,600.00		Travel for 3 contract personnel to age workshop for 5 days (\$3,600). Travel for two contract personnel to SEDAR Data Workshops for 7 days (\$3,000). These personnel will be required to participate in SEDAR Life History groups in order to represent data they have recorded.
Vehicle	\$616.00		Cost to use government vehicle for travel to Charleston, SC for age workshops and SEDAR meetings (\$0.55/mi).
Supplies	\$12,000		Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide boxes, saw blades, etc. Required upgrade of image analysis software used in training and creating digital reference.
Total Request	\$249,946		

G. FY2012

Category	Cost	Justification
Personnel	\$213,565	Contract Biologist position to take lead on project (1928 hrs x \$40.77); Two contract technician positions to process age samples and assist in ageing (2 x 1928 hrs x \$35.00). These labor costs are negotiated pricing through the federal government.
Travel	\$6,000.00	Travel for 3 contract personnel to age workshop for 5 days (\$3,000) – Age workshop for Blueline tilefish, gray triggerfish and snowy grouper; Travel for two contract personnel to SEDAR Data Workshops for 7 days (\$3,000) – Participant in Life History group for SEDAR32 (blueline tilefish and gray triggerfish).
Vehicle	\$616.00	Cost to use government vehicle for travel to Charleston, SC for age workshops and SEDAR meetings (\$0.55/mi).
Supplies	\$5,000	Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide boxes, saw blades, etc.
Overhead	\$11,259	Allowable NOAA overhead charge of 5% of total request (\$225,181). Used for administrative costs and IT equipment for new contract personnel.
Total Request	\$236,440	

Table 4. Accomplishments from the 2012 (A), 2013 (B), 2015 (C), 2016 (D), and 2017 (E) funding year cycles. Number of samples that have been sectioned and number of samples aged by species.

A. 2012

Species	# of Samples Sectioned	# of Samples Aged	Sampling Years
Black Sea Bass	1,000	3,300	2011 - 2012
Blueline Tilefish	800	3,117	2003 - 2012
Gray Triggerfish	700	6,240	1990 - 2012
Snowy Grouper	2,400		2010 - 2012
Red Porgy	1,300		2012
Red Snapper	300		2012
Gag	6,000		2005 - 2012
Vermilion Snapper	3,120		2012

B. 2013

Species	# of Samples Sectioned	# of Samples Aged	Sampling Years
Gag Grouper		6,551	2007 - 2012
Red Snapper		1,210	2010 - 2013
Gray Triggerfish		2,457	2012 - 2013
Gray Triggerfish from SCDNR collection		8,471	1991 - 2013
Blueline Tilefish		1,851	2012 - 2013
Black Sea Bass		1,935	2012 - 2013
Red Porgy	3,600		2012 - 2013
Tilefish	2,340		2011 - 2013
Vermilion Snapper	3,000		2012 - 2013
Scamp	1,200	300	1983 - 2013

C. 2015

Species	# of Samples Sectioned	# of Samples Aged	Sampling Years
Tilefish		4,297	2011 - 2014
Blueline Tilefish	1,566	1,566	2014 - 2015
Red Grouper	742	742	2014 - 2015
Black Sea Bass		2,395	2012 - 2013
Vermilion Snapper	5,670	11,759	2012 - 2015
Gag Grouper		1,182	2014 - 2015
Scamp	5,913		1983 - 2015
Gray Snapper	4,448		2006 - 2014
Greater Amberjack	428		2006 - 2014

D. 2016

Species	# of Samples Sectioned	# of Samples Aged	SEDAR
Black Sea Bass		9,037	SEDAR 56
Vermilion Snapper	7,400	13,676	SEDAR 55
Gray Snapper	4,725	7,945	SEDAR 51
Greater Amberjack	687	131	Due 2018
Red Porgy	1635		Due 2018
Scamp	1,300	10,055	Due 2018
Lane Snapper	3971	1735	

E. 2017

Species	# of Samples Sectioned	# of Samples Aged	SEDAR
Cobia	242	242	SEDAR58
Greater Amberjack	120	2000	SEDAR59
Red Porgy	2043	4620	SEDAR60
Scamp	800	3600	Due 12/2018
Tilefish	1000	985	Due 6/2019
Snowy Grouper	1440		Due 6/2019
Gag		1200	
Red Grouper		420	
Vermilion Snapper	2812	742	
Lane Snapper	810	371	

F. 2018

Species	# of Samples Sectioned	# of Samples Aged	SEDAR Assessment Schedule (Est. start date)
Black Sea Bass	2	319	
Gag	286	614	Operational Assessment (June 2020)
Gray Snapper	991	219	
Graysby	173	173	Ecosystem species
Lane Snapper	212	500	
Red Grouper	1788		
Red Hind	932		Ecosystem species
Red Porgy	1232	8945	SEDAR 60
Scamp	1319		Research Track Assessment (Jan 2020)
Snowy Grouper	1988		Operational Assessment (Jan 2020)
Tilefish	1263	1219	Operational Assessment (June 2020)
Vermilion Snapper	4729	3199	

Summary of Proposal for Ranking Purposes

Proposal Type: *Maintenance*

Primary Program Priority:

Biological Sampling: 100% of age samples collected from the ten SAFMC Snapper Grouper FMP species within the top 25% priority matrix will be processed and aged. The age data will be loaded into Bio-Sample Database housed at the NMFS SEFSC and made available for the SEDAR process. After the age data are vetted through the SEDAR process, those data will be made available to the ACCSP database. Until the module for biological data is developed within ACCSP Data Warehouse, metadata for age data will be provided to ACCSP.

Project Quality Factors:

Multi-Partner/Regional Impact Including Broad Impact:

Age samples from species managed through the SAFMC Snapper Grouper FMP will be collected and shipped to the NOAA Beaufort Laboratory for processing and ageing for stock assessment purposes. These age samples will be representative of the commercial and recreational fisheries operating from Virginia and North Carolina through the east coast of Florida. The samples will be collected by various state agencies and NMFS sampling programs. In cooperation with these programs, the Beaufort Lab will standardize data, inventory, and process the samples.

The Beaufort Laboratory will work collaboratively with several state and federal laboratories and universities through age workshops and exchanges of reference collections to ensure consistency in age data for input to SEDAR assessments. The partners include NCDMF, SCDNR, FWC, VMRC, ODU, NMFS Panama City.

Contains funding transition plan/Defined end point:

Once the lab has cleared the back-log of samples dating back to the 1970s, less staff would be needed to process the annual age samples at the current rate of accrual. Samples from most of the priority species have had the back-log cleared. All new samples received from those species are processed annually. The back-log from one other primary species remains to be processed –White Grunt ($n > 25,000$). The Beaufort Lab will be requesting funding assistance to accomplish that work and then start to reduce the amount of contract labor required to keep abreast of the annual samples. Also, funding through federal congressional budgets to enhance stock assessment data inputs would allow the Beaufort Laboratory to hire permanent federal employees and not have to rely on funding from ACCSP. The SEFSC has established a Priority Based Resource (PBR) process, and leadership is reviewing activity plans for all work done with in the center. The Beaufort Laboratory has requested base funding for fish age and growth work for the past three years.

In-kind Contributions:

NMFS is providing 60% of the total project cost.

Improvement in data quality/quantity/timeliness:

Continued funding of this project would allow the Beaufort Laboratory to approach a level of processing of all age samples received from the South Atlantic Snapper Grouper fishery on an annual basis. When this level of processing is reached, the lab will be able to provide up-to-date age composition data for stock assessment purposes. The age samples would not need to be sub-sampled to meet schedule changes to SEDAR.

Potential secondary module as a by-product:

Other South Atlantic snapper grouper species in the SAFMC Research Prioritization Plan, but not in the current priority matrix will also be aged and data made ready for SEDAR assessments in the future.

Impact on stock assessments:

Funding of this project will address one of the top research recommendations coming from SEDAR and recent publications on improving the accuracy of stock assessments - more comprehensive, validated and consistent age composition data. Age workshops and reference collections will enhance consistency in methodology and age data between partner laboratories.

CURRICULUM VITAE

Jennifer Chrestensen Potts
Research Fishery Biologist
NOAA/NMFS/SEFSC
101 Pivers Island Road
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EDUCATION

North Carolina State University B. S. 12/1988 Fisheries & Wildlife Sciences
East Carolina University M. S. 5/1997 Biology (Ecology)

PROFESSIONAL EMPLOYMENT

6/97 - present

Position: Research Fisheries Biologist.

NOAA/NMFS/SEFSC, Beaufort Laboratory, 101 Pivers Island Road, Beaufort, NC 28516-9722.

Responsibilities include Investigation Leader of Life History Team; collecting, cataloging, preparation and analysis of age samples; preparing manuscripts for peer review publication; Participation in SEDAR process – Life History Group Leader for South Atlantic assessments; training staff in ageing laboratory; reviewing proposals for federal government funding (i.e., MARFIN and S-K); reviewing manuscripts for peer review journals.

2/90 - 6/97

Position: Biological Technician (Fisheries).

NOAA/NMFS, Beaufort Laboratory, 101 Pivers Island Road, Beaufort, NC 28516-9722.

PUBLICATIONS

Peer Reviewed Publications (Selected)

Burton, M. L., J. C. Potts, A. Poholek, A. Ostrowski, and J. Page. 2019 Age, growth, natural mortality and reproductive seasonality of knobbed porgy from southeastern United States waters. *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science*, 11:231 – 245.

Eddy, C., Pitt, J., Oliveira, K., Morris, J. A., Jr., Potts, J., and Bernal, D. 2019. The life history characteristics of invasive lionfish (*Pterois volitans* and *P. miles*) in Bermuda. *Environmental Biology of Fishes*, <https://doi.org/10.1007/s10641-019-00877-4>.

Potts, J. C., and M. L. Burton. 2017. Preliminary observations on the age and growth of dog snapper (*Lutjanus jocu*) and mahogany snapper (*Lutjanus mahogoni*) from the Southeastern U.S. *PeerJ* 5:e3167; DOI 10.7717/peerj.3167

Burton, M. L., J. C. Potts, J. Page, and A. Poholek. 2017. Age, growth, natural mortality and

- reproductive seasonality of jolthead porgy, *Calamus bajanado*, from Florida waters. PeerJ 5:e3774; DOI 10.7717/peerj.3774.
- Burton, ML, Potts JC. 2017. Age, growth and natural mortality of cubera snapper *Lutjanus cyanopterus* from the southeastern United States. *Bulletin of Marine Science*, 93(3):815 – 828 DOI 10.5343/bms.2016.1116.
- Shertzer, K. W., J. Fieberg, J. C. Potts, and M.L. Burton. 2017. Identifying growth morphs from mixtures of size-at-age data. *Fisheries Research*, 185:83 – 89. DOI 10.1016/j.fishres.2016.09.032.
- Burton, M. L., J. C. Potts and D. R. Carr. 2016. Age, growth and natural mortality of blackfin snapper *Lutjanus buccanella* from the southeastern United States and U.S. Caribbean. *Gulf and Caribbean Research*, 27:66-73. DOI: 10.18785/gcr.2701.10.
- Potts, J. C., M. L. Burton, and A. R. Myers. 2016. Age, growth, and natural mortality of schoolmaster (*Lutjanus apodus*) from the southeastern United States. PeerJ 4:e2543; DOI 10.7717/peerj.2543
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- Burton, M. L., J. C. Potts, D. R. Carr, M. Cooper, and J. Lewis. 2015. Age, growth and mortality of gray triggerfish (*Balistes caprisкус*) from the southeastern United States. *Fishery Bulletin* 113:27–39.
- Burton, M. L., J. C. Potts, and D. R. Carr. 2014. Age, growth, and mortality of Yellowmouth Grouper from the southeastern United States. *Marine and Coastal Fisheries: Dynamics, Management and Ecosystem Science* 6:33-42.
- Potts, J. C., and C. S. Manooch, III. 2002. Estimated ages of red porgy (*Pagrus pagrus*) from fishery-dependent and fishery-independent samples and comparison of growth parameters. *Fishery Bulletin* 100:81-89.
- Potts, J. C., and C. S. Manooch, III. 2001. Differences in the age and growth of white grunt from North Carolina and South Carolina versus southern Florida. *Bulletin of Marine Science* 68:1-12.
- Potts, J. C., C. S. Manooch, III, and D. S. Vaughan. 1998. Age and growth of vermilion snapper, *Rhomboplites aurorubens*, from the southeastern United States. *Transactions of the American Fisheries Society* 127:787-795.
- Manooch, C. S., III, and J. C. Potts. 1997. Age and growth of red snapper, *Lutjanus campechanus*, collected from North Carolina through east coast of Florida. *Journal of the Elisha Mitchell Society* 113(3):111-122.
- Manooch, C.S., III, and J.C. Potts. 1997. Age, growth, and mortality of greater amberjack from the southeastern U.S. *Fisheries Research* 30:229-240.

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22204

**Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast of
Florida**

Submitted by:

ACCSP Recreational Technical Committee

Proposal for FY19 ACCSP Funding

Applicant name: ACCSP Recreational Technical Committee (RTC)

Project title: Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast

Project type: Maintenance Project

Requested award amount: \$104,899

Requested award period: January 1 through December 31, 2020

Objectives

- 1) Continue to provide continuous long-term monitoring of the species composition and size distribution of regulatory discards in the recreational headboat¹ fishery along the U.S. Atlantic coast by filling the critical coverage gap in the South Atlantic region along Florida's Atlantic coast.
- 2) Continue to provide vital data needed to assess important managed fish stocks, particularly in the data poor South Atlantic region.

Need

For many important managed finfish stocks, regulatory discards make up all or a majority of the recreational catch. Size composition of recreational discards is an important fishery-dependent data need for management and age-based assessment of stocks throughout the U.S. Atlantic. These data cannot be collected using dockside sampling methodologies. Headboat mode is currently the only segment of the recreational fishery with consistent, long-term at-sea observer coverage, and these data serve as the sole source of information available on the size composition of recreational discards throughout the North, Middle, and South Atlantic regions².

In North and Mid-Atlantic states (ME through VA), the headboat segment of the recreational fishery is monitored through the Marine Recreational Information Program (MRIP), which provides catch statistics for all landed and discarded finfish. Catch data are collected by biologists as they ride along on trips and directly observe fish that are either harvested or discarded at-sea. The MRIP utilizes this survey to monitor catch-per-unit-effort (CPUE, needed to estimate total landings and discards) and the size composition of landed and discarded fish. In the South Atlantic (NC through FL), headboat catch and effort are monitored by NOAA Fisheries through the Southeast Region Headboat Survey (SRHS), instead of MRIP. The SRHS includes mandatory trip-level reporting (logbook reporting) and dockside sampling of landed catch. At-sea observer coverage in the South Atlantic region has been funded with support from ACCSP, and this important time-series provides biological data needed to monitor the species and size composition of released catch and validate self-reported logbook data for discards.

Coast-wide headboat observer coverage has been supported across all Atlantic coast states since 2005. Funds for base level sampling are provided through MRIP, and additional support through ACCSP has been requested by state partners annually to cover the cost of samples above the MRIP base (through this

¹ Headboats are a class of for-hire vessels that offer recreational fishing opportunities to large groups of individual anglers.

² Florida tested the use of observers on charter vessels on the Atlantic coast (2013-2015), but long-term funds were not available to continue coverage.

maintenance proposal). This additional sample has been requested to improve precision of catch and effort estimates in states where headboat mode is monitored through MRIP, and to extend coverage for biological sampling of discards in the South Atlantic region (NC-FL) where the headboat fishery is not monitored through MRIP. In 2016, ACCSP began coordinating the MRIP access point intercept survey for all modes (shore, private boat, charter, and headboat) from ME through GA, which allowed state partners to conduct surveys in the field in place of a federal contractor. Sampling efficiency has improved since the transition to state conduct, and existing MRIP funds are now able to cover headboat sampling at increased levels above base allocation without the need for additional assistance from ACCSP. In the South Atlantic region, where no base MRIP sample is allocated, three states (NC, SC and GA) are also able to conduct at-sea trips without the need for additional support from ACCSP. The only partner state that still relies upon ACCSP to support at-sea coverage is FL, where state conduct of the MRIP survey on the Atlantic and Gulf coasts has always been coordinated through Gulf States Marine Fisheries Commission (GSMFC). There are no funds in the Gulf region for headboat observer coverage on the Atlantic coast of Florida, and the state is requesting support from ACCSP to continue the headboat time series on the Atlantic coast in 2020 while alternatives are being explored. Florida is currently looking into methods to generate state funds that may be dedicated towards long-term monitoring of recreational fisheries for important managed species, including reef fishes; however, those funds are not anticipated to be available until after 2020.

Results and Benefits

Continued funding for this maintenance proposal will ensure coast-wide headboat observer coverage from ME through FL and continue the long-term time series that originated in 2005. Filling this important data gap along the eastern coast of FL is particularly important for assessment of important managed stocks in the South Atlantic region, such as red snapper, black sea bass, gray triggerfish, and others, that have stock boundaries between NC and Key West, FL. Length frequency data from recreational discards observed from headboats in NC through FL are routinely provided to NOAA Fisheries analysts for use in regional stock assessments conducted through the Southeast Data, Assessment and Review (SEDAR) process (for example, see working paper submitted for black sea bass SEDAR 56: http://sedarweb.org/docs/wpapers/S56_WP07_Lazarre_et_al_HBAAtSea_12.18.2017.pdf). Mortality of recreational discards is a significant source of fishery removals in the South Atlantic region, and is also an important data need for stock assessments. At-sea observer data collected from the headboat fishery in FL directly contributed to the recommended mortality rate of 28.5% for red snapper, which was reduced from 37% before circle hooks were required in 2011 (Sauls et al. 2015, SEDAR 2016). Catch-per-unit-effort for discards directly observed in headboat surveys conducted at-sea from NC through FL has become an important index of abundance for stock assessments in the data poor region of the South Atlantic, where fishery independent monitoring is inadequate for some species.

Data Delivery Plan

Catch estimates, CPUE, and biological data for the Atlantic coast from ME through VA are available to the public through the Marine Recreational Information Program and files are shared with ACCSP's Data Warehouse. Data collected from NC, SC, and GA are also delivered to ACCSP and available through the Data Warehouse. In order to provide the higher resolution of data that is available from FL (additional trip and fish level details), the state provides data files directly to state and federal analysts for use in stock assessments. All lengths, weights, ages, and associated trip and station level data for sampled fish are housed in a relational database (SQL) on servers maintained by the Florida Fish and Wildlife Conservation Commission (FWC). The FWC's servers are secure and data are backed up daily. FWC research staff routinely participate in stock assessments webinars and data workshops conducted through the Southeast Data, Assessment and Review (SEDAR) process to share data and analyses from this project. The state of Florida's Sunshine Law also establishes an open-access policy that requires all non-confidential data be made available to the public upon request.

Approach

Headboat vessels are randomly selected each month from the for-hire vessel directory for each state using a weighted systematic draw methodology. Operators from selected vessels are contacted in advance to arrange for observers to be on board during a scheduled fishing trip. Dependent upon the number of customers on board, one or two biologists accompany passengers during the scheduled trip. The biologists observe all anglers whenever possible during each trip, and randomly selects a subsample if every angler cannot be observed. The observer will identify each fish to species, record length to the nearest mm, and record the disposition (including harvested, released alive, released dead). In Florida, additional details collected for individual fish, including capture depth, capture location (latitude and longitude), hook location, hook type and size, release condition at the surface (if discarded), release method (whether released at the surface unvented, vented, or recompressed), and barotrauma symptoms. Red snapper in Florida are also marked with a conventional tag prior to release, and when managed species are harvested biological samples, including age structures, may be collected at the dock.

Geographic Location

ACCSP support is requested for the Atlantic coast of Florida, from the border with Georgia (30.6 degrees N latitude) through southeast Florida (24.5 degrees N latitude). This support will ensure continuous at-sea observer coverage along the entire U.S. Atlantic coast from ME through FL.

Ranking Criteria Summary

- There are 11 ACCSP funding priorities for recreational fisheries as identified by the Recreational Technical Committee (RTC). The following priorities addressed by this proposal are all included in the top 5 funding priorities identified by the RTC:
 1. Comprehensive for-hire data collection and monitoring
 2. Improved recreational fishery discard and release data
 3. Biological sampling for recreational fisheries separate from MRIP APAIS
 4. Improved spatial resolution

- Primary Program Priority: Biological Data (80%)
 - Species in the top quartile of ACCSP's Biological Priority matrix affected by this proposal:
 - Black Sea Bass, Snowy Grouper:
 - High priority overall for ACCSP.
 - Biological sampling is inadequate.
 - Gag, Red Grouper, Scamp, Gray Triggerfish, Tilefish, Red Drum
 - High priority in the South Atlantic region.
 - Biological sampling is inadequate.
 - Red Snapper:
 - High priority in the South Atlantic region.
 - Recreational harvest is only open 0 to 9 days per year, and discard lengths from headboat at-sea surveys represent up to 100% of biological samples in some years for this species.

- Secondary Program Priority: Catch, effort and landings data (20%)
 - Trips sampled in the South Atlantic (NC through FL) contribute to validation of logbook data for discards.
 - Additional data elements collected in FL contribute to discard mortality, which is required to estimate total removals from combined landings and discards.

- Data Delivery Plan:
 - Catch estimates, CPUE, and biological data from ME through VA are available through:
 - The Marine Recreational Information Program public website
 - The ACCSP Data Warehouse
 - CPUE and biological data from NC through GA are available through:
 - The ACCSP Data Warehouse
 - Routinely shared for use in regional stock assessments.
 - CPUE and biological data (lengths, weights, ages, and associated trip and fish level data) from FL are:
 - Housed in a relational database (SQL) on servers maintained by the Florida Fish and Wildlife Conservation Commission
 - Servers are routinely backed up
 - Available on request (and required by Florida's Sunshine Law)
 - Routinely shared for use in regional stock assessments.
- Multi-Partner/Regional:
 - The following ACCSP partners will benefit from this supplemental data collection:
 - One state: Florida Fish and Wildlife Conservation Commission
 - Two regional Fisheries Management Councils: South Atlantic and Gulf of Mexico (for Gulf stocks with ranges that include east FL)
 - Two branches of NOAA Fisheries, National Marine Fisheries Service: Southeast Fisheries Science Center and Southeast Regional Office
- In kind Contribution: \$10,328 (9% of requested plus in-kind)
- Funding Transition Plan:
 - Earlier proposals for this maintenance project requested funds for 100% of add-on sample that was requested by up to 11 partner states from ME through FL.
 - Since ACCSP began coordinating state conduct of the MRIP Access Point Angler Intercept Survey (APAIS) in 2016, most state partners have transitioned to conducting add-on samples above base MRIP allocation at no additional cost.
 - FL is the only partner requesting ACCSP support in FY20. The state is exploring options that would potentially establish a dedicated funding stream to support monitoring of recreational fisheries targeting important reef fish stocks on the Gulf and Atlantic coasts. Funding will not be available in time to support this work in FY20, and ACCSP support is requested while the state continues to work towards a transition plan.
- Improvement in data quality/quantity:
 - This proposal requests funds to maintain a minimum level of data collection needed in the South Atlantic region by supporting 100% of headboat observer coverage on the Atlantic coast of Florida.
 - This proposal would ensure complete coverage of the Atlantic coast headboat fisheries from ME through FL for monitoring the size distribution of recreational discards.
- Impact on Stock Assessments:
 - Species impacted by this work are priorities for upcoming stock assessments, including:
 - Black Sea Bass, Scamp, Gray Triggerfish, White Grunt, Red Grouper, Vermilion Snapper, Red Snapper, Blueline Tilefish, Golden Tilefish, Black Grouper, Yellowtail Snapper, King Mackerel, Spanish Mackerel, and Greater Amberjack

- are assessment priorities of the South Atlantic Fishery Management Council (SAFMC).
- Ranges for King Mackerel and Cobia stocks in the Gulf of Mexico include portions of the Atlantic coast of Florida, and these stocks are assessment priorities of the Gulf of Mexico Fisheries Management Council (GMFMC).
- Hogfish, Yellowtail Snapper, and Mutton Snapper stocks are assessment priorities of the state of Florida.
- At-sea observer coverage does not exist in any other segment of recreational fisheries along the Atlantic coast, and this project is the only source of representative information available to characterize the size composition of recreational discards.
- Fishery independent surveys in the South Atlantic are not adequate for assessing many stocks and do not extend through southeast Florida. Therefore, fishery dependent surveys are relied upon as a relative measure of stock abundance.
- Additional data collected in Florida have contributed to estimated discard mortality, including:
 - Capture depth
 - Proportions of discards that suffer hook injuries
 - Proportions of discards that are vented or floating at the surface
 - Proportions of tagged Red Snapper discards that are released in various conditions and later recaptured

Milestone Schedule

A monthly milestone schedule is provided in Table 1. Gulf States Marine Fisheries Commission will run monthly sample draws for Florida vessels, and FL FWC will schedule and conduct assignments in the field each month to meet established sample targets each wave. Data will be reviewed by a state supervisor each month prior to electronic data entry, visual proofing and automated QA/QC checks will be conducted on electronic data to flag potential errors for follow up. Final data are available within three months after the completion of a year. FL FWC will prepare semi-annual (30 days following month 6 and 12) and final progress reports (90 days following month 12) as specified in the ACCSP Funding Decision Process Document. Reports will be submitted through NOAA Fisheries Southeast Regional Office.

Project Metrics

Table 2 provides sample targets for each two month period (wave). Progress toward goals for this project will be measured in numbers of vessel trips sampled each wave. Should sample targets not be reached in a particular wave (e.g., weeks of inclement weather result in a large portion of the vessels to cancel trips), those vessel trips will be “rolled over” to subsequent waves within the calendar year, with the total obtained for the year not to exceed the requested annual allocation. Field productivity will be measured by numbers of anglers observed, numbers of discarded fish measured prior to release, numbers of harvested fish measured and weighed, and numbers of harvested fish sampled for age structures during each assignment.

Cost Details

Requested Funds

A total of \$104,899 is requested for this proposal. A summary of costs associated with this proposal for participating states is given in Table 3. Funds supporting at-sea headboat trips in Florida will be dispersed to NOAA’s Southeast Fisheries Science Center (and charged a 5% administrative fee) before being dispersed to the state to conduct the work.

Budget narrative for cost summary provided in Table 3:

1. Personnel (a): Costs listed are for part time personnel necessary to complete at-sea trips.
2. Fringe (b): Medicaid and FICA costs, expressed as a percentage of total personnel.

3. Travel (c): travel costs are requested to pay for mileage to and from headboat sample sites and cover regular or reduced headboat passenger fare, which is paid for each observer in order to secure space on limited capacity vessels. Florida also requires payment of headboat fare so that state employees are covered by liability insurance for the vessel. Other costs include parking and highway tolls.
4. Total Direct Charges (i). Total personnel, fringe and travel. No supplies, equipment, or contractual services are requested.
5. Indirect Charges (j). The state of Florida assesses an overhead charge to grants to cover the costs of administrating the grant. For ACCSP, the overhead is capped at 25% of total direct charges.

In-Kind Contributions

In-kind contributions total \$10,328 or 9% of the total cost (requested funds and in-kind contributions, combined). Included in this amount is the cost of supplies (measuring boards, scales, and other equipment); pre-printed data collection forms on waterproof paper; staff time for data entry, quality control, and database management; and oversight of field data collections.

Project History

The funding history for this maintenance proposal is summarized in Table 5. This proposal has decreased from previous years' award amounts. A summary of costs for the previous year (2019) is provided in Table 6. Eight states no longer request additional funds to support headboat add-ons above base sampling levels (MA, RI, CT, NY, MD, VA, NC, GA), and three states (ME, DE, SC) have discontinued additional sampling above base. The last remaining partner requesting ACCSP support (FL) is currently exploring options for the future that would establish a dedicated funding stream to support monitoring of recreational fisheries targeting important reef fish stocks on the Gulf and Atlantic coasts.

Project PI

Beverly Sauls, Florida Fish and Wildlife Conservation Commission, will oversee the conduct of this work in Florida (C.V. attached).

References

Sauls, B., A. Gray, C. Wilson and K. Fitzpatrick. 2015. Size distribution, release condition, and estimated discard mortality of Red Snapper observed in for-hire recreational fisheries in the South Atlantic. SEDAR41-DW33. SEDAR, North Charleston, SC.

SEDAR (Southeast Data, Assessment and Review). 2016. SEDAR41 Stock Assessment Report South Atlantic Red Snapper. SEDAR, North Charleston, SC.

Sustainable Fisheries Branch, National Marine Fisheries Service. 2011. Standardized discard rates of U.S. Black Seabass (*Centropristus striata*) from headboat at-sea observer data. SEDAR25-DW13. SEDAR, North Charleston, SC.

Sustainable Fisheries Branch, National Marine Fisheries Service. 2015. Standardized catch rates of Red Snapper (*Lutjanus campechanus*) from headboat at-sea-observer data. SEDAR41-DW14. SEDAR, North Charleston, SC.

Table 1. Milestones by year and month.

Task	2020												2021
	1	2	3	4	5	6	7	8	9	10	11	12	1-3
At-sea sampling	X	X	X	X	X	X	X	X	X	X	X	X	
Data entry and QA/QC		X	X	X	X	X	X	X	X	X	X	X	X
Data finalized													X
Report writing and submission							X						X
Participation in SEDAR webinars and data workshops as scheduled	X	X	X	X	X	X	X	X	X	X	X	X	X

Table 2. Sample targets (in number of trips) by region and wave.

Region	Number of vessels in frame	Jan-Feb	Mar-Apr	May-Jun	July-Aug	Sep-Oct	Nov-Dec	Total
Northeast FL	9	5	10	10	10	10	5	50
Southeast FL	43	16	16	16	16	16	16	96
Total	46	21	26	26	26	26	21	146

Table 3. Cost summary for funds requested from ACCSP.

Description	Calculation	Requested from ACCSP
Personnel (a)		
Hourly biologists	8 hr/trip * \$16.50/hr * 146 trips * 2 staff	\$38,544
Fringe (b)		
Hourly biologists	35.45% of personnel	\$13,664
Travel (c)		
Mileage for sampling trips	\$0.445/mi x 146 trips * 80 mi * 2 staff	\$10,395
Headboat fares	\$70/trip * 146 trips * 2 staff	\$20,440
Parking and tolls	146 trips * \$3.00 per trip * 2 staff	\$876
Totals		
Total Direct Charges (i)	Sum of personnel, fringe, travel	\$83,919
Indirect Charges (j)	25% of total direct	\$20,980
Total (k)	Sum of direct and indirect	\$104,899

Table 4. Cost summary for in-kind contributions.

	In kind
Personnel (a)	
5% of time for one Research Administrator and two Assistant Research Scientists	\$6,500
Fringe (b)	
34.50%	\$2,243
Supplies (d)	
pre-printed forms on waterproof paper, measuring boards, scales	\$425
Other (h)	
Mailing, copying, cell phone service	\$1,160
Total	\$10,328
Percent of total requested (k) plus in kind	9.0%

Table 5. ACCSP Funding Related to the For-Hire Headboat Fishery: 1999-2019.

Year	Project Description	Funds Received	# At-Sea Trips	Data Delivery
FY99	Outreach with SC for-hire constituents prior to For-Hire Pilot Study	\$5,000		
FY00	For-Hire Pilot Study comparing three data methodologies in SC	\$94,082		
FY01	Independent evaluation of SC For-Hire Pilot Study	\$7,695		
FY02	Outreach with for-hire constituents & development of vessel directory prior to implementation of For-Hire Survey	\$66,000		
FY03	Increase charter and party/headboat sampling levels from ME through GA (100% increase)	\$418,972	456	X
FY04	Increase charter and party/headboat sampling levels from ME through GA (100% increase)	\$533,410	456	X
FY05	Increase charter and party/headboat sampling levels from ME through FL (100% increase in general, FL HB sampling added)	\$666,740	565	X
FY06	Increase charter (100% increase) and party/headboat (50% increase ME-GA, FL level funded) sampling levels from ME through FL	\$389,700	560	X
FY07	Increase charter (100% increase) ME through GA and party/headboat (50% increase) sampling levels from ME through FL	\$391,940	357	X
FY08	Increase charter (100% increase) ME through GA and party/headboat (50% increase) sampling levels from ME through FL (excluding GA)	\$359,753	310	X
FY09	Increase charter (100% increase in most waves) NH through GA and party/headboat (50% increase) sampling levels from NH through FL (excluding ME, CT, RI, GA)	\$309,279	327	X
FY10	Increase charter (between 50-100%) NH through GA (excluding ME, CT, RI, MD, RI) and party/headboat (50% increase) sampling levels from NH through FL (excluding ME, CT, RI, SC, GA)	\$376,092	293	X
FY11	Increase charter (between 50-100%) NH through GA (excluding ME, CT, RI, MD, RI) and party/headboat (50% increase) sampling levels from NH through FL (excluding ME, CT, RI, SC, GA)	\$299,591	276	X
FY12	Increase party/headboat (50% increase) sampling levels from NH through FL (excluding ME, CT, RI, VA)	\$159,573	285	X
FY13	Increase party/headboat (50% increase) sampling levels from NH to FL	\$147,707	302	X
FY14	Increase party/headboat sampling levels from NH through FL	\$155,490	314	X
FY15	Increase party/headboat sampling levels from NH through FL	\$168,738	327	X
FY16	Increase party/headboat sampling levels from NH through FL (excluding SC)	\$179,286	327	X
FY17	Increase At-Sea Sampling Levels for the Recreational Headboat Fishery on the Atlantic Coast	\$155,373	247	X
FY18	Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast	\$134,370	247	X
FY19	Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast	\$107,187	165	X

Table 6: Prior complete year (2019) Cost Summary Budget Narrative.

NH	NJ	NC	FL
Personnel (a)	Personnel (a)	Personnel (a)	Personnel (a)
(10 hr/trip x \$20.60/hr x 7 trips x 2 staff) \$2,884	(8 hr/trip x \$19.00/hr x 18 trips x 0.5 tech staff) + (8 hr/trip x \$13.00/hr x 18 trips x 1 hourly staff) \$3,240		(10 hr/trip x \$15.00/hr x 120trips x 2 staff) \$36,000
Fringe (b)	Fringe (b)	Fringe (b)	Fringe (b)
51.07% \$1,473	53.95% tech + 7.65% hourly \$881		35.45% \$12,762
Travel (c)	Travel (c)	Travel (c)	Travel (c)
\$0.54/mi x 7 trips x 54 mi \$204	[(100 mi/trip*18 trips)/20 mpg]*\$4/gallon \$360	\$0.54/mi x 20 trips x 80 mi \$864	\$0.445/mi x 120 trips * 80 mi * 2 staff \$8,544
	Headboat fare (\$55/trip x 18 trips x 2 staff) \$1,980	Headboat fare (\$75/trip x 20 trips x 2 staff) \$3,000	Headboat fare (2 staff x \$62/trip x 120 trips) \$14,880
	Parking and highway tolls \$200	Parking and Permits \$0	Parking and highway tolls \$251
Total Direct Charges (i) \$4,561	Total Direct Charges (i) \$6,661	Total Direct Charges (i) \$3,864	Total Direct Charges (i) \$72,437
Indirect (j)	Indirect (j)	Indirect (j)	Indirect (j)
State indirect = 20% of TDC, charge 10% as per ASMFC policy \$456	15% of TDC \$999	26.8% of Salary and Wages \$ 0	State indirect = 25% of TDC \$18,109
Sum of Direct and Indirect (k) \$5,017	Sum of Direct and Indirect (k) \$7,660	Sum of Direct and Indirect (k) \$3,864	Sum of Direct and Indirect (k) \$90,546

Beverly J. Sauls, Research Administrator II

Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute
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Degrees

University of South Florida, M.S., College of Marine Science, Marine Resource Assess. Program, 2013
Christopher Newport University, B.S., Biology, 1993

Professional Experience

Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute,
Research Administrator II, May 2019 to present

- Direct and coordinate activities of the Fisheries Dependent Monitoring Program for commercial and recreational fisheries in Florida.

Associate Research Scientist and Research Scientist, September 2001 to April 2019

- Design, implement, supervise, and oversee the conduct of fishery-dependent data collection programs for recreational fisheries throughout the state of Florida, including:
 - Marine Recreational Information Program (MRIP)
 - Access Point Intercept Survey and For-Hire Telephone Survey
 - Supplemental biological sampling
 - At-sea observer programs on for-hire recreational fishing vessels in Gulf and Atlantic
 - Florida Gulf Reef Fish Survey certified through MRIP
 - Supplemental East Florida Red Snapper Recreational Survey

Maryland Department of Natural Resources, Fishery Management Plan Writer, Jan. 1994 to June 1998

- Led development of Fishery Management Plans for the Chesapeake Bay Program.

College of William and Mary, Virginia Inst. of Marine Science, Lab Technician, June 1989 to Dec. 1993

- Collected quantitative data utilizing radio and sonic telemetry and aerial surveys. Compiled over ten years of mark-recapture data for marine turtles and summarized migration patterns.

Appointments

- Atlantic Coast Cooperative Statistics Program: Recreational Technical Committee
- Gulf States Marine Fisheries Commission: Technical Coordinating Committee, Fisheries Information Network (Gulf FIN) Committee, and Data Management Subcommittee
- Southeast Data Assessment and Review (SEDAR): Data Workshop Panelist for South Atlantic and Gulf of Mexico stock assessments

Select Peer-Reviewed Publications

2017. Sauls, B., A. Strelcheck and R. Cody. Survey methods for estimating red snapper *Lutjanus campechanus* landings in a high-effort recreational fishery managed with a small annual catch limit. *North American Journal of Fisheries Management* 37: 302-313.

2014. Sauls, B. Relative survival of gags *Mycteroperca microlepis* released within a recreational hook-and-line fishery: application of the Cox regression model to control for heterogeneity in a large-scale mark-recapture study. *Fisheries Research* 150: 18-27.

2012. Sauls, B. and O. Ayala. Circle hook requirements in the Gulf of Mexico: application in recreational fisheries and effectiveness for reef fish conservation. *Bulletin of Marine Science*. 88: 667-979.

Response to Comments

Thank you for the opportunity to submit this final proposal, attached. Only one change was made to the proposal (highlighted below). Written responses to reviewers' comments are below:

Comment: Costs per trip have been steadily increasing FY18 - \$544/trip; FY19 - \$649/trip; FY20 \$718/trip – any info as to why?

Reply: The FY2020 proposal includes one state (Florida), whereas previous years included multiple states. The cost per trip in Florida has gone down this year. In 2018 and 2019, we requested \$90,546 to conduct 120 trips, at an average cost of \$754.55 per trip. In 2020, we are requesting \$104,899 to conduct 147 trips, at an average cost of \$718.48 per trip. We are requesting 27 additional trips so that sampling may be conducted on the Atlantic coast of the Florida Keys.

Comment: Are there any discussions going on as to what will happen to FL sampling as this proposal is cut?

Reply: in the proposal we note, “the state is exploring options that would potentially establish a dedicated funding stream to support monitoring of recreational fisheries targeting important reef fish stocks on the Gulf and Atlantic coasts. Funding will not be available in time to support this work in FY20, and ACCSP support is requested while the state continues to work towards a transition plan.” We cannot provide more details before we have appropriate approvals through our state Commission.

Comment: Given changes over time to proposal and now just a program for FL, title not overly representative of the actual proposal

Reply: The title now reads, “Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast of Florida.”

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22204

A Maintenance Proposal

Expanding Accountability in Reporting: A Tool for Comprehensive For-Hire Data Collection and Monitoring in Maryland – Year 2

Submitted By:

Carrie Kennedy
Maryland Department of Natural Resources
580 Taylor Ave, B-2
Annapolis, MD 21401
Carrie.Kennedy@maryland.gov

Primary Priority: Catch, effort, and landings data
Recreational Technical Committee Priority: Comprehensive For-Hire Data Collection and Monitoring

Applicant Name: Maryland Department of Natural Resources

Title: Expanding Accountability in Reporting: A Tool for Comprehensive For-Hire Data Collection and Monitoring in Maryland

Project Type: Maintenance

Principal Investigator: Carrie Kennedy, Data and Quota Monitoring Program Manager

Requested Award Amount: \$103,175

Requested Award Period: For one year, beginning after the receipt of funds

Original Date Submitted: June 10, 2019

Objective:

We propose to expand the number of vessels using FACTS™ electronic reporting and continue at-sea and dockside monitoring of Maryland’s for-hire fishery in year 2 of this project. The tool allows for-hire captains to report daily harvest using cell phones, smartphones or computers. Daily harvest reports will also be verified through dockside monitoring facilitated by pre-trip notifications (or hails) submitted daily by the for-hire fleet. Additional at-sea sampling will be conducted to collect additional catch (discard) and effort data. Work will be conducted for March through December of 2021.

Need:

Maryland’s Chesapeake Bay for-hire captains are required to hold either a Maryland Fishing Guide License or an Unlimited Tidal Fishing License. Vessels must have an additional charter decal in order to conduct charters of unlicensed anglers in Maryland, or to conduct trips targeting striped bass. Decals must be obtained for a vessel that can carry either 6 or less passengers (6 pack) or 7 or more passengers (Annotated Code of Maryland §4-745). Licensees are required to report catch data to the department (COMAR 08.02.13.06).

Maryland has had a for-hire logbook requirement since 1995 (Figure 1). At the same time, MRIP conducts the For-Hire Telephone Survey to estimate effort. For-hire harvest estimates are derived using for-hire intercepts of fishermen along with the effort data from logbooks. Maryland has an agreement with NOAA/MRIP to provide trip data to MRIP from vessels they select. Every wave, MRIP submits a list of vessels for each week during the wave and is provided with the trip information (date, number of trips, location, and number of anglers) by the end of the month after the wave (May 29, July 29, Sept 29, etc.). As in other states, Maryland’s charter industry believes the estimates to be of questionable validity – especially since they provide data via logbooks. However, recent declines in reporting rates from 2013-2018 (95% to 62%, respectively) demonstrate that additional tools are required to provide harvest values so fisheries managers can understand for-hire fishing impacts. Unfortunately, MRIP cannot enforce industry accountability, requires additional effort and resources to manage, and often lacks buy-in from stakeholders. We also found a substantial discrepancy between Maryland’s logbook-reported angler trips and Maryland’s MRIP-estimated for-hire trips in state waters (Table 1), which does not seem to be accounted for by lack of compliance alone. Our hope is that this work will begin to highlight why this difference exists.

Table 1. Maryland logbook-reported angler trips compared to MRIP estimated for-hire anglers trips in state waters.

Year	All MD Logbook Reported Angler Trips	MRIP MD State Waters For-Hire Angler Trips	PSE
2013	111,582	132,807	15.4
2014	99,729	168,201	12.7
2015	75,892	141,152	11
2016	78,890	106,933	12.2
2017	81,516	194,097	9.7
2018	139,223	129,355	10.1

In 2006, the National Research Council completed an independent review of national recreational fisheries survey methods. Their primary finding regarding for-hire fisheries was that reporting should be mandatory (NRC 2006). However, they also noted that data collected through logbooks require verification and enforcement in order to be reliable. In 2013, Donaldson et al submitted a report to MRIP on their for-hire logbook pilot in the Gulf of Mexico. In their report, they included a series of recommendations for implementing a census-level logbook program. Recommendations include: reporting with built-in quality control features, industry-led design, ability of logbook to record and store records for later retrieval, timely reporting that can be enforced, and field validation. ACCSP then held a workshop on the Inventory and Comparison of For-Hire Data Collections in the Atlantic and Gulf of Mexico: Opportunities for Convergence in 2016. There was consensus at the workshop for, “reducing redundancy through convergence of existing programs or transitioning to a comprehensive single program is possible with the primary challenges coming from the socio-political aspects.” Maryland has worked with the commercial industry to create a tool that should meet the recommendations of NRC and Donaldson et al.

To date, no single comprehensive for hire reporting and monitoring program, or standards, formally exist. Continuing and expanding this proposed pilot for an additional year would inform the discussion on the approach to comprehensive for-hire data collection and monitoring. ACCSP intends to use APAIS as validation of for-hire logbooks and catch estimation based on MRIP’s SC For-Hire Logbook validation (Dukes et al., 2015). A different approach is proposed here which could provide states another option for for-hire data collection. This approach could be modified in future years to include APAIS intercepts as harvest validation in lieu of dockside monitors which would improve efficiency and reduce costs.

The Maryland Blue Crab fishery was declared a disaster in 2008. Using the federal funds received to mitigate the disaster, an industry-led “Blue Crab Design Team” (Team) began to meet to discuss different approaches to management. A significant recommendation was to improve reporting accountability. With their input, the Maryland Department of Natural Resources, and our partners Maryland Environmental Service, Electric Edge Systems Group, Versar, and Oyster Recovery Partnership designed an electronic reporting system which includes a hailing component: FACTS™ (<https://www.fisheryfacts.com/index.cfm>). It is a web-based reporting tool, with both a portal and a mobile interface. Start hauls let the department know that a trip has started and to expect a report. It also allows the department to verify via “spot checks” that harvest reported is accurate. In 2012, we began to pilot the system, FACTS™, with the blue crab industry. In 2015, we extended the pilot to Chesapeake Bay finfish harvesters. Maryland has successfully deployed FACTS™ for its Chesapeake Bay commercial blue crab and finfish fleets (<http://dnr.maryland.gov/fisheries/Pages/E-reporting/index.aspx>) and it is proven to be an effective method for providing timely, verified harvest (Slacum et al. 2013, 2015). Nearly 13,000 trips were reported in 2018 using FACTS™. The system also serves as an important business tool, allowing commercial fishermen to track their harvest and effort as well as monitor and transfer individual quotas. The department uses the system for administrative purposes (permitting and quota monitoring), enforcement, and to target biological sampling efforts.

Since its inception, Maryland’s for-hire industry has been requesting the ability to report harvest using Maryland’s E-Reporting tool (FACTS™), but additional development costs and funding constraints kept Maryland from adding for-hire fleet reporting options. The first year funding for this project will allow for implementation of the system for the for-hire fleet in April 2020. The tool is designed to collect additional effort and catch data such as the number of lines fished, duration of fishing, gear type (e.g. circle hook) and discard data. Ensuring these data are collected and verified for a second year will be

invaluable for management, particularly for striped bass where dead discards are posing a significant conservation problem.

We intend to continue collecting additional catch and effort data through at-sea sampling trips arranged with the captains. At-sea sampling is designed to accomplish two objectives. The first objective will be to characterize for-hire fleet discards by documenting daily discards observed on vessels fishing throughout Chesapeake Bay. The second objective is to work with industry to design an approach to document discards in FACTS™ that is easy to use and maximizes precision. This proposal continues this effort through the 2021 season. At-sea monitoring will continue to further characterize for-hire fleet discards and fine tune the discard reporting process. We anticipate having at-sea monitors on 10% of the total number of trips verified (400 trips verified x 10% = 40 trips). At-sea monitors will document the total amount, species, and representative lengths from all discards occurring during a fishing trip. Monitors will also document time of day of each discard. In addition to helping develop the reporting process, collected discard information will be compared to all discard reports reported during the pilot.

Lastly, we believe this effort will allow us to improve our vessel list and vessel directory that is currently used to complete the MRIP for-hire survey. In any given pre-validation draw (typically about 60 vessels per week), we are only able to validate about 25 vessels because we do not have location information for the remaining 35 vessels. By requiring a landing location for all vessels reporting through FACTS™, a necessity to complete a harvest verification, we will have a more complete and current vessel list and directory (NRC 2006). A more robust vessel list and directory can lead to a more robust estimate – until we have 100% reporting via a for-hire logbook with hailing requirement.

Results and Benefits

Coastwide, this tool will be the model for comprehensive, verified state for-hire fishery data collection. It will also address the recommendations of the 2006 NRC and the ACCSP For-Hire Workshop (May 2016) to improve the timeliness of wave data; and maintain common data elements for for-hire trip reporting. The catch and effort data that will be available to our partners may provide information useful to in-season management.

In the long-term, the ability to verify harvest, along with collecting other catch and effort (discard) data, allows the modernized data system to replace the MRIP for-hire survey and provide managers with a more precise landings record. Maryland reporting rates would improve with the expanded use of the system. Robust discard data collected in real-time should allow for crafting of more appropriate management measures, potentially even in-season. These discard data are increasingly important for fisheries managers.

Striped bass are the primary target and harvest of the charter fleet in Maryland's Chesapeake Bay. More accurate and precise for-hire landings of such an important coastal species will be a benefit to fisheries managers and to the industry. We believe at-sea sampling of Maryland's Chesapeake Bay charter fleet will also capture samples from species not intercepted by APAIS data collection. For example, Maryland logbook data indicate an increase in both cobia and red drum catch in recent years (Table 3), where MRIP data do not show any catch of these species in the for-hire fleet. We anticipate that we will be able to collect additional biological samples (length and weight) of both of these species, which are in the top 25% of species needing additional samples as identified by the Biological Review Panel.

Table 3. Logbook-reported cobia and red drum catch (harvest and discards) in Maryland Chesapeake Bay charter boats.

	2015	2016	2017	2018
Cobia	577	107	168	473
Red Drum	405	1515	1036	1255

We expect this effort will allow us to improve our vessel list and vessel directory that is currently used to complete the MRIP for-hire survey. A more robust vessel list and directory can lead to a more robust estimate under the current MRIP for-hire survey. All users of for-hire estimates in Maryland will realize an improvement in the vessel list and vessel directory.

Data Delivery Plan

Data will be transferred directly from FACTS™ to the ACCSP Data Warehouse via application programming interface (API) daily. Additional discard data exceeding the current logbook requirements will also be collected and provided to management partners during the pilot also through an API.

Approach

Continued Dockside Monitoring Implementation and Trip Sampling

The FACTS™ platform incorporates modules for harvest verification by dockside monitors which ensures improved data quality, in addition to the provision of timely data. Dockside monitoring is integral to our approach and was tested during a pilot of the FACTS™ system for Maryland's commercial blue crab fleet. An essential finding was that verification was the best way to improve user accountability (Slacum et al. 2013, 2015). A recent pilot in the Gulf of Mexico had an equivalent finding (Donaldson et al. 2013). Similar dockside monitoring will be designed to appropriately sample up to 10% of the for-hire trips reported via FACTS™. As this is an expansion, and we anticipate up to 100 additional participants to be recruited for the second year, a higher number of trips will be monitored. For-hire captains participating in the FACTS™ program will be required to send a start hail and an end hail, with the estimated landing time and location. If conditions change on the water, best reporting practices dictate that they revise the start hail information. Failure to send an end hail, triggers automatic reminders by text. They will be required to comply with spot checks. Landing locations where spot checks will occur consist of public landings and public and private marinas. Locations will be grouped geographically into specific regions for planning and scheduling of daily spot checks. Monitoring regions may be defined around county boundaries or sub-county delineations, depending on reported locations. In addition, observers will be deployed on a portion of charter trips during the pilot to document discards. Data collected during observed trips will be compared to discard data from non-observed trips and discard documented in spot checks to verify the accuracy.

Dockside monitors will be provided a tablet and the existing FACTS™ harvest verification tool will be modified to collect for-hire logbook verification. At-sea sampling of charter boats will also be conducted by the dockside monitors. We believe at-sea sampling of Maryland's Chesapeake Bay charter fleet will capture samples from species not intercepted by APAIS data collection. We anticipate that we will be able to collect additional biological samples (length and weight) of both of these species, which are in the top 25% of species needing additional samples as identified by the Biological Review Panel.

The second year of the project expects to address catch and effort (80%), biological sampling (10%), and sociological and economic (10%).

An additional administrative specialist will be hired to assist with recruiting, training, and administrative processing necessary to enroll in the program.

Geographic Location

Maryland’s state-licensed for-hire fleet conducts their fishery in Maryland’s portion of the Chesapeake Bay. Maryland’s coastal for-hire fleet operates under a more complex myriad of federal business rules. Should we receive funding, we will continue to focus on Maryland’s Chesapeake Bay for-hire fleet. Based on the success of this pilot, funding requests in future years may address the needs of Maryland’s Atlantic coastal fishery to comply with federal reporting requirements.

Milestone Schedule

Funds just became available from NOAA for the 2019 project, and no work has begun. Work is anticipated to begin this fall, with implementation of the system for captains expected to begin in April 2020. If this proposal is funded, work would be conducted beginning March 2021.

Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Recruit and Train Volunteer Participants			X	X	X	X	X	X	X	X					
Dockside Monitoring and Trip Sampling				X	X	X	X	X	X	X	X	X			
Report Writing							X						X	X	X

Project Accomplishments Measurement

	Accomplishment Goal
Number of trips validated through dockside monitoring	600
Number of trips sampled for discard data	60

Number of licensees using FACTS™ to report for-hire logbook data: There are approximately 350 decals issued every year that are expected to report fishing effort and harvest. This pilot will be open to all 350 captains (100%) that wish to use the system. Currently, 21 of the licensees that already use FACTS™ also have a charter decal. By the end of the project period, it is anticipated that there will be 200 vessels in compliance with the pilot program. Routine training sessions will be held to incorporate new users throughout the pilot, in excess of the expected 100 new captains/operators, if necessary. The number of participants that are trained and use the system will be documented, and any users that choose to return to paper reporting will also be documented along with their reason(s). All trip-level logbook data will be supplied to ACCSP’s Data Warehouse using an API.

Number of vessels reporting trips in FACTS™: Of the 75 Chesapeake Bay for-hire captains expected to join the first year, several of them have multiple vessels they use to carry for-hire trips. Therefore, 100

new vessels are the expected target number of vessels in the program. In Maryland, individuals are licensed to run commercial fishing businesses, but each vessel used to conduct for-hire trips in state waters must have a charter decal.

Number of trips reported and verified in FACTS™: By the end of the project period, it is anticipated that there will be approximately 6,000 for-hire trips reported via FACTS™. This represents approximately 60% of the current trips reported in state for-hire fisheries. The current annual reporting rate (number of reports received/number of reports expected) is approximately 62%; this tool is intended to reduce under-reporting of trips. The FACTS™ platform is designed to allow for harvest and effort verification, therefore capturing any trips that may be under (non) reported. Up to 10% of the reported trips will be verified per the dockside monitoring design.

Cost Summary and Outlook on Future Funding

MD DNR is committed to modernizing its fishery dependent reporting system and has been supporting the development of a comprehensive E-Reporting and management system since 2012. Annual system operations and user support (by MD DNR employees and outside contractors) is provided through state funding. System development has been completed through the use of contractors financed by state funds, but major system advancements have been accomplished with additional support from external grant funds. Maryland has already completed work on two of its fisheries, finfish and blue crab, and is now focused on further expanding the use of reporting capabilities for its for-hire fleet.

Federal Request (\$103,175)

(a) **Personnel (\$17,945):** An administrative specialist will be hired by the department to assist with recruiting, training, and administrative processing necessary to enroll in the for-hire portion of the pilot FACTS program. This will be a short-term contractual position, with the state hourly rate being \$15.47. It is estimated that the position will work six months (1,040 hours) plus additional weekly trainings during the evening (120 hours).

(b) **Fringe Benefits: (\$0)**

(c) **Travel: (\$0)**

(d) **Equipment: (\$0)**

(e) **Supplies: (\$0)**

(f) **Contractual (\$81,219):**

Project and contract management (\$36,409) - The MD DNR has already competitively procured a contract with the Oyster Recovery Partnership (ORP) Coastal Resource Assessment and Monitoring (CRAM) division to execute the E-Reporting with FACTS™ project and all sub-awards will therefore be managed by ORP. ORP's CRAM has expertise in the development of large scale resource assessments, fishery independent and dependent data acquisition and management, statistics, and stakeholder engagement. Representative projects include long-term management of Maryland's development of Maryland's E-Reporting system using FACTS™, including design, implementation and management of roving dockside monitors from 2012 to 2014, and 2019. Therefore, we can leverage the flexibility in ORP's hiring process that the state's process does not have. ORP will be responsible for: communicating with MD DNR;

communication between Project Team members; scheduling and implementing Team efforts, such as the hiring, training, and spot checking monitors. The budget for this portion of the project consists of staff time for the Program manager and one E-Reporting specialist to coordinate these events; compile project results and report; and process invoices. This task will also involve continued feedback and outreach to fishers actively using the system and will involve significant amounts of staff time to troubleshoot issues, and implement modifications to the system based on fisher’s feedback or Team evaluation. ORP staff costs include salary and fringe.

Program Manager - WS (\$84.01 x 180 hrs)	\$15,122
E-reporting Specialist -KC (\$51.17 x 416 hrs)	\$21,287
TOTAL PROJECT MANAGEMENT	\$36,409

For-Hire Dockside and At-sea Monitoring staff (\$33,300) – The anticipated approach to verify for-hire logbooks by dockside monitors will be to hire four monitors that will be strategically located in areas where for-hire fleet activity is concentrated. Table 4. Provides the hourly costs associated with doing the dockside monitoring. The on-board sampling cost is based on 60 trips occurring with at-sea samplers (see Project Accomplishments Measurement) with a cost of \$100 per trip for a total of \$6,000.

Table 4. Cost Calculation of Dockside Monitors Time

	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Cost
Per week	60	60	45	40	40	40	35	35	35	
Hours/day/monitor	5	5	5	5	5	5	5	5	5	
Hours per month	300	300	225	200	200	200	175	175	175	
Total month @ Rate \$14	4200	4200	3150	2800	2800	2800	2450	2450	2450	\$27,300

Monitors Time	\$27,300
At-Sea Sampling	\$6,000
Total	\$33,300

Field and Meeting Travel Expenses (\$11,510) - This portion of the contractual budget is for expenses incurred by dockside monitors to travel to and from dockside monitoring and for travel to meetings. We anticipate travel for dockside monitor spot checks will range between 30 to 50 miles roundtrip and have budgeted using an average daily dockside monitor trip of 40 miles roundtrip. The anticipated number of trips is 450 trips between April and December and gas reimbursement is the current Federal standard of \$.545/mile. Dockside monitors will also be required to attend 2 meetings for training and debriefs. The total number of anticipated miles is 19,320 miles. Additional travel budget is requested for members of the E-Reporting project team to conduct QA/QC of dockside monitoring activities and for training. In addition, travel to fisher training and feedback meetings is also budgeted. We anticipate a total of 1,800 miles of travel for these activities.

Mileage for dockside monitors (\$0.545/mile x 19320 miles)	\$10,529
Mileage for meetings, site visits, QA/QC of dockside monitors (\$0.545/mile x 1800 miles)	\$981

(g) Construction (\$0)

(h) Other (\$0)

(i) Total Direct Charges (**\$99,165**)

(j) Indirect Charges (**\$4,011**) - The state negotiated agreement rate with NOAA has expired, therefore the previous rate of 22.35% is used to estimate the indirect costs of the state contractual position see Appendix A.

Non Federal, In-Kind Contribution

(a) Personnel (**\$34,295**): Following the already proven process of combined state and grant funding, the MD DNR will provide in-kind support by dedicating three staff (associated overhead and fringe benefits) to assist in the management and staffing of the Pilot Project. This is the approach used during the previous pilot projects resulting in Maryland's current E-Reporting system. In fact, all three staff participated in portions of each of the previous pilots and are integral members of MD's E-Reporting Team. While each staff has other duties to fulfill at the department, supporting this Pilot is a logical extension of those duties and will not jeopardize the success of the Pilot Project.

Program Manager I (\$46.66 x 250 hrs)	\$11,665
Administrator II (\$37.13 x 500 hrs)	\$18,565
Database Specialist II (\$40.65 x 100 hrs)	\$4,065
Total In-Kind Personnel	\$34,295

(b) Fringe Benefits: (\$0)

(c) Travel: (\$800): For each of eight FACTS™ training session held monthly, March – August, the state will provide vehicles for transportation in lieu of mileage and the state will reimburse expenses for meals up to \$25 per day.

(d) Equipment (**\$2,500**): Roving dockside monitors staff will use four tablets with a service plan to collect data in the field. The cost of those tablets (4x\$500) and the service plan (\$500) is currently covered by state funds.

(e) Supplies: (\$0)

(f) Contractual (\$43,600):

Call Center (\$4,000) - The call center is used by some fishers to report harvest. The cost of the call center is fully supported through funding by the MD DNR. We anticipate the call center will be used by some for-hire fishermen to report harvest during the project. The call center also provides a back-up for web-based reporting when user specific or internet specific technical issues occur. Having many options for fishers to report has been vital during previous pilots and has helped to alleviate concerns of some fishers that not having internet coverage would result in a reporting violation. We also receive valuable feedback from the call center through their interactions with fishers. The monthly call center fee is \$3,000.00. We estimate 20% of the call center monthly effort will be required to support the Pilot Project.

FACTS™ (\$36,000) - FACTS™ is a software as a service (SaaS) platform and the MD DNR is fully funding the annual costs to maintain access to fishers to report. All trips and harvest reported by project participants will require access to FACTS™ regardless of the platform (i.e., application, mobile web, etc.) used to report. The service fee to maintain the charter boat reporting module in FACTS™ will be \$3,000 per month for the 12 month project.

Help Line (\$3,600) - MD's E-Reporting program has a dedicated 24/7 helpline to support fishers with any problems or questions they have while E-reporting. The helpline will also be used to gather feedback from for-hire fishermen participating in the pilot project and for communication with roving monitors and observers during the pilot. The helpline has been extremely successful for data gathering and fisher satisfaction. The monthly helpline fee is \$1,500.00. We estimate that 20% of the monthly use of the helpline will be to support the 12 month Project.

(g) Construction (\$0)

(h) Other (\$0)

Funding Transition Plan

To reduce costs in future years, APAIS personnel could be trained to conduct harvest monitoring activities on days when APAIS trips are not being sampled. It is expected that ACCSP will develop an application that allows APAIS personnel to collect such verifications not just in Maryland, but in other states as well. Once that app has been developed, start hail information, including expected landing location and time, will be sent to SAFIS via an application programming interface (API). In lieu of additional future funding, FACTS will continue to accept reports of for-hire fishermen without onboard monitoring or harvest verification. Should the department believe the process is appropriate for data collection, we could work with MRIP staff to work in concert or to replace the MRIP For-Hire Survey. In the meantime, if we do not pursue or receive funds for roving monitors in future years, the state will continue to cover the cost of FACTS™ support and maintenance for data submission. Data will continue to be available to ACCSP via an API with SAFIS.

Table 5. Expanding Accountability in Maryland, Year 2 Budget Table

Description	Calculation	Federal Requested	Non-Federal In-Kind
(a) Personnel		\$17,945	\$34,295
Administrative Specialist	\$15.47 x 1160hrs	\$17,945	\$0
Program Manager II	\$46.66 x 250hrs	\$0	\$11,665
Administrator II	\$37.13 x 500hrs	\$0	\$18,565
Database Specialist II	\$40.65 x 100hrs	\$0	\$4,065
(b) Fringe		\$0	\$0
(c) Travel		\$0	\$800
(d) Equipment		\$0	\$2,500
	Tablets (4x\$500)	\$0	\$2,000
	Service Plan	\$0	\$500
(e) Supplies		\$0	\$0
(f) Contractual		\$81,219	\$43,600
Project and contract management	Program Manager (\$84.01 x 180hrs) E-reporting Specialist (\$51.17 x 416 hrs)	\$36,409	\$0
For-Hire Dockside and At-sea Monitoring staff	\$14 x 1950 hrs \$100 x 60 trips	\$33,300	\$0
Field and Meeting Travel Expenses	Monitors Mileage \$0.545 x 19320 miles Meeting Travel Exp \$0.545 x 1800 miles	\$11,510	\$0
Call Center	\$3,000 x 12 (months) x 20%	\$0	\$4,000
E-reporting System (FACTS™) Support and Maintenance	\$3,000 x 12 months	\$0	\$36,000
Help Line	\$1,500 x 12 months x 20%	\$0	\$3,600
(g) Construction		\$0	\$0
(h) Other		\$0	\$0
(i) Total Direct Charges		\$99,164	
(j) Indirect Charges	Personnel costs x .2235	\$4,011	
Total Costs		\$103,175	\$81,195
Total Breakdown		56%	44%
Total Project Value		\$184,370	

Prior Year's Related Projects:

Funds just became available from NOAA for the 2019 project, and no work has begun. Work is anticipated to begin this fall, with implementation of the system for captains expected to begin in April 2020.

Year	Title	Funded Amount	Description of Completed Data Delivery
2011	Improving Timeliness and Reporting Accuracy in Maryland: Expansion of Online Reporting for Maryland Commercial Fisheries	\$106,947	Data collected via SAFIS
2013	Improving Timeliness and Reporting Accuracy in Maryland: Expansion of Online Reporting for Maryland Commercial Fisheries	\$100,560	Data collected via SAFIS
2019	Expanding Accountability in Reporting: A Tool for Comprehensive For-Hire Data Collection and Monitoring in Maryland	\$154,396	Data will be available in SAFIS real time via API once data collection begins

2019 Budget Narrative: Expanding Accountability in Reporting (most recent year's funded proposal)

Total Non-Federal In-Kind Contribution- \$129,329.00 (See budget table for specific dollar amounts)

MD DNR is committed to modernizing its fishery dependent reporting system and has been supporting the development of a comprehensive E-reporting and management system since 2012. Annual system operations and user support (by MD DNR employees and outside contractors) is provided through state funding. System development has been supported by state funds, but major system advancements have been accomplished with additional support from external grant funds. Maryland has already completed work on two of its fisheries, finfish and blue crab, and is now focused on developing reporting capabilities for its for-hire fleet.

(a) Personnel - MD DNR Staff (See budget table for specific dollar amounts) - Following the already proven process of combined state and grant funding, the MD DNR will provide in-kind support by dedicating three staff (associated overhead and fringe benefits) to assist in the management and staffing of the Pilot Project. This is the approach used during the two previous pilot projects resulting in Maryland's current E-reporting system. In fact, all three staff participated in portions of each of the two previous pilots and are integral members of MD's E-reporting Team. While each staff has other duties to fulfill at the Department, supporting this Pilot is a logical extension of those duties and will not jeopardize the success of the Pilot Project. See budget for specific staff time dedicated to this project.

(d) Equipment - \$2,000

Tablets will be provided to the technicians for data entry during monitoring. Those tablets will be provided by the existing program.

(f) Non-Federal In-Kind E-reporting System Budget (See budget table for specific dollar amounts)

Call center- (\$4,000) The call center is used by some fishers to report harvest. The cost of the call center is fully supported through funding by the MD DNR. We anticipate the call center will be used by some for-hire fishermen to report harvest during the project. The call center also provides a back-up for web-based reporting when user specific or internet specific technical issues occur. Having many options for fishers to report has been vital during previous pilots and has helped to alleviate concerns by some fishers that not being able to report is a violation. We also receive valuable feedback from the call center through their interactions with fishers. The monthly call center fee is \$3,000.00. We estimate 20% of the call center of the call center monthly effort will be required to support the 12 month Pilot Project.

FACTS™ - (\$31,200) *FACTS™* is a software as a service (SaaS) platform and the MD DNR is fully funding the annual costs to maintain access to fishers to report. All trips and harvest reported by project participants will require access to *FACTS™* regardless of the platform (i.e., application, mobile web, etc.) used to report. The monthly *FACTS™* fee is \$13,000.00. We estimate that 20% of *FACTS™* use will be dedicated to the 12 month Pilot Project.

Help Line- (\$3,600) MD's E-reporting program has a dedicated 24/7 help line to support fishers with any problems or questions they have while E-reporting. The help line will also be used to gather feedback from for-hire fishermen participating in the pilot project and for communication with roving monitors and observers during the pilot. The help line has been extremely successful for data gathering and fisher satisfaction. The monthly help-line fee is \$1,500.00. We estimate that 20% of the monthly use of the help-line will be to support the 12 month Project.

Total Federal funding request - \$154,376

The original federal request was \$182,912. That number has been corrected downward to \$154,376 due to the incorrect calculation of the indirect cost being applied to more than salary and fringe. The indirect cost rate applied was 22.35%. This rate expires 7/1/19 but will be applied here until a new agreement has been reached.

(f) Contractual services

Project and contract management- ORP personnel salary total is \$16,164, salary fringe is \$5,657 (35% of salary), \$21,821 total.

The MD DNR has already competitively procured a contract with the Oyster Recovery Partnership (ORP) Coastal Resource Assessment and Monitoring (CRAM) division to execute the E-reporting with *FACTS™* project and all sub-awards will therefore be managed by ORP. ORP's CRAM has expertise in the development of large scale resource assessments, fishery independent and dependent data acquisition and management, statistics, and stakeholder engagement. Representative projects include long-term management of Maryland's development of Maryland's E-Reporting system using *FACTS™*, including design, implementation and management of roving dockside monitors from 2012 to 2014. Therefore, we can leverage the flexibility in ORP's seasonal hiring process that the state's process does not have.

ORP will be responsible for: communicating with MD DNR; communication between Project Team members; scheduling and implementing Team efforts, such as the formal implementation and management of for-hire fleet outreach to fishers and industry meetings that include training fishers how to use the system and follow-up meetings to gather final feedback. The budget for this portion of the project consists of staff time for the Program manager and one E-reporting specialist to coordinate these events; guide the design, development and implementation of the

roving monitor and by-catch discard program; manage the development of the for-hire reporting module; integrate feedback from fishers to modify the system; communicate progress with MD DNR; compile project results and report; and process invoices. This task will also involve continued feedback and outreach to fishers actively using the system and will involve significant amounts of staff time to troubleshoot issues, and implement modifications to the system based on fisher’s feedback or Team evaluation.

Requirements Validation and Systems Development- \$57,729

This task involves staff time for Electric Edge Systems Group staff to attend meetings with MD DNR to gather business rules to design the for-hire-fleet reporting module (these meetings will be coordinated and facilitated by ORP). This task also includes programming time to customize the existing FACTS™ system to account for for-hire harvest reports, and develop the roving monitor interface so monitors can verify actively fishing for-hire vessels. Internal systems tests and external testing with industry to customize the system will be part of this task, as well as the integration of for-hire hails and harvest reports into ACCSP’s data warehouse through the existing API.

For-Hire Dockside Monitoring and By-catch Discard Program- \$61,273

This task includes the design and implementation of dockside monitoring and by-catch discard program. Funds will be used to support Versar, Inc. staff in the development and implementation of the overall approach used to verify for-hire reporting at the dockside to include survey design and dockside monitor FACTS™ interface (scheduling and reporting). Funds will also be used to coordinate, schedule and perform quality control and assurance site visits of dockside monitors during the project. Funds will support the analysis of dockside monitoring data to evaluate effectiveness and determine optimal monitoring. A large portion of these funds (approximately \$25,000.00, see Table 4.) will be dedicated to hiring and supporting dockside monitors. These funds are budgeted using a total of 4 dockside monitors to target approximately 350 for-hire trips between April and December. It is anticipated that some trips will intercept more than one for-hire vessels and those trips will provide enough additional successful spot checks to bring the total number of successful spot checks to 400 or 10% of anticipated reported trips during the project. Previous dockside monitoring work in Maryland has shown that monitors require approximately 5 hours to travel to and from and to conduct spot checks on any given day, and perform administrative duties. Therefore, 5 hours was used to budget each spot check. Funding to support the design and analysis of the by-catch discard program is also included (\$100/trip to captain plus staff hours) to support on the water data collection and analysis.

Table 4. Cost Calculation of Dockside Monitors Time

	April	May	June	July	August	Sept	Oct	Nov	Dec	Total Cost
Per week	50	50	40	35	35	35	35	35	35	
Hours/day/monitor	5	5	5	5	5	5	5	5	5	
Hours per month	250	250	200	175	175	175	175	175	175	
Total month @ Rate \$14	3500	3500	2800	2450	2450	2450	2450	2450	2450	\$24,500

For-Hire Dockside Monitoring, QA/QC, and Meeting Travel Expenses- \$8,676

This portion of the budget is for expenses incurred by dockside monitors to travel to and from dockside monitoring and for travel to meetings. The anticipated approach to verify for-hire logbooks by dockside monitors will be to hire four monitors that will be strategically located in

areas where for-hire fleet activity is concentrated. We anticipate travel for dockside monitor spot checks will range between 30 to 50 miles roundtrip and have budgeted using an average daily dockside monitor trip of 40 miles roundtrip. The anticipated number of trips is 350 trips between April and December and gas reimbursement is the current Federal standard of \$.545/mile. Dockside monitors will also be required to attend 2 meetings for training and debriefs. The total number of anticipated miles is 14,320 miles.

Additional travel budget is requested for members of the E-reporting project team to conduct QA/QC of dockside monitoring activities and for training. In addition, travel to fisher training and feedback meetings is also budgeted. We anticipate a total of 1,600 miles of travel for these activities.

(j) Indirect Costs – \$4,877

See Appendix A for state negotiated rate agreement (22.35%). Indirect costs only apply to salary and fringe only. The initial budget applied the indirect rate to the entire request, but has since been corrected.

Summary

Proposal Type: **Maintenance**

Primary Program Priority:

Catch and Effort **(80%)**

There are approximately 350 decals issued every year that are expected to report fishing effort and harvest. This pilot will be open to all 350 captains (100%) that wish to use the system. Currently, 21 of the licensees that already use FACTS™ also have a charter decal. We expect approximately **6,000** vessel trips to be reported through FACTS™, this represents **60%** of the logbook-reported trips. Data collected through this program will meet all 8 of the data standards for for-hire census data (ACCSP 2012).

Data Delivery Plan: Data will be transferred directly from FACTS™ to the ACCSP Data Warehouse via application programming interface (API) daily. Additional discard data exceeding the current logbook requirements will also be collected and provided to management partners during the pilot.

Project Quality Factors:

Multi-partner/Regional impact including broad applications

Coast wide, this tool will be the model for comprehensive, verified state for-hire fishery data collection. It will also address the recommendations of the 2006 NRC recommendations and the ACCSP For-Hire Workshop (May 2016) to improve the timeliness of wave data; and maintain common data elements for for-hire trip reporting. Lastly, it addresses priorities of the Recreational Technical Committee: Comprehensive For-Hire Data Collection and Monitoring, Improved recreational fishery discard and release data, and Biological sampling for recreational fisheries separate from MRIP APAIS. The MRIP for-hire survey is expected to benefit from the improvements in the vessel list and vessel directory. ACCSP is a partner in the data delivery and communication processes.

Funding Transition Plan: To reduce costs in future years, APAIS personnel could be trained to conduct harvest monitoring activities on days when APAIS trips are not being sampled. It is expected that ACCSP will develop an application that will allow APAIS personnel to collect such verifications not just in Maryland, but in other states as well. Once that app has been developed, start hail information, including expected landing location and time, will be sent to SAFIS via an application programming interface (API). **In the meantime, if we do not pursue or receive funds for roving monitors in future years, the state will continue to cover the cost of FACTS™ support and maintenance for data submission. Data will continue to be available to ACCSP via an API with SAFIS.**

In-Kind Contribution: **44%** (see page 13)

Improvement in data quality/quantity/timeliness

Data collected through this program will meet all 8 of the data standards for for-hire census data (ACCSP 2012); currently data are expected to be reported weekly, with an annual reporting rate of 75%. Under this pilot, all data collected through the system will be transferred directly from FACTS™ to the ACCSP Data Warehouse via application programming interface (API) daily. Under the current reporting logbook requirements, data is supplied to the Data Warehouse via a semi-annual data feed.

Potential Secondary Module:

Biological Sampling **(10%)**

Maryland logbook data indicate an increase in both cobia and red drum catch in recent years where MRIP data do not show any catch of these species in the for-hire fleet. We anticipate that we will be able to collect additional biological samples (length and weight) of both of these species, which are in the top 25% of species needing additional samples as identified by the Biological Review Panel.

Sociological and Economic **(10%)**

One of the primary benefits of a hailing system is the ability to enforce reporting and to ensure that licensees not submitting reports are truly not fishing. The Committee on Economics and Social Sciences identified the need to address latent effort and number of operators guiding for-hire trips.

References

Atlantic Coast Fisheries Data Collection Standards: A third edition of the program design for the Atlantic Coastal Cooperative Statistics Program. 2012. 288 pp.

ACCSP For-Hire Workshop Summary. Inventory and Comparison of For-Hire Data Collections in the Atlantic and Gulf of Mexico: Opportunities for Convergence. May 2016.

Dukes, Amy, B. Floyd, E. Hiltz, G. White. 2015. Use of APAIS Intercepts to Validate Logbooks and Calculate Combined Estimates of Catch, SC For-Hire Logbook validation. Marine Recreational Information Program. 76pp.

Donaldson, Dave, G. Bray, B. Sauls, S. Freed, B. Cermak, P. Campbell, A. Best, K. Doyle, A. Strelcheck, and K. Brennan. 2013. For-Hire Logbook Pilot Study in the Gulf of Mexico. March 2013. Report to the Marine Recreational Information Program, National Oceanic and Atmospheric Administration, Office of Science and Technology, 1315 East-West Highway, 12th Floor, Silver Spring, MD 20910.

NRC (National Research Council). 2006. Review of Recreational Fisheries Survey Methods. National Academies Press, Washington, D.C. 187 pp.

Slacum, H.W. JR, H. Dew-Baxter, R. Corbin, and B. Richkus. 2013. Pilot Project to Test and Evaluate Rapid and Accountable Commercial Blue Crab Reporting in Maryland. Prepared for the Blue Crab Industry Design Team and the Maryland Department of Natural Resources. May 2013. Versar, Inc., 9200 Rumsey Rd., Columbia, MD. 21045.

Slacum, H.W. JR, H. Dew-Baxter, R. Corbin, and B. Richkus. 2015. Year 2: Pilot Project to Test and Evaluate Rapid and Accountable Commercial Blue Crab Reporting in Maryland. Prepared for the Blue Crab Industry Design Team and the Maryland Department of Natural Resources. February 2015. Versar, Inc., 9200 Rumsey Rd., Columbia, MD. 21045.



COMMERCIAL CHARTER BOAT CAPTAIN'S DAILY LOG

THIS LOG SHOULD BE CARRIED ON BOARD VESSEL DURING ALL FISHING TRIPS

DATE

M	M	D	D	Y	Y
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NUMBER OF PEOPLE EXCLUDING CREW	NUMBER OF TRIPS	AREA WHERE FISH WERE CAUGHT (SEE CODES)									
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SPECIES	TOTAL NUMBER OF FISH	TOTAL NUMBER OF POUNDS									
008 BLUEFISH	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>						
013 CROAKER	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>						
014 DRUM/BLACK	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>						
017 FLOUNDER/SUMMER	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>						
033 SEABASS/BLACK	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>						
021 SPOT	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>						
111 SPOTTED SEATROUT	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>						
001 STRIPED BASS/KEPT	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>						
078 STRIPED BASS/RELEASED	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>						
025 GRAY SEATROUT	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>						
002 WHITE PERCH	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>						
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NO FISHING THIS WEEK

FINISHED FISHING FOR THE YEAR

COMMERCIAL CHARTER BOAT CAPTAIN'S DAILY LOG



Figure 1. Charter Boat Captain's Daily Log
<http://dnr.maryland.gov/fisheries/Documents/Comchartcaptdailylog.pdf>

Carrie A Kennedy
Maryland Department of Natural Resources
580 Taylor Ave, B-2
Annapolis, MD 21401

EXPERIENCE

Maryland Department of Natural Resources

Fishing and Boating Services

January 2015-Present

Program Manager I

Annapolis, Maryland

Data and Quota Monitoring Program Manager

- Manage staff responsible for implementing new E-reporting with FACTS™ initiative.
- Manage staff responsible for commercial harvest reporting.
- Manage staff responsible for monitoring harvest of quota-limited species, including striped bass.
- Manage staff responsible for issuing eligible commercial permits.

Responsibilities also include advising managers on closing and opening quota-monitored species; coordinating Industry Workgroups; proposal development and submission in support of electronic reporting; and recommending changes to commercial permitting regulations.

Maryland Department of Natural Resources

Fisheries Service

November 2008-

January 2015

Program Manager I

Annapolis, Maryland

Coastal Fisheries Program Manager

- Manage staff responsible for Coastal Bays Finfish Investigation.
- Manage staff responsible for Atlantic Bluefin Tuna/ Billfish Catch Card Program.
- Manage staff responsible for coastal fisheries permits and quota monitoring.

Responsibilities also included advising coastal fisheries management decisions; coordinating Coastal Fisheries Advisory Committee and Spiny Dogfish Industry Workgroup; meeting ASMFC, MAFMC, and NMFS guidelines for Maryland.

Maryland Department of Natural Resources

Fisheries Service

June 2005-November

2008

Natural Resources Biologist III

Annapolis, Maryland

Commercial Striped Bass Project Leader, duties include:

- Maintain Microsoft Access database of harvest, permits, and striped bass harvest tags. Distribute harvest permits and tags.
- Monitor progress toward Maryland's quota daily through check station system.
- Maintain ArcView GIS and Microsoft Access databases of all registered pound net sites in the state of Maryland. Register and transfer pound net sites in accordance with regulation.
- Maintain Microsoft Access database of registered haul seines in the State of Maryland. Inspect and seal haul seines in accordance with regulation.
- Supervision of Natural Resource Biologist I and Administrative Specialist.

**Maryland Department of Natural Resources
Fisheries Service**

**April 2005-June 2005
Annapolis, Maryland**

Natural Resources Biologist II

Fisheries Management Plan Coordinator, Job Duties:

Responsible for writing/updating fisheries management plans. Attended ASMFC meetings and Chesapeake Bay Program meetings as a Fisheries Service Representative. Wrote legislative updates on fisheries management plans.

Maryland Fisheries Service representative to:

-National Marine Fisheries Service Highly Migratory Species Advisory Panel (2010-2015)

-Atlantic Coastal Cooperative Statistics Program's Operation Committee (2006-2012)

-Atlantic Coastal Cooperative Statistics Program's Recreational Technical Committee (2008-2011)

LEADERSHIP COURSEWORK

Introduction to Adaptive Leadership, MATTeam, Assoc. of Fish and Wildlife Agencies, July and August 2017

Supervisor Development Certificate Program, Anne Arundel Community College, July 2015 – January 2016

Conflict, Management Assistance Team, Assoc. of Fish and Wildlife Agencies, October 2014

Disorder to Order, Management Assistance Team, Assoc. of Fish and Wildlife Agencies, July 2014

Leader as Supervisor, Management Assistance Team, Assoc. of Fish and Wildlife Agencies, May 2013

Consent Building, Institute of Participatory Management and Planning, February 2010

EDUCATION

St. Mary's College of Maryland

St. Mary's City, Maryland

Bachelor of Arts May 1999

**State and Local Governments
Indirect Cost Negotiation Agreement**

EIN: 52-6002033

Organization:

Maryland Department of Natural Resources
580 Taylor Avenue, B-4
Annapolis, MD 21401-2352

Date:

Report No(s) .:

Filing Ref:

Last Negotiation Agreement
dated November 13, 2017

The indirect cost rates contained herein are for use on grants, contracts, and other agreements with the Federal Government to which 2 CFR Part 200 applies for fiscal years beginning on or after December 26, 2014 subject to the limitations in Section II.A. of this agreement. Applicable OMB Circulars and the regulations at 2 CFR 225 will continue to apply to federal funds awarded prior to December 26, 2014. The rates were negotiated by the U.S. Department of the Interior, Interior Business Center, and the subject organization in accordance with the authority contained in applicable regulations.

Section I: Rates

Type	Effective Period		Rate*	Locations	Applicable To
	From	To			
Fixed Carryforward	07/01/18	06/30/19	20.27%	All	1/
Fixed Carryforward	07/01/18	06/30/19	18.56%	All	2/
Fixed Carryforward	07/01/18	06/30/19	19.18%	All	3/
Fixed Carryforward	07/01/18	06/30/19	20.83%	All	4/
Fixed Carryforward	07/01/18	06/30/19	14.03%	All	5/
Fixed Carryforward	07/01/18	06/30/19	13.17%	All	6/
Fixed Carryforward	07/01/18	06/30/19	30.27%	All	7/
Fixed Carryforward	07/01/18	06/30/19	29.30%	All	8/
Fixed Carryforward	07/01/18	06/30/19	36.67%	All	9/
Fixed Carryforward	07/01/18	06/30/19	22.35%	All	10/
Fixed Carryforward	07/01/18	06/30/19	12.73%	All	11/

1/ Forest Service

2/ Wildlife & Heritage Service (Non-PR)

3/ Wildlife & Heritage Service (PR)

4/ Park Service

5/ Natural Resources Police (Non-PR)

6/ Natural Resources Police (PR)

7/ Resource Assessment Service

8/ Chesapeake & Coastal Services (Non-DJ)

9/ Chesapeake & Coastal Services (DJ)

10/ Fishing & Boating Services(Non-DJ)

11/ Fishing & Boating Services(DJ)

***Base:** Total direct salaries and wages, including fringe benefits. The rate applies to all programs administered by the non-federal entity. To determine the amount of indirect costs to be billed under this agreement, direct salaries and wages and related fringe benefits should be summed and multiplied by the rate. All other program costs should be eliminated from the calculation.

Treatment of fringe benefits: Fringe benefits applicable to direct salaries and wages are treated as direct costs; fringe benefits applicable to indirect salaries and wages are treated as indirect costs.



STATE OF MAINE
DEPARTMENT OF
MARINE RESOURCES
MARINE RESOURCES LABORATORY
P.O. BOX 8, 194 MCKOWN POINT RD
W. BOOTHBAY HARBOR, MAINE 04575-0008

PATRICK C. KELIHER
COMMISSIONER

August 6, 2019

Atlantic Coastal Cooperative Statistics Program
1050 N. Highland St. Ste. 200 A-N
Arlington, VA 22201

Dear ACCSP:

We are pleased to submit the **revised** proposal titled “FY20: Managing 100% Lobster Harvester Reporting in Maine” for your consideration. This is a new project to help the Maine Department of Marine Resources (MEDMR) come into compliance with ASMFC’s Addendum 26 requirement that the MEDMR move from 10% lobster reporting to 100% electronic lobster reporting. The deadline for this Addendum to be fully implemented is currently January 1, 2024; however, new right whale management measures are being developed through the Atlantic Large Whale Take Reduction Plan and will require information on vertical lines in the lobster fishery prior to this deadline. To comply with and track the pending vertical line reductions resulting from these measures, DMR is aiming for implementation of the 100% reporting requirement as early as 2021.

The MEDMR does not currently have the funds or staff needed to support the program at the 100% reporting level. We are proposing to create nine new positions that have been identified as necessary to successfully roll out 100% electronic lobster harvester reporting. Please view all graphs in color. This proposal addresses the following 2020 ranking criteria: catch and effort, data delivery plan, regional impact, funding transition plan, in kind contribution, improvement in data quality and timeliness, impact on stock assessment and properly prepared. For a summary of the proposal for ranking purposes, please see page 20. Please contact Robert Watts at the MEDMR with any questions. Thank you for your consideration of this proposal.

In our original proposal, committee members asked that we address the questions below. We are addressing them in this cover letter, but also in the report where applicable.

- + Do non-active license holder need to submit a report (monthly, annual etc.)? Appears, from Table 1, that going to 100% reporting would require all 5,925 license holders report

All license holders regardless of activity will be required to report for each month they hold a current license. Any license holder issued a license during the current year will be required to report for each month their license was valid regardless of fishing activity.

- o Does the 4,389 harvesters reporting to a dealer mean that only 73% of license holders are active or they may be active but don’t need to or did not sell to a licensed dealer?

The 4,389 figure represents the number of harvesters that sold at least 1 pound to a dealer. There may be more active harvesters that never sell to a dealer, but we have no way to currently quantify this until we move to 100% harvester reporting.

- + What is meant by the “offline electronic reporting application”? The use of offline is confusing for an electronic reporting system.

The “offline electronic reporting application” means that this reporting application does not require an internet connection for harvesters to enter their data. An internet connection would only be required to submit reports to ACCSP.

- + Is 100% data auditing required – either by ME or ACCSP – to ensure data is valid? Proposal indicates 100% auditing will be conducted with 100% reporting. Maybe I’m mixing with validation and/or cross-referencing with dealer reports? Is there a utility in the 100% audit and how will this be done? This aspect needs clarification on why and how. –

MEDMR does intend to audit 100% of all individual records that are submitted. Many of these audits will be simple gross audits (over the trip, gear quantity, spatial audits, etc.); however, the data submitted through the new mobile application will have validations built-in for pre-submission checks. Harvesters will not be able to enter certain gear/species combinations, certain dispositions for certain species and gear quantity checks for instance. Many of these audits will be canned within the audit database and will be added to a routine check. The dealer/harvester audits are performed annually and start by looking at yearly totals with a 2,000 pound discrepancy. Dealer/harvester audits are not performed on a trip by trip basis.

- + Not clear how the MARVIN system, data entry and staff needs fits with this proposal. This proposal is for 100% electronic reporting, no paper/manual entry of reports (a big part of the MARVIN program) – why would this proposal begin to fund those positions? If not intent, need to clear up proposal to remove any ambiguity.

This proposal is designed to help fund the transition from 10% harvester reporting to 100% harvester reporting where most harvesters will be required to report electronically. MEDMR understands that not everyone will be able to report electronically so a paper option must still be available. The positions being funded will be doing very little data entry and will mostly be assisting harvesters with reporting questions along with other data entry duties.

- + Proposal states that ME will require “nearly” 100% electronic reporting – will there be exemptions or allowances for non-electronic reports? Is there going to be staff to enter data for the paper data entry? Please provide clarification on this based on existing paper reports and staffing for this task.

Like our answer above. MEDMR does not anticipate 100% electronic reporting will occur. We are aware of some harvesters that are unable to report electronically and therefore need a paper option. This paper option for lobster harvesters will be at the discretion of the Commissioner’s office and the Landings Coordinator’s discretion.

- + New reporting program will submit reports through the LEEDS system? Compliance approach mentions review of reports submitted in LEEDS. Also, won’t the new system require particular fields to be completed in order for submission? If require particular fields, this could remove the step of staff checking for complete submissions and data entry mentioned in proposal.

The new applications for iOS® and Android® will be submitting all reports directly into SAFIS. All reports submitted through Maine LEEDS will be submitted directly to MARVIN. All electronic reporting systems will have some level of validation before users can submit data. The compliance for electronic reporting is automated, only paper reports are deemed “incomplete” as all electronic reports must be complete before submission is allowed.

- + Is ASMFC allowing 5 years to reach the goal of 100% reporting. Has the AWTRT officially tightened this deadline?

AWTRT has not held a vote on a specific deadline for 100% reporting; however, the AWTRT has recommended on more than one occasion that fisheries move to 100% reporting as soon as possible. MEDMR strongly agrees with this recommendation because our ability to achieve and monitor the consensus goals of the AWTRT is tied to the availability of these data in the short term. MEDMR believes that the January 2021 date is necessary to meet the data guidelines outlined in Addendum 26, the needs of the AWTRT, and work out any data collection and data management issues well before the 2024 deadline.

- + It is difficult to determine the staff and resources needed to switch to electronic and increase reporting. A slower implementation would allow for a more realistic assessment of the needed resources.

The MEDMR has discussed and decided against the idea to ramp up from the current number of harvesters selected to report to 100% reporting. It has determined the best way forward is to go directly to 100% harvester reporting. For MEDMR to provide excellent customer service from the beginning, the number of positions proposed are what we feel are necessary to provide the best level of customer service while being as fiscally responsible as possible. Each position created will be a limited period position and each year MEDMR will evaluate these new positions to determine if they are still needed. We anticipate that by year 3 to 5 we might be able to the number of positions as harvesters become more versed with the reporting programs.

- + Page 14: Matching contributions are 10 positions and mobile application development. Are the new positions distinct from the positions listed as in-kind? If cost sharing, and these are 9 new positions...what will the new staff be working on when not lobster 100% reporting. Please provide clarify in the proposal.

The positions listed as “in-kind” are current MEDMR staff either working directly in the Landings Program or Licensing Division. The Landings Program staff time only includes time these positions work on the harvester portion of the Landings Program and Licensing Division staff time only include the time they are addressing issues related to the Landings Harvester Program. The nine new positions requested in this grant will mostly focus their time on lobster harvester reporting but will also help cover any other “harvester reporting” questions as well. With the addition of almost 5,600 harvesters to mandatory reporting, there’s not a lot of anticipated downtime and would be focused on harvester reporting tasks only. Two of the new positions proposed will be cross trained to assist with the Landings and Licensing programs as the impact to requiring 100% lobster reporting will have a significant impact on both programs. Requiring an additional 5,600 harvesters to report annually will increase the number of licenses that are delinquent and unable to be renewed the first time which will burden the Licensing and Landings staffs with extra communication time with industry.

A calculation error was noticed when reviewing the preproposal. A new in-kind figure has been supplied and any point changes have been noted in the Summary of Ranking for ACCSP Proposals (page 20).

- + Page 8 (now page 9): Regarding encouraging electronic reporting, why does reporting via new DMR application provide less/limited analytics for harvesters? A new tool should provide more fishing trends analytics to incentivize harvester to use tool. Restate to clarify the DMR application is going to provide analytics.

This has been reworded. The new MEDMR application will provide harvesters with some basic “canned” analytics built into the program that will allow the end user to quickly look at basic trends that will be helpful with their fishing practices.

- + \$197K in 30% DMR Indirect is very expensive, on par with the total cost of a typical ACCSP proposal; can select budget lines be excluded from Indirect in order to reduce?

These indirect funds are a necessity to help defray and offset the administrative costs associated with the ASMFC’s directive to increase MEDMR’s lobster reporting from its current rate to 100%. The anticipated increase to ~300,000 new harvester records and overall ~700,000 records (dealer and harvester) supplied to ACCSP’s Data Warehouse will account for roughly 42% of all reports stored in the Data Warehouse. The increase in harvester reports received by MEDMR will be roughly 538%. These indirect monies are utilized to help cover the administrative costs not covered directly by this grant proposal and help offset any burden MEDMR assumes with fulfilling their ASMFC reporting requirements.

- + Can ACCSP handle the anticipated significant increase in data records (doubling current) associated with 100% Maine lobster reporting?

According to Julie Defilippi Simpson they can.

- + Sustainability and dependency of program on these funds? Please provide additional language on the funding transition, including the possible reduction of staff.

This is a huge issue that MEDMR has been looking for other funding sources and will continue to look for other sources. Staff reductions have been mentioned in a previous comments answer. MEDMR will continue to look at ways to streamline the Landings Program’s operation and will continue to try and automate as many processes (compliance and audits for instance) that will cut down on staffing needs. The reason so many staff are included in this proposal is for the initial roll out and anticipated help that industry will need and the ability to assist industry within a reasonable amount of time to answer their questions.

Sincerely,

Robert B. Watts II
Marine Resources Scientist III
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(207) 633-9412

Atlantic Coastal Cooperative Statistics Program
1050 N. Highland Street. Suite. 200A-N
Arlington, VA 22201

FY20: Managing 100% Lobster Harvester Reporting in Maine

Total Cost: \$837,251

Submitted by:

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Applicant Name: Maine Department of Marine Resources (MEDMR)

Principal Investigator: Robert Watts, Marine Resource Scientist

Project Title: FY20: Managing 100% Lobster Harvester Reporting in Maine

Project Type: New Project

Requested Award Amount (without the NOAA administration fee): \$837,251

Requested Award Period: One year after receipt of funds

Objectives:

The objective of this proposal is to comply with Addendum XXVI (http://www.asmfc.org/uploads/file/5a9438ccAmLobsterAddXXVI_JonahCrabAddIII_Feb2018.pdf) of ASMFC's (Atlantic States Marine Fisheries Commission) American lobster Fisheries Management Plan (FMP) which requires MEDMR increase the percentage of trip level landings information MEDMR collects from commercial lobster harvesters from 10% (approximately 600 harvesters) to 100% (approximately 6,000 harvesters). Addendum XXVI requires 100% reporting (electronic reporting is recommended but not mandatory) by January 2024 in addition to other new required fields that become mandatory in January 2020. Requiring the MEDMR to implement 100% reporting will cause MEDMR to increase landings and licensing staff by a total of 9 currently non-existent positions to effectively manage, monitor and audit what will be a 538% increase in the number of trip level reports the MEDMR receives on an annual basis.

MEDMR is currently participating in the Atlantic Whale Take Reduction Team (AWTRT) process, which has recently recommended to NMFS that vertical lines associated with the Maine lobster fishery should be reduced by 50%. While the AWTRT has not made any specific recommendations regarding reporting requirements for the fishery, the issue will be discussed by the AWTRT in the spring of 2019. AWTRT has not held a vote on a specific deadline for 100% reporting; however, the AWTRT has recommended on more than one occasion that fisheries move to 100% reporting as soon as possible. MEDMR strongly agrees with this recommendation because our ability to achieve and monitor the consensus goals of the AWTRT is tied to the availability of these data in the short term. MEDMR believes that the January 2021 date is necessary to meet the data guidelines outlined in Addendum 26, the needs of the AWTRT, and work out any data collection and data management issues well before the 2024 deadline. Additionally, MEDMR is interested in moving the timeframe for 100% electronic lobster harvester reporting up to as early as 2021 to track and document the 50% reduction in vertical lines that will be required. Provided this accelerated timeframe, the MEDMR does not have the funding to create the positions necessary to effectively administer, collect, audit and distribute the data required in Addendum XXVI. It is the intent of MEDMR to self-fund the creation of a new offline mobile application for both iOS® and Android® platforms through dedicated technology funds. This program will be built to accept reports from all fisheries and meet NMFS electronic reporting requirements. This new program will have dynamic entry pages and be completely table driven allowing the entry pages to display more concise field descriptions based on species and gears fished. There will be built in data validations, favorites and basic end user analytics. The MEDMR anticipates putting this new offline reporting application out to RFP shortly after this pre-proposal is due. The primary tasks will be electronic reporting software training, regulation compliance, data audits, data entry and general outreach. Staff will also focus on harvester outreach to help industry understand the importance of the accurate and timely reporting. Electronic reporting will be required for commercial lobster harvesters and heavily pushed for those that still report other fisheries on paper. The focus on expansion of electronic reporting will require the MEDMR to spend a significant

amount of time on outreach, explaining the reporting system to harvesters and troubleshooting any issues that might arise. There is no plan to mandate electronic reporting for all other fisheries currently, as this is not an ACCSP requirement.

Need:

Maine currently requires harvesters from 12 fisheries to report trip level landings on a monthly basis. Two other quota monitored fisheries (Atlantic herring and Atlantic menhaden) have daily quota monitored reporting requirements in addition to their monthly reporting requirements. **When the MEDMR implements 100% lobster reporting, the number of new harvesters (see Table 1) will require significant resources tracking compliance, entering and auditing a 538% increase in the number of reports received from approximately 60K to ~333K. In 2018, approximately 6,000 lobster harvesters were licensed to fish in Maine.** Of those 6,000 harvesters, MEDMR dealer reports indicate 4,389 harvesters sold at least once to a licensed dealer. **All 5,925 license holders regardless of activity will be required to report for each month they hold a current license. Any license holder issued a license during the current year will be required to report for each month their license was valid regardless of fishing activity.** During the 2018 season, MEDMR required 10% of all licensed harvesters report daily trip level information. These 10% (525 active harvesters which include commercial and non-commercial harvesters) accounted for just over 26,000 trip records. Overall in 2018, MEDMR required just under 4,900 licenses to report trip level information. The number of individual licenses required to report will increase to just under 9,700 when 100% lobster harvester reporting becomes mandatory.

Of those 6,000 licensed harvesters, ~1,500 (25%) of them will be required to report to National Marine Fisheries Service (NMFS) since they possess a federal lobster permit. **Regardless of their federal permit status, MEDMR will work with all harvesters to ensure all landings are reported either to MEDMR or NMFS since the collected data will benefit all partners. MEDMR staff will also audit all records with a state landed of Maine but defer any changes to federal data to NMFS.**

Table 1: Increase in Individual Harvester Reporting Expected in Maine

Moving from 10% to 100% Lobster Reporting						
Year	Total Trips Entered	Lobster Only Trips Entered	10% Active Lobster Licenses	100% Lobster Licenses	All Other Licenses Reporting	Total Licenses Reporting
2014	59,238	29,944	524	5,773	3,625	4,289
2015	57,404	29,556	533	6,014	3,217	3,886
2016	61,608	30,721	565	6,009	3,658	4,367
2017	61,689	29,636	536	5,997	4,082	4,778
2018	59,888	26,162	525	5,925	4,145	4,879
100% Year 1	322,800	292,038		5,925	3,745	9,670

*Increase in the number of harvesters and reports expected when MEDMR implements 100% lobster harvester reporting.

In 2016 MEDMR converted to a new online licensing and landings system, called Maine LEEDS (Licensing Enforcement and Environmental Data System). Using this system, harvesters and dealers will be able to:

- Renew a license you previously held
- Apply for a new license you've never held before
- Order tags (for certain licenses)
- Reprint your license
- Upgrade a license (if applicable)

- Pay administrative fees
- Report landings
- Upload documents to the department
- Change your password to the system

This web application has been an extremely useful tool that will allow for more “self-service” for harvesters and dealers, will improve customer satisfaction and increase MEDMR staff efficiency. **In late spring 2018, MEDMR started allowing harvesters to enter their data through the LEEDS system. Since the first record entered directly by a harvester occurred on 5/28/2018, 94 harvesters have entered 1,031 records that in the past MEDMR data entry staff would have had to enter.** Having industry enter their own information also saves staff time because paper reports do not need to be opened or processed through the mail, scanned into our LEEDS system or entered by hand. Staff have spent significant time training and creating outreach material (videos, electronic user guides, etc.) and communicating directly with industry.

MEDMR intends on requiring **(with some potential exemptions based on to be determined criteria)** 100% electronic harvester reporting for lobster, halibut, herring and menhaden. **Halibut, herring and menhaden are quota monitored species that MEDMR has identified as benefiting from requiring state only harvesters to report electronically. Currently all herring and menhaden harvesters are required to submit daily emails along with their trip-level monthly paper report. Requiring daily electronic reporting would save the harvesters from double reporting.** The offline mobile application MEDMR is proposing to build through its own funds would allow harvesters with multiple reporting fisheries the ability to use one program to fulfill all their requirements whether they are state only or federal. **Of the 1.35 million trips entered for 2018 in the data warehouse, 31% of them were landed in Maine which exceeds any other state (Figure 1 – view in color). This figure includes both dealer and harvester records. If MEDMR had required 100% harvester reporting in 2018, the number of warehouse records for 2018 would have been 1.61 million (when extrapolating 10% lobster to 100% lobster) and MEDMR would have accounted for 42.6% of all records (dealer and harvester) landed in ACCSP’s Warehouse.** These records were submitted by both “state-only” harvesters (those that only report to MEDMR) as well as federal harvesters (those that report to fulfill both NMFS and MEDMR reporting requirements). **Because all state licensed harvesters are required to report to the MEDMR regardless if they have federal reporting requirements or not, MEDMR works with NMFS to collect data from federally permitted harvesters so they do not need to double report. MEDMR staff devotes time and resources to help all harvesters that submit data to NMFS and MEDMR.**

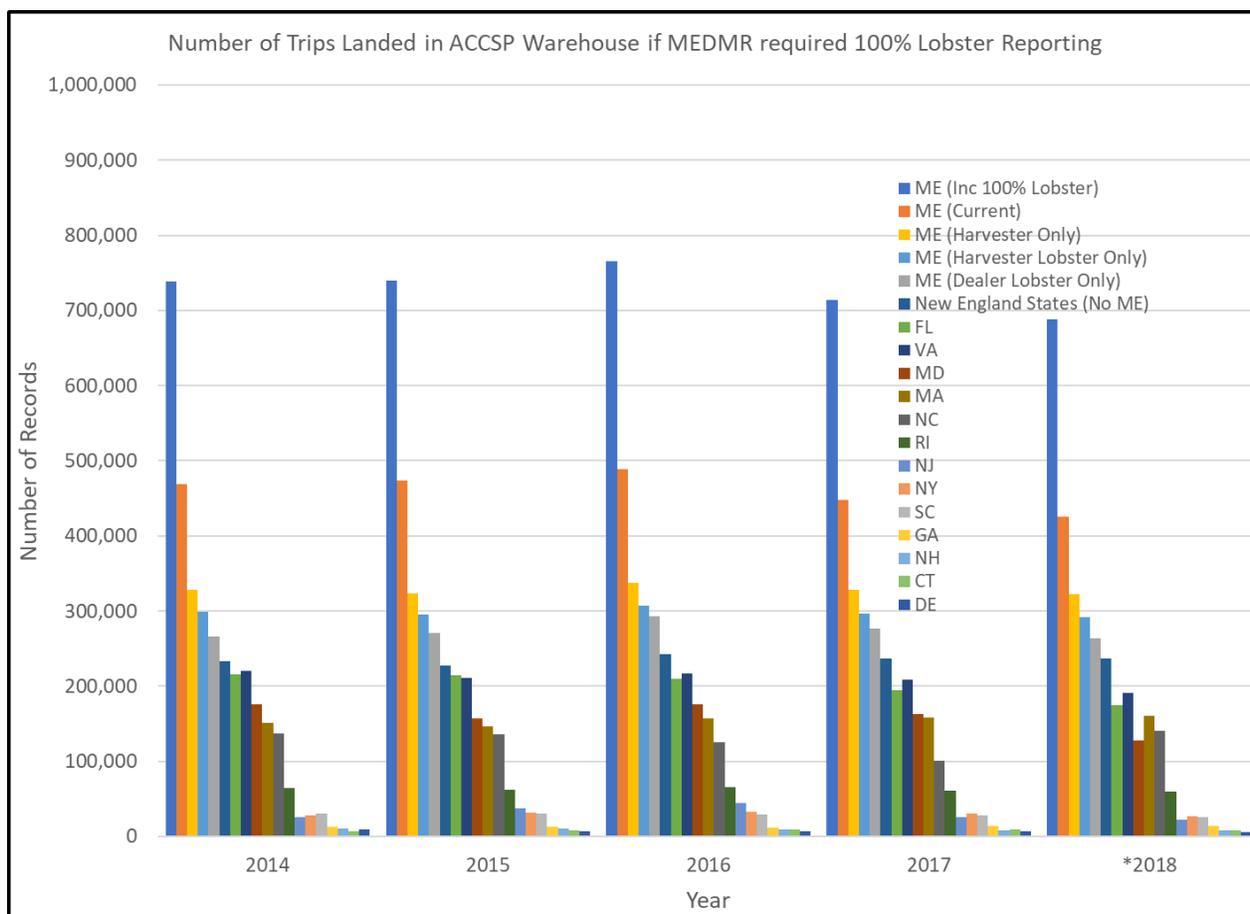


Figure 1: Number of Reported Trip Records by State Landed in ACCSP Data Warehouse

Once MEDMR requires 100% lobster harvester reporting the volume of phone calls and data requests will increase. Throughout the year, approximately 40% to 60% of all harvesters are out of compliance for at least one month of reporting. In 2018 there were 4,879 individual licenses from all 12 fisheries that required harvester reporting and MEDMR sent out approximately 2,900 compliance letters and fielded thousands of calls a month relating to reporting questions and compliance/license renewal status. Doubling the total number of harvesters required to report (many lobster harvesters are required to report other fisheries) will increase these figures and require more staff and staff time to provide industry with an acceptable level of customer service.

More staff will be needed to assist with audits and the increase in data that will require auditing. The increase in data will increase the time it takes to complete audits. The implementation of 100% lobster harvester reporting will allow the MEDMR to audit **and compare** 100% of our lobster dealer and harvester data. These two datasets alone account for over 500,000 records annually and will take significant staff resources to complete. MEDMR currently matches up what the 10% harvester reports indicate against what dealers reported for the same individuals. Any discrepancies over 2,000 pounds for the year are flagged and further research is conducted. **While the data submitted through an electronic means will certainly help reduce the amount of data that MEDMR staff will need to audit through built in data validations, there are audits that will still need run (such as dealer vs harvester) that will take up significant staff time the first few years of 100% reporting.**

The first few years will require significant outreach with industry. **Communicating with industry and fielding electronic reporting questions will be the biggest time burden the landings program will face. Currently, less than 2% of all harvester records submitted to MEDMR are not key entered by MEDMR staff. Electronic reporting will be a cultural shift for the lobster fishery, which will require diligent customer**

service and an intuitive reporting application. MEDMR will be funding the development of a new harvester reporting application that will be user friendly and meet the reporting needs of all MEDMR reporting fisheries, as well as meet NMFS eVTR reporting requirements. MEDMR spent significant time testing ACCSP’s eTRIPs V2, which was greatly improved over the previous versions. However, there are still significant concerns about the number of reporting pages it took to complete, the agility of a program that is not table driven, and the ease of use for different fisheries. The program MEDMR is designing will work on both Android® and iOS® and meet all federal requirements (including NERO, SERO and HMS) so federal harvesters will be able to utilize this system. All data collected through the new MEDMR funded harvester applications will be submitted directly to ACCSP through the newly developed API (requirements are listed here https://www.accsp.org/wp-content/uploads/safis_unified_api_reference_v3.pdf). The funding source for the new mobile applications are through dedicated technology funding within MEDMR’s budget. **These funds must be used for advancing technologies and cannot be used for personnel.**

The number of trip records that MEDMR staff entered into MARVIN (MEDMR’s database that contains all sampling, biological and landings data that MEDMR collects) has increased 490% since 2007 (Figure 2 – view in color), which was the last year the MEDMR did not require 10% lobster harvester reporting. When harvesters submit paper reports, they are entered into the MARVIN database. MARVIN is used for reports submitted on paper because it is a faster method of data entry and MEDMR uses this tool to audit the data before sending a copy of it to ACCSP. Routines are configured to convert the MARVIN data to ACCSP codes before they are uploaded to the ACCSP warehouse.

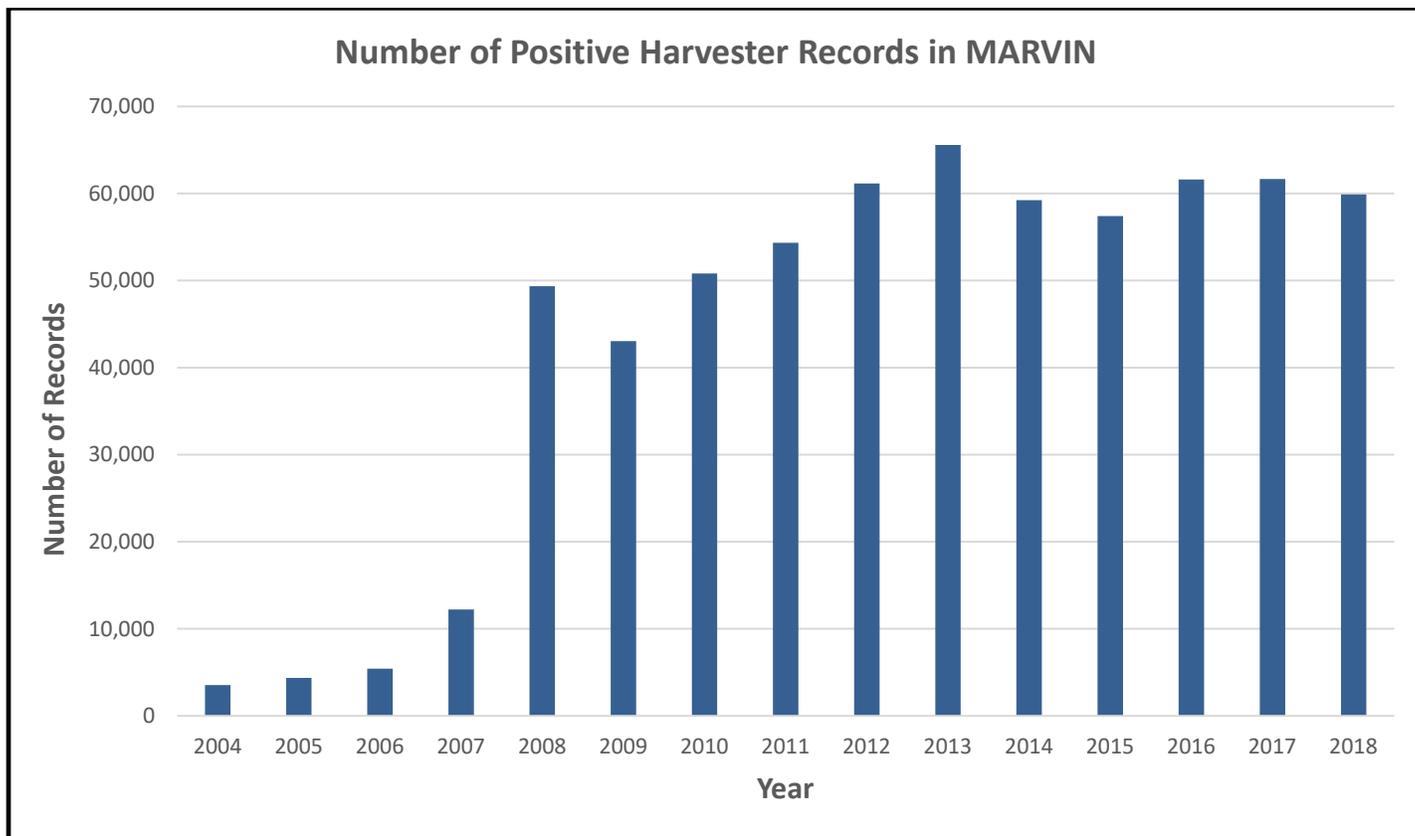


Figure 2: Number of Positive Trip Records Entered by MEDMR Staff into MARVIN

Landings data entered in MARVIN are uploaded to the ACCSP data warehouse. The significant increase in the amount of data entry, outreach/education and auditing are the single greatest challenge facing the

landings harvester (including lobster) program staff. MEDMR currently funds seven positions that work at least part-time on harvester reporting. Currently no positions working on the harvester program are funded by ACCSP grants. MEDMR is now requesting funding for nine new positions.

This proposal is designed to help fund the transition from 10% harvester reporting to 100% harvester reporting where most harvesters will be required to report electronically. MEDMR understands that not everyone will be able to report electronically so a paper option must still be available. The positions being funded will be doing very little data entry and will mostly be assisting harvesters with reporting questions along with other data entry duties.

Summary of staffing:

MEDMR Landings Program staff involved in harvester reporting who are fully funded by MEDMR:

- **Scientist IV:** makes decisions on the general Landings Program direction.
- **Scientist III:** oversees the Landings Program, participates in ACCSP committees, transfers data to ACCSP; reporting technology development and responds to data requests.
- **Scientist II:** manages the day-to-day operations of the Landings Program, is responsible for database development, responds to data requests and updates the Landings Program web page. This position also audits data, and monitors licenses and compliance.
- **Specialist II:** provides one-on-one outreach with the harvesters; trains harvesters how to report electronically or on paper; follows up on compliance issues. This position audits data from “state-only” and “NMFS” harvesters. See the *Approach* section below for further details on auditing. This position is also assigned tasks in the dealer-reporting project.
- **Office Associate II:** Primary contact for incomplete reports, rejects reports, primary contact for compliance and reporting questions, notifies new harvesters of reporting requirements, assists with audit research.
- **Office Associate II:** corresponds with industry regarding new suspension authority for failure to report on time; identifies and notifies delinquent reporters; follows protocols for suspending licenses; works with the licensing division to ensure licenses are re-issued when reports have been submitted.
- **Office Associate I:** opens and processes mail and enters data into MARVIN.

Proposed new MEDMR Landings Program staff to be funded by ACCSP grant:

- **Marine Resource Scientist II (1 position):** Oversee the daily operations of harvester reporting program, including but not limited to scheduling of duties, directly supervising four employees, managing harvester data audits, database maintenance and assisting with reporting writing.
- **Marine Resource Scientist I (2 positions):** Oversee the rollout of the new offline harvester reporting application, outreach with industry and overseeing data audits. These two positions will be one of the primary contacts for industry members that have reporting program questions.
- **Marine Resource Specialist II (2 positions):** Help run data audits and correct erroneous data, primary data audit researcher for dealer vs harvester audits and will assist the Marine Resource Scientist I’s with any industry technical outreach questions.
- **Office Specialist I Supervisors (2 positions):** Supervise four Office Associate II positions. One position will be located in our Augusta, ME office and the other at the West Boothbay Harbor, ME Laboratory. Both positions will assist with incomplete reports, handle in-person report drop-off, report rejections, compliance mailings and calls and data audits.
- **Office Specialist I (1 position):** Will work primarily within the Licensing Division renewing licenses and be cross trained to assist with Landings duties (like the Office Associate II below). This position is needed because of the extra time Licensing will have to spend rejecting delinquent harvesters that in the past were not required to report.

- Office Associate II (1 position): Will have similar duties to the Office Associate I's **listed above in current staff funded by MEDMR** but will be based out of our Augusta office and will be cross-trained to assist our Licensing Department when help is needed.

The MEDMR has discussed and decided against the idea to ramp up from the current number of harvesters selected to report to 100% reporting. It has determined the best way forward is to go directly to 100% harvester reporting. For MEDMR to provide excellent customer service from the beginning, the number of positions proposed are what we feel are necessary to provide the best level of customer service while being as fiscally responsible as possible. Each position created will be a limited period position and each year MEDMR will evaluate these new positions to determine if they are still needed. We anticipate that by year 3 to 5 we might be able to the number of positions as harvesters become more versed with the reporting programs.

Finding funding to help defray the costs for this federally mandated requirement is something that the MEDMR has been looking for and will continue to look for. MEDMR will also look for ways to bring the overall costs down through either staff reductions as the program evolves or any and all in-house or outside sources. MEDMR will continue to look at ways to streamline the Landings Program's operation and will continue to try and automate as many processes (compliance and audits for instance) that will cut down on staffing needs. The reason so many staff are included in this proposal is for the initial roll out and anticipated help that industry will need and the ability to assist industry within a reasonable amount of time to answer their questions.

It is essential that this harvester reporting program meet its funding needs, which are born as a result of ASMFC's requirement that MEDMR collect trip level harvester reports from 100% of all licensed commercial lobster harvesters. The implementation of new lobster fishery regulations in the Atlantic Large Whale Take Reduction Plan to reduce the threat of entanglement to endangered right whales is expediting the timeframe to increase reporting to 100% faster than Addendum XXVI required. **Requiring 100% lobster reporting will add another tool for monitoring Maine's commercial fisheries, which are large and economically important to the U.S. seafood industry.** According to the NMFS commercial fisheries database (as of 5/20/2019), Maine was ranked as the second highest state on the Atlantic Coast in commercial value (\$643 million of which \$484.5 million were lobster) and fourth highest in whole pounds landed (276.6 million of which 119.6 million were lobster) in 2018. **This comprehensive harvester reporting program also addresses ASMFC compliance issues for several fisheries, including American lobster, Atlantic herring, American eel and Atlantic menhaden.**

This grant does not include any funding for the offline mobile harvester reporting application. The MEDMR will fully fund the original programming, programmatic updates and maintenance costs associated with this project. The MEDMR will continue to fund the monthly maintenance fees. MEDMR will continue to try to identify alternative sources of funding for the harvester reporting project, but the State of Maine is continuing to face budget challenges and there are few options for state funding to cover the total cost.

Results and Benefits:

The data collected so far through MEDMR's harvester reporting program have shown how valuable this information is for Maine's fisheries. **Currently MEDMR requires 12 fisheries to submit trip level harvester reports and lobster is the only fishery not collecting 100% of harvester trips (Figure 3 shows all non-confidential fisheries trips reported over past 5 years). Maine's commercial lobster fishery is by far the largest lobster fishery on the East Coast in both volume and number of individuals.** There are just under 6,000 licensed harvesters of which MEDMR currently only selects 10% to report. Even with selecting only 10% of harvesters in the lobster industry, MEDMR scientists have learned more about the fleet characteristics, gear configurations and fishing patters for full time and part time fishermen involved in this fishery than they have been able to with the current sampling programs. Other fishery managers are now analyzing landings data to

learn more about the fishing fleet and the makeup of other fisheries. **Requiring 100% reporting will only increase the MEDMR’s knowledge base and increase the amount of data collected. Since most data will be submitted to SAFIS and all data stored in the ACCSP Warehouse, this large dataset will be available to all partners.**

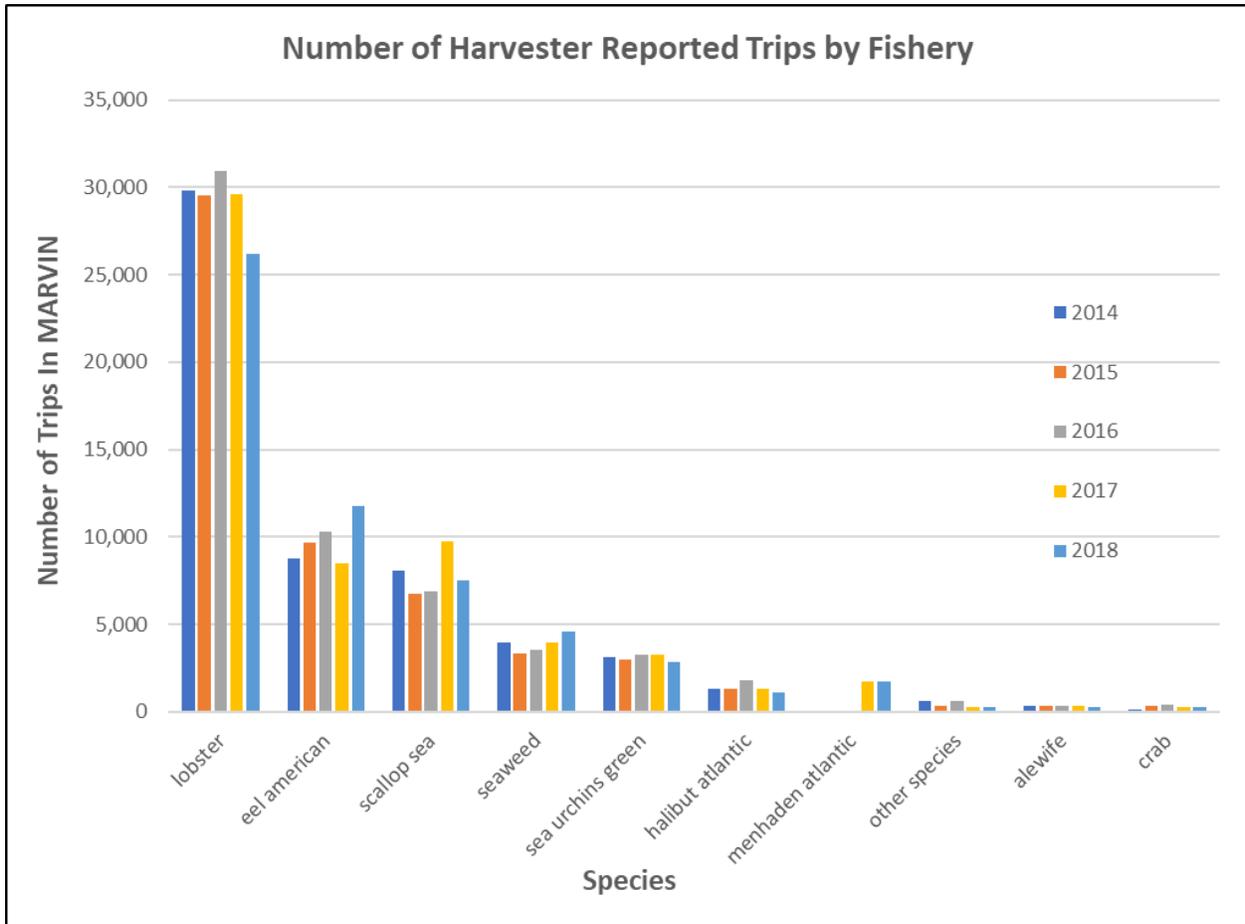


Figure 3: Number of Harvester Reported Trips by Fishery from Harvester Data

This grant will allow MEDMR to meet ASMFC’s Addendum XXVI target of 100% harvester reporting in the lobster fishery by January 2024. This timeline is potentially being sped up by protected species issues and could require 100% trip level reporting in the lobster fishery by January 2021. This grant will allow MEDMR the ability to fund positions needed to ensure the data collected are as accurate as possible through more data auditing, especially linking dealer and harvester reports together through our “dealer vs harvester reporting” audits where we match up each harvester report to the dealer report and their total landings are scrutinized. Addendum XXVI does not necessarily require 100% electronic reporting; however, MEDMR will require nearly 100% lobster harvester electronic reporting and know that harvesters in other fisheries are looking to move from paper reporting to electronic reporting when this option is available in an intuitive offline application. MEDMR anticipates that any new harvesters that report on paper will be offset by those the currently report on paper but will be required to switch to an electronic reporting option and the data entry staff currently employed will be sufficient. Staff are fielding more calls each day asking about electronic reporting and are promoting our Maine LEEDS online reporting, but most want a mobile friendly reporting option. **MEDMR is already uploading data reported to MARVIN to ACCSP every six months and intends to start uploading every month; which benefits all partners.**

Metadata for the harvester program will be updated as needed according to the Federal Geographic Data Committee (FGDC) and the Content Standard for Digital Geospatial Metadata (CSDGM) standards where appropriate. The resulting metadata will be reported to ACCSP as text and XML.

This project will help MEDMR meet the data collection standards of ACCSP. All partners will benefit, as all data will be uploaded to ACCSP and many of the species landed in Maine have a broad geographic range which includes many other agencies in their management. Partners will benefit from the technologies built and lessons learned from the offline harvester reporting application MEDMR intends to have built within the next year as this will be available to any partner.

Approach:

1. Enforce compliance

MEDMR staff will enforce compliance of the trip level reporting regulation through these methods:

- Provide initial outreach and technical support needed for harvesters to report trip level landings to MEDMR. Meet with harvesters in a group setting and one on one as needed to explain reporting procedures, install application, troubleshoot issues with reporting, and explain consequences for failing to report.
- Review paper reports submitted for completeness and verify the submissions in Maine LEEDS. If reports are incomplete, MEDMR will contact industry to correct reporting mistakes. If a harvester cannot be contacted by phone, the report will be returned for correction. Reports submitted electronically are deemed complete upon submission.
- Send delinquent harvesters not included in the suspension process emails indicating what they are missing and send automated notifications within the Maine LEEDS program when a report is received or not.
- Complete suspension notices monthly to those harvesters involved in the halibut, herring, menhaden and elver fisheries that are delinquent enough to meet the minimum notification criteria as outlined in the suspension law (Attachment 4).
- Complete follow-up suspension notices monthly to those harvesters that are delinquent enough to meet the minimum notification criteria as outlined in the suspension law (Attachment 4).
- MEDMR will suspend harvester licenses for those who fail to report in a timely manner. See Attachment 4 for the law, which dictates suspension procedures MEDMR will follow.

2. Data entry

Paper reports and electronic reports entered through the Maine LEEDS system will go directly into MARVIN and then uploaded to the ACCSP Warehouse at least every 6 months once it has been thoroughly audited.

The MEDMR will be contracting out with a third-party vendor to build a data entry application that has been discussed above. This reporting program will include point of entry validations for harvester, vessel, gear, gear to various other variables (i.e. fisheries, gear quantities), gear quantities, locations, pounds, dispositions for example. The data entered through these new applications will utilize ACCSP's API and all data will be submitted directly into SAFIS.

3. Encourage electronic reporting

MEDMR staff will encourage harvesters who report on paper to report using one of the two electronic reporting methods MEDMR will offer (Maine LEEDS or our own Offline Electronic Reporting Application). MEDMR staff will train all harvesters who are required to report electronically regardless if they have reporting obligations to NOAA or not.

MEDMR believes that electronic reporting will benefit industry as much as it benefits MEDMR. If harvesters enter their own data through the MEDMR proposed application, they will have the ability to run basic analytics within the application to view their own trends and harvest information. MEDMR will benefit by reducing the amount of staff time spent entering data. If MEDMR was not able to offer an electronic reporting option, the number of data entry staff required to handle approximately 320,000 records per year would be at least 7 or 8 individuals in addition to what is being currently proposed. Electronic reporting will not only save MEDMR staff data entry time, we will be able to automate many of our daily reporting processes, include data validation at the point of harvester entry and automate compliance and spend more time on data audits and outreach with industry.

4. Continue outreach with industry to promote buy-in.

MEDMR staff will continue to work with harvesters to explain the purpose and benefits of harvester reporting. Staff will attend the annual Maine Fishermen's Forum and present a Landings Program poster explaining the importance of accurate reporting as well as displaying preliminary data by fishery. We also anticipate holding a workshop to demonstrate the two electronic reporting options available to industry to help promote buy in. Staff will work with established industry organizations, such as the MEDMR advisory councils, lobster zone councils, and dealer and harvester associations to reiterate the program goals and show results of mandatory reporting. Staff will also focus on explaining the statutory authority for suspending licenses for those who fail to report on time, and how this will help gather more accurate data.

5. Audit of harvester data submitted.

Staff will audit data submitted monthly. Paper data will be audited twice per month; electronic audits sent via email from SAFIS will be corrected weekly. SAFIS audits for "state-only" harvesters will be corrected via an ODBC connection to a view of the Maine data. **Audits concerning federal harvesters will be vetted through the NMFS Northeast Region. MEDMR staff will audit electronic data submitted by federal harvesters because these harvesters submit data in order to also fulfill MEDMR reporting requirements. MEDMR performs basic audits of records to catch potential oversights from NMFS audits.** MEDMR also compares dealer-reported landings with harvester-reported landings and identifies both parties if there are any discrepancies. In these audits, MEDMR contacts dealers and harvesters when discrepancies are discovered and works to correct records or recover missing data.

MEDMR does intend to audit 100% of all individual records that are submitted. Many of these audits will be simple gross audits (over the trip, gear quantity, spatial audits, etc.); however, the data submitted through the new mobile application will have validations built-in for pre-submission checks. Harvesters will not be able to enter certain gear/species combinations, certain dispositions for certain species and gear quantity checks for instance. Many of these audits will be canned within the audit database and will be added to a routine check. The dealer/harvester audits are performed annually and start by looking at yearly totals with a 2,000 pound discrepancy. Dealer/harvester audits are not performed on a trip by trip basis.

6. Transmission of harvester data to ACCSP.

MEDMR will continue to upload harvester data from MARVIN to the ACCSP data warehouse once every two months. In each data feed, the following fields are uploaded to the warehouse according to ACCSP protocols: cf_license_nbr, iss_agency, trip_type, supplier_trip_id, port, state, coast_guard_nbr, state_reg_nbr, trip_start_date, trip_start_time, trip_end_date, trip_end_time, num_crew, num_anglers, vtr_number, vessel_permit, sub_trip_type, reporting_source, fuel_used, fuel_price, charter_fee, distance, in_state, area_code, sub_area_code, local_area_code, latitude, longitude, gear, lma, gear_quantity, gear_sets, fishing_hours, hours_days, total_gear, gear_size, mesh_ring_length, mesh_ring_width,

stretch_size, target_species, avg_depth, species_itis, disposition, market_code, grade_code, unit_of_measure, sale_disposition_flag, dealer_license_nbr, date_sold, reported_quantity, price, dea_iss_agency, catch_source, catch_latitude, catch_longitude, supplier_catch_id. MEDMR enters data daily and audits data weekly, so the data uploaded to the warehouse are a mix of pre- and post-audited records. MEDMR does not keep track of what percentage of the uploaded records are “reloads” due to errors, but simply reloads all the data in MARVIN to the warehouse once every three months. **In addition, the data supplied by the MEDMR offline mobile application will be sent directly to SAFIS daily.**

The MEDMR does not upload data from MARVIN to SAFIS because MEDMR staff continually audit data each week, so the data that are uploaded to the warehouse are a mix of pre- and post-audited records. The reloading of data from MARVIN to the Warehouse is an automated process that the MEDMR loads into a temporary table provided by the Warehouse. If we were to perform the same upload method to SAFIS we would need the ability to mass delete records from SAFIS (which we do not have the ability to do at this time) before records are reloaded to avoid creating duplicate records.

7. Report metadata to ACCSP.

Metadata will be created with ESRI ArcCatalog 10 in order to conform to the FGDC (Federal Geographic Data Committee) standards and specifications. As specified by the federal standard, MEDMR metadata will include the following main sections with detailed information on: identification information, data quality information, spatial data organization information, spatial reference information, entity and attribute information, distribution information, metadata reference information, citation information, time period information and contact information. Created metadata will be available in text and XML formats.

Geographic Location: Operations will be based out of Boothbay Harbor, Maine and the project will take place throughout Maine.

Milestone Schedule:

	<u>Months</u>											
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
1. Enforce harvester compliance	X	X	X	X	X	X	X	X	X	X	X	X
2. Data enter harvester reports	X	X	X	X	X	X	X	X	X	X	X	X
3. Encourage electronic harvester reporting	X	X	X	X	X	X	X	X	X	X	X	X
4. Industry outreach to promote industry buy-in	X	X	X	X	X	X	X	X	X	X	X	X
5. Audit harvester data	X	X	X	X	X	X	X	X	X	X	X	X
6. Upload harvester data to ACCSP		X		X		X	X		X		X	
7. Report metadata to ACCSP												X
8. Semi-annual reports						X						X
9. Annual reports												X

Project Accomplishments Measurement:

Goal	Measurement	2019*
Enforce Harvester Compliance	Number of compliance letters to harvesters	
Enforce Harvester Compliance	Number of harvesters suspended for failing to report timely	
Harvester Data Entry	Number of trip records by year landed in data warehouse	
Harvester Data Entry	Number of positive trip records by year landed in MARVIN	
Harvester Data Entry	Number of positive trip records by year landed in SAFIS	
Encourage Electronic Reporting	Number of harvesters submitting positive reports in SAFIS	
Transmit Harvester Data to Data Warehouse	Frequency of data submitted by year landed	
Outreach	Number of custom data requests	

Cost Summary: FY19 Managing 100% Lobster Harvester Reporting in Maine
3/1/2020 - 2/28/2021

Personnel^A		Description	Cost
	1 Marine Resource Scientist II (to be created)	full time position for 12 months	1 @ \$48,201 \$50,079
	2 Marine Resource Scientist I (to be created)	full time position for 12 months	2 @ \$41,562 \$90,680
	2 Marine Resource Specialist II (to be created)	full time position for 12 months	2 @ \$34,816 \$75,698
	2 Office Specialist I Supervisory (to be created)	full time position for 12 months	2 @ \$32,698 \$72,468
	1 Office Specialist I (to be created)	full time position for 12 months	1 @ \$31,138 \$34,424
	1 Office Associate II (to be created)	full time position for 12 months	1 @ \$31,138 \$31,741
		Subtotal	\$355,090
Fringe Benefits^A			
	1 Marine Resource Scientist II (to be created)		\$32,551
	2 Marine Resource Scientist I (to be created)		\$58,942
	2 Marine Resource Specialist II (to be created)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$49,204
	2 Office Specialist I Supervisory (to be created)		\$47,104
	1 Office Specialist I (to be created)		\$22,376
	1 Office Associate II (to be created)		\$20,632
			Subtotal
		Total Personnel	\$585,899
Travel			
	1 vehicle ^B	1 car * \$188.67/mo * 12 mo	\$2,264
	Mileage fee	1 car * 1,000 mi per mo * \$.1533/mi * 12 mo	\$1,840
	Toll allowance	Estimated	\$100
	5 Overnight stays ^C	5* \$150/night	\$750
	Per diem (includes extended days)	(5 overnights + 5 extended days) * \$65/day	\$650
		Total Travel	\$5,604
Supplies			
	Filing Supplies	folders, folder labels, year labels	\$500
Other			
	Printing and binding of harvester report forms	1000 logbooks * \$2.50 per logbook	\$2,500
	Postage for logbooks	Mail 1000 logbooks * \$4.75 per logbook	\$2,375
	Postage for info packets and letters	(\$0.50*3250 compliance letters)	\$1,625
	Software (Adobe DC Professional)	8 copies at \$329.65/copy	\$2,637
	Technology (equipment, licenses)		\$500
	Enhancements to Maine LEEDS system	Automate compliance for electronic reporting	\$40,000
	Telecommunication charges ^D	5 phones * \$40/mo * 12 mo	\$2,400
		Total Supplies	\$52,537
		Subtotal	\$58,141
	Total Direct Costs		\$644,039
	Indirect Costs (30%)		\$193,212
	Total Award to DMR		\$837,251

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train harvesters how to electronically report to DMR and/or NMFS.

D: One cell phone for each of the two specialists, one each for the two scientists and one scientist II working on the project.

Partner Contribution for ACCSP Purposes

Scientist IV (7% time)	\$9,115
Scientist III (50% time)	\$49,083
Scientist II (50% time)	\$53,708
Specialist II (25% time)	\$18,710
Office Associate I (85% time)	\$47,568
Office Associate I (100% time)	\$74,381
Office Associate II (100%)	\$65,626
Office Associate II (15%)	\$10,531
Office Associate II (15%)	\$9,750
Office Associate II (15%)	\$8,513
Office Associate II (100%)	\$65,626
Mobile Harvester Reporting App Development	\$150,000
	<hr/>
	\$562,610

Budget Narrative for FY2020 proposal:

Personnel and Fringe Benefits: The new positions proposed in this proposal (1 Marine Resource Scientist II, 2 Marine Resource Scientist I, 2 Marine Resource Specialist II, 2 Office Specialist I Supervisory, 1 Office Specialist I and 1 Office Associate II). These positions are funded full time (100%) by this award and are a Department of Marine Resources' employees. Salary and benefits for this employee are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

Travel: The Scientists and Specialists are the employees who will be travelling. The travel is for holding electronic harvester reporting workshops, visiting harvesters to install reporting software, training harvester staff how to electronically report or troubleshooting reporting problems. Staff provide harvesters with one-on-one training first via phone but then in person if individuals need further assistance with the reporting system and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are unusual unless the harvester can only meet inland. These harvesters must be trained in the use of electronic reporting and in some cases a group informational setting will not be enough for some to learn how to report their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Nissan Rogue SUV which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple harvester appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary. The rates were calculated through the GSA website for posted rates.

Supplies: Filing supplies are needed each year but as more harvesters eventually shift to electronic reporting the need for filing supplies will decrease. The filing supplies include folders used to store individuals log sheets, labels (year and name) and protective coatings for these labels.

Other: The MEDMR will try and push electronic reporting as much as possible and will require waivers to report on paper for lobster reporting. To help cut down on costs, MEDMR will try and have harvesters print their own paper forms when necessary from the MEDMR website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that harvesters use for their records, or to resend should the original gets lost in the mail. Many harvesters like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks. Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to harvester meeting locations. Staff often needs to call NMFS or the programmer when installing software or troubleshooting reporting issues in the field. All Landings Program staff use Adobe DC Pro to enter or audit paper reports or .PDF's that have been received electronically. The cost for this program has been set by our OIT Department. The line for Maine LEEDS enhancement is the programmatic cost to streamline MEDMR's compliance with harvester data submitted to SAFIS. MEDMR will need to create a SQL Server table to pull any data submitted by a harvester from the ACCSP Warehouse with Maine permits and flip their Maine LEEDS compliance record to submitted. This feature will be a large time saver for MEDMR and will save at least one full-time staff position.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement. **These indirect funds are a necessity to help defray and offset the administrative costs associated with the ASMFC's directive to increase MEDMR's lobster reporting from its current rate to 100%. The anticipated increase to ~300,000 new harvester records and overall ~700,000 records (dealer and harvester) supplied to ACCSP's Data Warehouse will account for roughly 42% of all reports stored in the Data Warehouse. The increase in harvester reports received by MEDMR will be roughly 538%. These indirect monies are utilized to help cover the administrative costs not covered directly by this grant proposal and help offset any burden MEDMR assumes with fulfilling their ASMFC reporting requirements.**

Attachment 3: Negotiated Indirect Cost Agreement

MAXIMUS
Cost Allocation Methodology and Process

Office of Acquisition Management – Grants Management Division
1401 Constitution Ave., NW, HCHB Rm 6412
Washington, DC 20230, Attn: Indirect Cost Program

CERTIFICATE OF INDIRECT COSTS

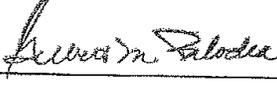
This is to certify that I have reviewed the indirect cost rate proposal prepared and maintained herewith and to the best of my knowledge and belief:

- (1) All costs included in this proposal dated Jan 9, 2019 to establish indirect cost billing rates for July 1, 2018 through June 30, 2019 are allowable in accordance with the requirements of the federal awards to which they apply and 2 CFR Part 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards". This proposal does not include any costs which are unallowable as identified in the applicable federal cost principles. For example, advertising contributions and donations, bad debts, entertainment costs or fines and penalties.
- (2) All costs included in this proposal are properly allocable to federal awards on the basis of a beneficial or causal relationship between the expenses incurred and the agreements to which they are allocated in accordance with applicable requirements. Further, the same costs that have been treated as indirect costs have not been claimed as direct costs. Similar types of costs have been accounted for consistently and the Federal Government will be notified of any accounting changes that could affect the rate.
- (3) The indirect cost rate calculated within the proposal is 30.71%, which was calculated using an indirect cost rate base type of Modified Total Direct Costs. The calculations were based on actual costs from fiscal year July 1, 2017 thru June 30, 2018 to obtain a federal indirect cost billing rate for fiscal year beginning July 1, 2018.

Subject to the provisions of the Program Fraud Civil Remedies Act of 1986, (31 USC 3801 et seq.), the False Claims Act (18 USC 287 and 31 USC 3729); and the False Statement Act (18 USC 1001), I declare to the best of my knowledge that the foregoing is true and correct.

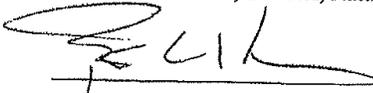
Organization Name: State of Maine, Department of Marine Resources

CFO Signature:

 Date: 1/10/19

Name/Title Authorized Official: Gilbert M. Bilodeau, Director, Natural Res Ser Ctr

Dept Head Signature:

 Date: 1/9/19

Name/Title Authorized Official: Patrick Keliher, Commissioner

MAXIMUS

All Monetary Values are US Dollars
MAXCAP 2019 MAXIMUS Consulting Services, Inc.
Prepared By MAXIMUS Consulting Services, Inc.

Page A-2



Department of Marine Resources

INTEROFFICE MEMORANDUM

TO: FILE
FROM: PATRICK KELIHER, COMMISSIONER
SUBJECT: RATE USED FOR COST ALLOCATION
DATE: 5/23/19

In accordance with OMB Circular A-87, the Department of Marine Resources has submitted to the U.S. Department of Commerce a departmental cost allocation plan for use during state fiscal year 2018 ending June 30, 2018. The indirect cost rate proposal is 30.71%. I am authorizing the use of the lesser rate of 30% to be used during this period.

ACCSP

"FY20: Managing 100% Lobster Harvester Reporting in Maine"
(Mar 1, 2020 – Feb 28, 2021)

A handwritten signature in black ink, appearing to read "P. Keliher", written over a horizontal line.

Patrick Keliher, Commissioner

Attachment 4: Authority to Suspension Licenses for Delinquent Reporters

An Act to Improve the Quality of the Data Used in the Management of Maine's Fisheries

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 12 MRSA §6301, sub-§6 is enacted to read:

6. Ownership identified. If a license issued under chapter 625 is issued to a firm, corporation or partnership, the individual who owns the highest percentage of that firm, corporation or partnership must be identified on the license application. When 2 or more individuals own in equal proportion the highest percentages of a firm, corporation or partnership, each of those owners must be identified.

Sec. 2. 12 MRSA §6412 is enacted to read:

§ 6412. Suspension of license or certificate for failure to comply with reporting requirements

1. Authority to suspend. The commissioner, in accordance with this section, may suspend a license or certificate issued under this Part if the holder of the license or certificate fails to comply with reporting requirements established by rule pursuant to section 6173. A license or certificate suspended under this section remains suspended until the suspension is rescinded by the commissioner. The commissioner shall rescind a suspension when:

A. The commissioner determines and provides notice to the holder of the suspended license or certificate that the holder has come into compliance with the reporting requirements established by rule pursuant to section 6173; and

B. The holder pays to the department a \$25 administrative fee.

When a suspension is rescinded, the license or certificate is reinstated. Until the suspension is rescinded, the holder of the suspended license or certificate is not eligible to hold, apply for or obtain that license or certificate.

2. Process for suspension for failing to comply with weekly reporting. If the commissioner determines that a person who holds a license or certificate under this Part has failed to comply with a weekly reporting requirement established by rule pursuant to section 6173, the commissioner shall notify the person at the telephone number provided on the application for the license or certificate and by e-mail if an e-mail address is provided on the application. If the license or certificate holder has not complied with the reporting requirements within 2 days after the commissioner has provided the notice, the commissioner shall mail a notice of suspension to the license or certificate holder by certified mail or the notice must be served in hand. The notice must:

A. Describe the information that the license or certificate holder is required to provide pursuant to this Part that the department has not received; and

B. State that, unless all the information described in paragraph A is provided to the department or the license or certificate holder requests a hearing, the license or certificate will be suspended in 3 business days after the license or certificate holder's receipt of the notice.

If the license or certificate holder has not complied with the reporting requirements or requested a hearing within 3 business days after receipt of the notice, the commissioner shall suspend the license or certificate.

3. Process for suspension for failing to comply with monthly reporting. If the commissioner determines that a person who holds a license or certificate under this Part has failed to comply with a monthly reporting requirement established by rule pursuant to section 6173, the commissioner shall notify the person at the telephone number provided on the application for the license or certificate and by e-mail if an e-mail address is provided on the application. If the license or certificate holder has not complied with the reporting requirements within 45

days after the commissioner has provided the notice, the commissioner shall mail a notice of suspension to the license or certificate holder by certified mail or the notice must be served in hand. The notice must:

A. Describe the information that the license or certificate holder is required to provide pursuant to this Part that the department has not received; and

B. State that, unless all the information described in paragraph A is provided to the department or the license or certificate holder requests a hearing, the license or certificate will be suspended in 3 business days after the license or certificate holder's receipt of the notice.

If the license or certificate holder has not complied with the reporting requirements or requested a hearing within 3 business days after receipt of the notice, the commissioner shall suspend the license or certificate.

4. **Hearing.** A license or certificate holder receiving a written notice of suspension pursuant to this section may request a hearing on the suspension by contacting the department within 3 business days of receipt of the notice. If a hearing is requested, the suspension is stayed until a decision is issued following the hearing. The hearing must be held within 3 business days of the request, unless another time is agreed to by both the department and the license or certificate holder. The hearing must be conducted in the Augusta area. The hearing must be held in accordance with:

A. Title 5, section 9057, regarding evidence, except the issues are limited to whether the license or certificate holder has complied with reporting requirements established by rule pursuant to section 6173;

B. Title 5, section 9058, regarding notice;

C. Title 5, section 9059, regarding records;

D. Title 5, section 9061, regarding decisions, except the deadline for making a decision is one business day after completion of the hearing; and

E. Title 5, section 9062, subsections 3 and 4, regarding a presiding officer's duties and reporting requirements, except that notwithstanding Title 5, section 9062, subsection 1, the presiding officer must be the commissioner or the commissioner's designee.

Summary of Proposal for ACCSP Ranking

Proposal Type: New Proposal

Primary Program Priority and Percentage of Effort to ACCSP modules:

Catch and Effort (10 points): 100% of licensed lobster (and 11 other fisheries) must report trip level information. Most of these reports will be electronic.

Data Delivery Plan (2 Points): All electronic data through the MEDMR offline application will be submitted into SAFIS daily. All data entered into MEDMR's MARVIN database and will be sent to the ACCSP Data Warehouse on at least a bi-annual basis after all data have been thoroughly audited.

Project Quality Factors:

Regional Impact (5 Points): all partners will benefit, as all the data collected will be uploaded to ACCSP. Regional management organizations, such as ASMFC, will benefit from the trip level information from Maine. Partners may also benefit from the technologies/procedures tested in the new offline MEDMR mobile application. MEDMR will contract to have a mobile app built for harvesters to use to meet the 100% lobster reporting requirement mandated in ASMFC Addendum XXVI. MEDMR will pay for all start-up costs associated with this project and shared findings with ACCSP. Partners will be able to utilize (the developer might charge a support fee) this application once built if they so choose.

Funding transition plan (4 Points): MEDMR will continue to look for other funding sources; however, with the timeline of 100% lobster reporting being pushed forward from the date set in Addendum XXVI, MEDMR will need help to achieve the requirements coming in the next few years. MEDMR intends to pay for the development of an offline mobile harvester reporting application that will meet MEDMR, NMFS NERO and SERO along with HMS reporting requirements. MEDMR will pay for the ongoing monthly maintenance fee associated with this program. Currently, the MEDMR does not have any plans to require electronic reporting for all fisheries but intends on pushing electronic reporting. Geographical restrictions prevent all harvesters from having reliable high-speed internet access at this time.

In-kind Contribution (3 Points): the partner contribution is listed on page 14.

Improvement in Data Quality/Timeliness (4 Points): MEDMR can audit data at a more detailed level, including checking harvester reported data against dealer reported data. MEDMR encourages reporting timeliness through outreach with harvesters and is working with Marine Patrol to ensure industry understands the importance of submitting accurate and timely information. The Maine State Legislature also passed law that authorizes license suspensions for those who fail to report on time which has improved the timeliness and quality of the data submitted for the fisheries that utilize this law.

Potential secondary module as a by-product (in program priority order) (3 points): The offline application that MEDMR envisions will be able to eventually link up with certain dealer reports and accept tracker data which will revolutionize the way spatial data could be used to determine many effort fields and dealer and harvester reports are matched up.

Impact on Stock Assessment (3 Points): Regional management organizations which carry out stock assessments will benefit from the detailed landings data reported from Maine. This information is used in stock assessments for many species that are managed by regional agencies.

Innovative (3 points): The offline reporting application that MEDMR is planning on having built will be completely table driven and allow for reporting screens to change on a partner level basis. This program will include all NMFS NERO, SERO, HMS and MEDMR required fields along with the ability to eventually link up with trackers and potentially dealer reports to create an integrated reporting program.

Properly Prepared (1 Points): MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Merit (3 points): This proposal allows MEDMR to comply with mandatory ASMFC requirements. The MEDMR currently provides more data to the data warehouse than any other state and accounts for over 30% of all records landed in the Data Warehouse. MEDMR are always looking for ways to collect data in a timely and efficient manner.

Robert B. Watts II
Maine Department of Marine Resources
(207) 633-9412
[**rob.watts@maine.gov**](mailto:rob.watts@maine.gov)

June 2019

PROFILE:

- Knowledge of Maine and federal regulations pertaining to commercial fishing and associated reporting requirements through working with the Department of Marine Resources and the National Marine Fisheries Service.
- Knowledgeable of Maine's fishing industries and how they operate.

EDUCATION:

B.S. Marine Science, Maine Maritime Academy, Castine, ME 2002

EMPLOYMENT EXPERIENCE:

May 2016 – Present **Marine Resource Scientist III**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.
- Oversees DMR's landings suspension authority and process.
- Oversees DMR's swipe card reporting program.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Oversees Maine's Environmental Monitoring Program.
- Serves as key contact for Maine commercial landings information.
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP), serving on the Operations Committee, Commercial Technical Committee, Information Systems Technical Committee, Standard Codes Committee and Outreach Committee; working to bring the Landings Program into compliance with ACCSP standards.

Jan 2014 – Jan 2016 **Marine Resource Scientist III (Acting Capacity)**
June 2015 – Apr 2016 **Marine Resource Scientist II**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.

- Oversees DMR's landings suspension authority and process.
- Oversees DMR's swipe card reporting program.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Serves as key contact for Maine commercial landings information.
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP) through serving on the Commercial Technical Committee, Information Systems Technical Committee and Outreach Committee; working to bring the Landings Program into compliance with ACCSP standards.

**Feb 2012 – Apr 2015 Marine Resource Scientist I
Maine Department of Marine Resources**

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises five Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.
- Oversees outreach to industry.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Serves as key contact for Maine commercial landings.

**Oct 2007 – Jan 2012 Marine Resource Specialist II
Maine Department of Marine Resources**

- Oversee daily operations of the harvester landings program.
- Notify new harvesters about reporting requirements.
- Maintain databases used for data audits and data entry.
- Monitor reporting compliance database and notifies harvesters if they are delinquent.
- Supervise two Landings Program personnel.
- Oversees IVR reporting.
- Prepare data requests from various sources

**Jul 2005 – Oct 2007 Marine Resource Specialist I
Maine Department of Marine Resources**

- Interviewed marine recreational anglers all over the Maine coast to help determine fish stocks. Identified, weighed, measured and recorded fish caught by anglers.
- Created publications, updated regulation handouts and updated the recreational fishing website as needed.

**May 2001 – Jun 2005 Conservation Aid
Maine Department of Marine Resources**

- Interviewed marine recreational anglers all over the Maine coast to help determine fish stocks. Identified, weighed, measured and recorded fish caught by anglers.
- Acted as a liaison between the State of Maine and the recreational anglers, answered anglers questions about fishing regulations.

Erin L. Summers
Maine Department of Marine Resources
(207) 633-9556
erin.l.summers@maine.gov

June 2019

Profile:

- Work collaboratively with state, federal, academic, conservation, and industry partners to reduce whale entanglements and mortality in marine mammals and sea turtles through bodies such as the Atlantic Large Whale Take Reduction team and Atlantic Large Whale Disentanglement Network.
- Build research programs to provide baseline data on large whale life history, ecology, and habitat use in Maine's coastal rocky bottom habitats. Design new and emerging methodologies to inform management decisions.
- Oversee research and monitoring programs within the Division of Biological Monitoring at DMR, including the lobster programs, surveys for scallops, sea urchin, shrimp, and herring, recreational fisheries program, inshore trawl survey, and the landings and reporting group.
- Represent the Department of Marine Resources in stakeholder meetings, including those for wind energy permitting, Natural Resource Damage Assessments, department wide research and priority setting, etc.
- Member of the Atlantic Scientific Review Group advising NOAA Fisheries on marine mammal stock assessments

Education:

MA Biology: Boston University Marine Program Woods Hole, Ma. 5/02
BA Biology, Spanish minor: Truman State University Kirksville, Mo. 5/00

Employment:

Jan 2017 – present: **Marine Resource Scientist IV**
 Maine Department of Marine Resources
 West Boothbay Harbor, Me

- Oversee Division of Biological Monitoring, including Commercial Landings Program, Benthic group (lobster, scallops, urchins), and Pelagics group (herring, groundfish, shrimp, and recreational fishing)
- Lead Scientist for DMR's Large Whale Conservation Program
- Member of the Atlantic Large Whale Take Reduction Team

Feb 2006 – Jan 2017: **Marine Resource Scientist II**
 Maine Department of Marine Resources

- Lead scientist for DMR's Large Whale Conservation Program
- Secured grant funding, wrote reports, tracked budgets to support research projects
- Completed projects to support management decisions for the Atlantic Large Whale Take Reduction Plan, including tagging humpback whales, right whale habitat surveys, passive acoustic surveys, gear density surveys, testing alternative fishing gear, characterizing fishing practices, etc.
- Oil Spill Response Coordinator
- Assist with GIS coordination

Jan 2010 – May 2010: **Adjunct Faculty**

**Unity College
Unity, Me**

- Taught upper level course in the biology of Marine Mammals

**Feb 2004 – Feb 2006: Marine Mammal Research Specialist
University of New England
Biddeford, Me**

- Lead Research technician on project to track and predict right whale habitat use and distribution
- Analysis of remotely sensed data and right whale sightings in the Bay of Fundy Critical Habitat
- Assisted with report writing and budget tracking
- Completed project and published paper analyzing right baleen using stable isotope analysis
- Completed project and published papers satellite tagging and tracking basking sharks off the coast of New England

**Sept 2002 – Feb 2004: Research Technician
Cetacean and Sea Turtle Team, NOAA Fisheries Service
Beaufort, NC**

- Lead technician tracking and analyzing movements of satellite tagged dolphins
- Perform field work including fishing gear and dolphin aerial surveys, boat based dolphin biopsy and photo-identification surveys, satellite tagging dolphins, responding to strandings, etc.
- Participate in necropsies as needed

**Oct 2000 – June 2002: Laboratory Technician
Marine Biological Laboratories
Woods Hole, Ma**

- Manage daily operations of the laboratory of marine veterinarian, Roxanna Smolowitz
- Run experiments and document methodologies and results
- Prepare media, samples, histology slides, and other lab bench work

**Proposal for funding made to the
Coordinating Council and the Operations Committee
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland St., Ste. 200A-N
Arlington, VA 22201**

**FY20: Use of Geographic Data and SAFIS Data Sources to Evaluate an Aggregate
Landings Commercial Fishing Management Program**

Submitted By:
Nichole Ares
Rhode Island Department of Environmental Management
Division of Marine Fisheries
3 Fort Wetherill Rd
Jamestown, RI 02835
nichole.ares@dem.ri.gov

Applicant Name: Rhode Island Department of Environmental Management,
Division of Marine Fisheries

Project Title: **FY20: Use of Geographic Data and SAFIS Data Sources to Evaluate
an Aggregate Landings Commercial Fishing Management Program**

Project Type: New Proposal

Requested Award Amount: \$35,414

Requested Award Period: For one year, beginning after the receipt of funds.

Primary Program Priority: Commercial and Recreational Catch and Effort Module

Date Submitted:

Project Supervisor: John Lake, Supervising Biologist

Principal Investigator: Nichole Ares, Principal Biologist

Project Staff: Richard Balouskus, Principal Biologist

Objectives:

- Use data collected by SAFIS eTRIPS-Mobile (eTRIPS-M) to evaluate metrics of an aggregate commercial fishing pilot program.
- Evaluate low cost vessel monitoring system (VMS) technology as an enforcement tool for compliance to aggregate landing limits.
- Create standard methodology for using SAFIS fisherman and dealer data sources combined with geographic data to pilot programs to evaluate effects on quota consumption rate, number of trips taken, and changes in fishing methods.

Background:

For years, discussions on an aggregate program have circled around the summer flounder, or fluke (*Paralichthys dentatus*) and black sea bass (*Centropristis striata*) commercial fisheries in Rhode Island (RI). These two species' commercial quotas have traditionally been managed through specific season quotas, changes in possession limits throughout the year, and in some cases closures during certain days of the week. Given the high demand of the species and level of participation (especially in the summer), and the low state quota allocations, the daily possession limits of these species are low (50 pounds per day in the summer). With the species' increased prevalence in recent years, commercial fishermen have reported that the low fluke and black sea bass daily limits result in greater discards. Additionally, the low possession limits are resulting in fishermen operating in poor conditions to ensure the fish are caught so the operation can be profitable.

With the variability of fish stocks, low quotas, and subsequently, low possession limits combined with raising fuel and vessel maintenance costs, fisheries managers are being asked to provide more flexible fishing operation practices to the fishing industry. One of the common programs suggested are aggregate programs. These programs would allow fishermen more flexibility in fishing practices through the utilization of a weekly possession limit instead of a daily limit. Such programs could potentially decrease costs to the fishermen by decreases days at sea (fuel and vessel maintenance costs decrease) while also increasing safety as fishermen could pick which days are the best weather wise. Aggregate programs could also decrease discards, and thus, discard mortality in some fisheries, especially at times when possession limits are low.

Despite these benefits, there are concerns that need to be considered in aggregate programs. Such programs may favor a given sector or individual businesses depending on how they operate. Further, such programs could increase catch rates, which can lead to quicker quota consumption and result in shorter fishing seasons due to early closures. There are also economic concerns that an increase in fish landed will oversaturate the market and drive prices down. Additionally, the enforcement of a program and accountability of the participants is difficult; possession limits differ from vessel to vessel given the flexible system. This results in a possession limit that is impossible to enforce without a record of the prior day/weeks landings values. To ensure proper operation of this type of program, more stringent reporting is required, as well as access to the reports. Additionally, a program that is difficult to enforce has the potential to increase illegal fishing activity due to the potential difficulties in accountability. While ideas on how such an aggregate program would impact the prosecution of these fisheries and what the potential mechanisms should be to manage and enforce the program, have been debated, they are largely untested.

A series of public meetings were held between 2017 and 2018 to discuss potential new management programs, including gear specific quotas, sector programs, expanded aggregate

programs, removing seasons and possession limit changes, and others. There was a large amount of public comments over the validity of some of the programs, with an aggregate program being the preferred option by the fishing industry. Therefore, in the fall of 2018, the Rhode Island Marine Fisheries Council (RIMFC) voted to adopt a Pilot Aggregate Program for the 2019 calendar year that can assess the efficacy of an aggregate program, where participants would be held to a weekly aggregate limit (daily limit x days open) in lieu of a daily limit, with the option to run the program again in 2020 as either a pilot or a larger more open program. In December 2018, new regulations were established (Rhode Island Marine Fisheries Regulations (RIMFR), Part 12- Research Pilot Aggregate Program, 2018). The program requires participants have at a minimum 4 years of history participating in the fisheries in RI confirmed through SAFIS dealer reports and catch and effort reports, so the impacts of the aggregate program could be compared to prior fishing practices. Both fisheries will continue to be managed separately (separate quotas, seasons, and possession limits) and participants are eligible to utilize both aggregates within the regulations set forth. All participants are also required to have a Vessel Monitoring System (VMS) device on their vessel and allow RIDEM Office of Law Enforcement (RIDEM OLE) and RIDMF staff have access to the data collected. The cost of the VMS device is the responsibility of the fishermen. The VMS device is meant to address concerns over compliance issues and will be used to confirm trip counts reported by the fishermen. Additionally, all participants must report their catch and effort information prior to offloading their catch into eTRIPS-M. This is to assist in the enforceability of the program (possession limit compliance) and to improve data quality through limiting recall bias.

An application for the program was made available for all RI commercial fishermen licensed to participate in the fluke and black sea bass fisheries in late 2018. All applications from individuals who met the requirements (fishing history, willingness to install a VMS device, agreeable to electronic reporting) were considered for inclusion in the program. The goal of the application process was to ensure as many fisheries as possible were represented (otter trawl, pot, gillnet, and rod and reel fisheries) as well as variability in the scale of the fisheries (small day boats and larger offshore vessels). Twelve participants were chosen to represent multiple gear types; 3 otter trawl fishermen, 1 lobster pot fisherman, 3 gillnet fishermen, 1 rod and reel fisherman, 3 multi-gear fishermen, and a fish pot fisherman. This participant pool represents both state-only and federally permitted vessels. The program is currently underway, with all participants officially having started their fishing year.

Need:

State partners are being asked to create more flexible management programs to address efficiency, safety at sea, and reduce bycatch rates. This pilot aggregate program allows fishery managers an opportunity to collect data to model what potential impacts are on the commercial fishery if the program is expanded to the entire fishery. In order to complete this analysis, RI is requesting funding to allow for a complete analysis and resulting report to be developed. The report will be made available to all partners who request it. Funds being made available in September 2020 will allow all 2019 data to be collected prior to analysis; if the program is expanded to include more vessels in 2020 as anticipated it would also allow for the inclusion of the additional data in the analysis.

Aggregate landing programs are just one approach to managing fisheries more efficiently. Other potential initiatives include allowing multiple licensed fishermen to harvest from one vessel, allowance of vessel to harvest multiple state possession limits in one trip, and allowance

for certain gear types to access closed areas. There is a need to create standard methodology to assess the impacts of flexible management on the related fisheries, **which this initial analysis will help support.** Standard methodology will allow for comparison of various management measures in both a quantitatively and qualitatively manner. To provide the necessary accountability to potential flexible management practices multiple data sources must be evaluated and compared to ensure data accuracy and reporting compliance.

Currently the ACCSP does not have geographic data standards. This project as well as the FY2018 joint RIDMF and MADMF project which is creating an API for VMS data sources “Integration of Vessel Monitoring Systems and Electronic Reporting in SAFIS and SAFIS Applications through API Development and Field Testing of Multiple Hardware Options” are both necessary first steps to start using VMS data sources to manage inshore fisheries. This proposal will complement the 2019 proposal by creating standard methodologies for use with VMS data sources. The work represented here will help to identify data standards for geographic data sources. It is essential that ACCSP remain at the forefront of emerging fisheries technologies such as VMS. Failure to do so is detrimental to the continued success of the program **as increased data needs are required to support fisheries management. The enhanced data needs to be collected, stored, and available for use; inability to collect and disseminate this data will be detrimental to fisheries management in the future.**

Approach:

This project will use SAFIS Dealer Reports (eDR) and eTRIPS-M to collect landings catch and effort data from participants **(currently 12 in 2019 with a potential increase in participation in 2020)** in the RIDMF Summer Flounder and Black Sea Bass pilot aggregate landing program. VMS data will also be collected from the Faria Beede Sentry Boat Tracking and Monitoring system for comparison to the SAFIS sourced data. Details about the VMS device can be found here: (https://fariabeede.com/site_manuals/Faria_Beede-fm-002-0049_A_WD300_FB-Sentry.pdf). **Geodata from the VMS devices will stay with RI until an ACCSP standard is developed. Once developed, geodata can be included in the ACCSP database. Location data (latitude and longitude) from the eTRIPS-M reporting will be included in the transmission to ACCP and available for access.**

Data will be analyzed and standard methodologies for comparing the two data sources will be evaluated. The analysis will include but not be limited to trip counts, catch rates, areas fished, and gear types used. **VMS data will be primarily used by enforcement officers to ensure participants are adhering to the regulations of the program but will be used in the analysis to track trip counts to help model fishermen behavior and track compliance with the reporting requirements.** Other areas where data standardization is needed will be identified. **Comparison of past fishing behavior (4 years of history) to new behavior will be evaluated. The potential impacts on expanding the aggregate program will be examined and modeled. Observed changes in behavior relative to the pilot program will be modeled for expansion to the entire fishery. Methodologies for evaluation of the pilot program will be documented and shared with interested parties. The geofencing capability built into the Faria Beede VMS software will assist in both the data analysis of trip counts, area fished, and distance traveled. RIDEM OLE will have full access to the VMS data for purposes of regulatory compliance.**

Results and Benefits:

The overall goal is to provide the ability to manage programs that meet the demands of the industry, without compromising the fishing seasons by harvesting quota at an increased rate and maintaining healthy fish stocks. The resulting analysis will help fisheries managers determine the ability of low cost VMS to provide accountability for fisheries management, where geographic data standards need to be established, create standard methods for using landings, catch and effort, and VMS data to evaluate flexible management programs. While the analysis being done is RI specific, all partners will benefit from the creation of VMS data standards, as this proposal and others currently ongoing highlight the need for the development of these standards through proper ACCSP protocols. Additionally, other partners might utilize the results of the RI program to consider the impacts of implementing the program within their state, petition for conservation equivalency, development of regulations for similar programs, and addressing the technological needs to support and manage the program. If additional states want to establish the management program, it should be fairly simple. The VMS devices utilized are cost effective, the data reporting software used is free, so the largest hurdles would be implementing regulations.

This project also increases the quality and timeliness of catch and effort data collected by requiring data submitted to SAFIS via eTRIPS-M, a tablet and smartphone-based reporting system. eTRIPS-M is a relatively new product this project will father its use as a standard data collection tool. Already using eTRIPS -M for the pilot has aided in addressing bugs in the application, which is valuable to all partners. Requiring on board data recording via eTRIPS-M increases data quality by reducing recall bias. Data quality is paramount in regional stock assessments and management of fisheries both in RI and coastwide.

With low possession limits come larger discards of fish in some fisheries. By allowing the fishermen to aggregate limits, the number of trips executed should be reduced resulting in the decreased discard rates of both regulatory and non-regulatory discards.

Data generated from analyses, including days in which quota is achieved before and during an aggregate program, and changes in days fished with an aggregate program, will provide critical data that is required to understand the social and economic responses of such a program.

Data Delivery Plan:

All landings data and catch and effort data collected by RI is entered in SAFIS. All catch and effort data will be collected through eTRIPS-M and stored in SAFIS. All dealer reports (landings) are entered electronically into SAFIS eDR twice a week by the dealers. Once entered, all data is immediately available to ACCSP and other program partners who utilize SAFIS and the SAFIS tables within the warehouse. This data is also incorporated into the warehouse tables during the yearly uploads and available for warehouse users annually. All proposed geographic data standards and analysis methodologies developed by the program will be made available to all partners, including the results on catch rates by gear and information from RIDEM OLE on their ability to enforce the program. If possible, VMS data will be submitted to ACCSP via the API under development.

Geographic Location:

The project will be administered out of the Rhode Island Division Marine Fisheries office in Jamestown, RI. The scope of the project covers all of RI and adjacent state and federal waters fished by RI license holders.

Program Accomplishment Measurement Metrics:

The success of the project will be measured by the following metrics:

Goal	Metric
Data entered into eTRIPS Mobile by pilot program participants.	Number of trips submitted.
Successful monitoring of participants.	Enforcement can successfully access VMS and reports from participating vessels without issue.
Data QA/QC from participants and ensuring format and fields successfully aid in addressing analytical needs.	Tabular data with aggregated information across the participants.
Data collected is utilized to measure the impacts of expanding the program.	Report containing descriptive statistics, modeled catch rates, and simulations to assess uncertainty in data.
Methodology for verifying trips entered in SAFIS Dealer and eTRIP-M with VMS data established.	VMS track lines or geofence triggers are used to verify SAFIS trip counts.

Table 1. Milestone Schedule

Activity	Month														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Data collection	X	X	X	X	X	X	X	X	X	X	X	X			
Data QA/QC	X	X	X	X	X	X	X	X	X	X	X	X			
Monitoring Participants Catch Rates	X	X	X	X	X	X	X	X	X	X	X	X			
Analyses Geographic Data, Catch Rate of Participants, Compare their Rates and Quota Benchmarks to Previous Years							X	X	X	X	X	X			
Model the impacts of expanding the aggregate program							X	X	X	X	X	X			
Semi and Annual Report Writing							X					X	X	X	X

Requested Budget FY 2019 (August 1, 2019 to July 31, 2020)

Item	ACCSP Share	Direct State Share	Total
Supervising Biologist (FTE 4%)		\$3,942	\$3,942
Principal Biologist (FTE 27%)	\$30,204		\$30,204
Indirect Charges (RIDEM FTE 17.25%)	\$5,210	\$678	\$5,890
Total Personnel	\$35,414	\$4,622	\$40,035

TOTAL:

Item	ACCSP Share	Direct State Share	Total
Total Direct Charges	\$35,414	\$5,890	\$40,035
Percentage	88%	12%	100%

COST DETAILS:

Description of Budget categories and expenses for this project.

a. Salary

Each person spends a fraction of their time working on this grant in a team effort. The annual salaries for personnel and the percentage of their time spent on this project are as follows:

From ACCSP:

- i. **Principal Biologist:** 27% ACCSP funded position (salary and fringe) to act as support to the ACCSP Coordinator; 27% of salary for one year = \$30,204.

From RIDEM as match:

- i. **Supervising Biologist:**
Approximately 4% of annual salary and fringe equals \$3,942.

b. Fringe benefits

Annual fringe benefits rates for all employees include the following:

- Retirement 24%
- Deferred Compensation 0.4%
- FICA 6.2%
- Medicare 1.45%
- Health care \$21,937/year
- Dental \$ 1,132/year
- Vision Mercer - \$165/year
- Assessed Fringe 4,25%
- Retiree Health 6.75%

- c. Equipment**
No equipment will be purchased on this grant.
- d. Supplies**
No supplies will be purchased on this grant
- e. Construction**
There will be no construction as part of this grant.
- f. Other**
There is nothing in this category
- g. Total Direct Charges**
This is the sum of all direct charges to the grant, listed above.
- j. Indirect charges.**
Indirect charges are only calculated using RIDEM personnel charges. The negotiated Indirect Rate for fiscal year 2019 is 17.25%.

Summary of Proposal for Ranking

Proposal Type: New Proposal

Primary Program Priority: Catch and Effort (100%)

Project Quality Factors:

Partners

- **Multi-Partner/Regional impact including broad applications** – This proposal is specific to RI catch and effort fishing data collection and management of fluke and black sea bass fisheries. However, both fluke and black sea bass are jointly managed species and the data collected are used in coastwide stock assessments. Additionally, the program analysis could be utilized in other states experiencing similar demand in flexibility of fishing practices through aggregate fishing programs to examine the impacts to their commercial industry or model their own pilot program. The VMS data collection and potential inclusion into ACCSP in the future could be both utilized by other partners if it becomes available, and the methodologies surrounding the data in management use will be made available to all partners.

Funding

- **Contains funding transition plan** – The project is to complete a data analysis on the pilot project. Once the analysis is complete no additional funding would be required unless the project is expanded to additional years and additional participation and further analyses need to be completed.
- **In-kind contribution-** 12% of the budget is contributed by RIDMF in kind.

Data

- **Improvement in data quality/quantity/timeliness** – Data collected by the fishermen (catch and effort) is required to be documented within SAFIS eTRIPS Mobile prior to offloading their catch. This improves the quality of the data by reducing recall bias. The timeliness of the data is also increased as the data is immediately viewable by law enforcement and uploaded to SAFIS once an internet connection is available.
- **Potential secondary module as a by-product** – Social and economic data can be derived from the raw data source and can be shared with social and economic scientists to develop models to investigate what potential benefits aggregate programs have on the fishing industry. The raw data source also provides insight into human social behavior and how fishermen react to changes in management. Additionally, the integration of VMS data can be used to assist in ocean planning projects as it provides a more robust source of fishermen use of fishing grounds. The program can also be expanded in the future to include the collection of bycatch data, although at this time that data is not required to be reported.
- **Impact on stock assessment** - This project is specific to fluke and black sea bass fisheries, both species are regionally managed, and the data can be used in and to support stock assessments of both species.

Appendix B: Curriculum Vitae for Principal Investigator

Nichole L. Ausfresser Ares

Nichole.Ares@gmail.com

(978) 833- 4017

Education

Roger Williams University

Bristol, RI

Bachelor of Science in Marine Biology

Dec. 2010

Minor in Mathematics

Atlantic States Marine Fisheries Commission

Introduction to Stock Assessment

October 2015

Intermediate Stock Assessment Training

December 2017

Work Experience

Rhode Island Department of Environmental Management

February 2016-Present

Principal Biologist

- Coordinate and improve the Atlantic Coastal Cooperative Statistics Program (ACCSP) in Rhode Island.
- Monitor commercial fishing quotas, lead quota management meetings and determination of seasonal closures and possession limit changes.
- Reporting compliance for ~1500 RI commercially licensed fishermen. Including tracking compliance, training and support to fishermen on report submissions and utilization of the electronic reporting system. Supervise and train staff on data entry of collected catch and effort data. Audit data quality of submitted reports.
- Data accuracy and quality of dealer reported landings data for the ~140 RI commercial licensed seafood dealers. Correction of inaccuracies in data, training new seafood dealers, and retraining dealers with data entry issues.
- Serve on ACCSP committees, including Commercial Technical Committee, Information Systems Committee and Standard Codes Committee.
- Assist in field work as necessary including but not limited to otter trawl, ventless lobster pot, beach seine, fyke net, and ventless fish pot surveys.
- Write and submit project plans, compliance reports, and grant proposals.

Atlantic States Marine Fisheries Commission

May 2014- February 2016

Fisheries Specialist 1- ACCSP Coordinator

- Coordinate and improve the Atlantic Coastal Cooperative Statistics Program (ACCSP) in Rhode Island under the supervision of Rhode Island Division of Fish and Wildlife Marine Fisheries Section.
- Monitor commercial fishing quotas, lead quota management meetings and determination of seasonal closures and possession limit changes.
- Track reporting compliance for ~1500 RI commercially licensed fishermen. Train fishermen and seasonal staff on report submissions. Audit data quality of submitted reports.
- Audit and correct data of dealer reported landings data for the ~140 RI commercial licensed seafood dealers. Train new seafood dealers and retraining dealers with data entry issues.
- Write and submit project plans, compliance reports, and grant proposals.
- Member of various ACCSP committees, including Commercial Technical Committee and Information Systems Committee.

- Assist in field work as needed, including beach seine, lobster ventless pot, and otter trawl surveys.

East West Technical Services LLC

Feb. 2012- May 2014

At-Sea Monitor and Scallop Observer

- Organize fishing trips with federal commercial fishermen of the North Eastern United States.
- Collect catch and discard data on groundfish (trawl, gillnet, and longline) and scallop dredge fishing vessels. Identify all species brought on board and take biological measurements and samples including; length, weight, scales, vertebrae, and otoliths.

Rhode Island Department of Environmental Management

June. 2011-Dec. 2011

Division of Fish and Wildlife- Marine Fisheries Student Researcher

April 2013-Oct. 2013

- Data and logbook entry using Microsoft Access, Microsoft Excel, SAFIS, and Telnet.
- Contact fishermen when questions arise with logbook submissions.
- Assist in field work sampling in beach seine, otter trawl, clam suction, clam dredge, lobster pots, fish pots, and finfish port sampling.
- Fish aging structure removal (operculum, scales, and otoliths) and preparation.

Research Experience

Roger Williams University

June 2009- June 2011

- Project goals are to examine mercury bioaccumulation in fish tissues, examine selenium concentrations in tissues, and examine selenium mercury relationships.
- Includes sampling methods of rod & reel and otter trawl surveys, the extraction of muscle, liver, brain tissues, and otoliths. Preparing tissues samples for atomic absorption spectroscopy and inductively coupled plasma mass spectroscopy. Use of Microsoft Excel and SAS to analyze the data, PowerPoint to present data at conferences. Organize the laboratory and help keep scientific equipment running correctly.
- Mentor: Dr. David L. Taylor, Assistant Professor

Technology, Skills, and Certifications

- Proficient in Microsoft Word, PowerPoint, Excel, Access, and Picture Manager, SAFIS info systems, Telnet, HTML, Adobe DreamWeaver, Oracle Databases (SAFIS Interface and Business Objects), and R.
- Familiar with SQL.
- Large dataset management
- Certified PADI Open Water Scuba Diver
- RIDEM Certificate of Boating Safety Education
- U.S Coastguard Auxiliary Boating Safety Course
- Fisheries sampling techniques including fish and invertebrate identification, trawl, beach seine, lobster and fish pots, gillnets, and dissections.

Proposal for funding made to the
Coordinating Council and the Operations Committee
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland St., Ste. 200 A-N
Arlington, VA 22201

FY20: SAFIS Expansion of “*SAFMC Release*” and “*NC DMF Catch U Later*”
Discard Reporting Applications

Submitted By:

Julia Byrd
South Atlantic Fishery Management Council
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Dr. Andrew Cathey
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License and Statistics
943 Washington Square Mall
Washington, NC 27889
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252-948-3876

August 12, 2019

Atlantic Coastal Cooperative Statistics Program
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We are pleased to submit the proposal titled, “**FY20: SAFIS Expansion of “SAFMC Release” and “NC DMF Catch U Later” Discard Reporting Applications**”. This proposal has been revised from the original proposal submitted on June 10, 2019 to address reviewers’ questions and recommendations. In the original proposal, committee members asked that we address the following questions and recommendations. We have addressed them below (see red text) and within the proposal where applicable.

Questions

- + Will this program be available on Android and iOS, are they phone or tablet specific? Please clarify this in the text. *Added language to include iOS and Android functionality for both phones and tablets*

- + Has ACCSP been approached to discuss the storage needs of photos and will they incur any additional costs to store these photos? What kind of changes to their database structure will be needed to accept and store these photos both in SAFIS and the Warehouse? – *Yes, database structure exists and storage is available. Language has been added to the proposal to indicate this.*

- + Has there been any discussion to utilize image analysis software, knowing the scaling might be an issue it might be worth testing the ability of the software against human judgement to create an algorithm to automate the process in the future? – *Investigation of new technologies is being done. Please clarify this in the proposal text. SAFMC Release submitted images will be reviewed initially by SAFMC staff. When submitting photos, participants are asked to submit pictures of a whole fish, ideally with a measuring tape or other object of known size in the photo. Length validation will be done by SAFMC staff when possible.*

QC of Catch U Later submitted images will be accomplished using MRIP certified APAIS technicians, DMF Biologists, and Stakeholders (i.e. For-Hire Captains). Length data will be ascertained by calibrating the pixel length of fish images with an item of known length (e.g. coin).

The automation of these process has great potential but is outside the scope of this investigation. (Added language to ‘Approach’ section Task D)

- + Benefits and/or disadvantages of producing different apps/programs to collect very similar information? Proposal mentions the two projects are different, don’t see those differences or why taking the existing app to modify slightly to address other project

Yellow highlighted comments indicate sections that help with the ranking process

Green highlighted comments indicate changes made to the initial proposal

needs is not feasible. *Added language regarding the selection of users for each application (open access for SAFMC vs. statistical sample of users for NC DMF. Data collected through NCDMF Catch U Later will be used to specifically address species composition of discarded generic flounder). This comment shows a misunderstanding by the reviewer regarding the purpose of this proposal which is to develop a platform that can be easily modified to address future project needs from all stakeholders. Added language in the need section to explicitly address management benefits for NC DMF.*

- + Proposal does get into the need for standardization of apps and data collected which is great but seems contradictory to some previous statements in proposal. *Standardization between applications provided a framework of available data elements that can be mixed and matched by other interested parties to create a data collection stream to address future research objectives. This is explicitly stated in the first paragraph of the results and benefits section.*
- + Are the differences between programs the targeted species and then capturing the associated data specific/unique to those fisheries?
There are two pilots that are being created; however, they are using the same code base. The proposal is to generalize this application for use by other partners/species. Please clarify this in the proposal text.
Absolutely, SAFMC has immediate data needs for scamp as well as other reef fish that are also subjected to barotrauma. NCDMF has immediate data needs for the decomposition of generic flounder discards. Explicitly stated in the first three paragraphs of the Need section of the proposal.
- + Don't understand the reference to changes, branding and appearance to SAFIS application – are the current apps not SAFIS developed or compatible?
Pilots are being individually branded. The general application will be a SAFIS application. Please clarify this in the proposal text. The general application will be a SAFIS application and there will be partner options available. Language has been added to the proposal to indicate this.
- + Rec discard lengths are a critical data gap in red drum stock assessments. NC Catch U Later will be adding Red Drum. Can drum discard lengths be collected in other states as well, either via the SAFMC tool, or subsequent expansion of the NC tool to other states? – *The SAFIS application will be available to all partners/regions/species. Please clarify this in the text. Absolutely, the purpose of this proposal is to create a vehicle to address coastwide deficits in discard information.*

Recommendations

- + NMFS SEFSC Beaufort Lab attempted length analysis via photograph image analysis. Suggest contacting Beaufort for lessons learned. *Project PI's followed up with the Operations Team member who provided this recommendation. In the past, NMFS Beaufort staff had submitted an unfunded proposal to attempt length analysis via*

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photograph image analysis. Currently SAFMC and Beaufort staff are collaborating on a project attempting similar length analysis with historic photos. This project is just getting started, but the project team will share lessons learned as available with this project's PIs and other ACCSP partners.

- + In stock assessment section, please add section on importance of discard lengths as a significant data gap. Consider contacting stock assessment leads (e.g., Jeff Kipp at ASMFC for red drum) to determine how discard lengths are used in SAs. Data application may inform data collection design. *The 'Stock Assessment and Management Benefits and Impact' section includes language noting this and provides specific examples from the recent South Atlantic Red Grouper and South Atlantic Red Drum assessments.*

- + Please include explanation of the photo standards and/or instructions. *When submitting photos for SAFMC Release, participants are asked to submit pictures of a whole fish, ideally with a measuring tape or other object on known size in the image.*

*NCDMF plans to instruct panelists to take photographs of discarded catch with an item of known size to calibrate pixel length. This will be accomplished with the open access software Image J provided through the National Institute of Health.
<https://imagej.nih.gov/ij/>*

- + Travel - \$25K for 2-day workshop seems high, notably \$5K meeting space; can travel budget be reduced, maybe hosting for free at Fort Johnson, Morehead DMF, or another location easy for anglers to get to? *Suggested participants for the proposed workshop include ACCSP staff, Harbor Light Software staff, ACCSP partners SAFMC, NC DMF, GA DNR, and RI DEM, and ACCSP committee representatives (see 'Approach' section, Task E). The workshop budget was based on costs used to estimate SEDAR workshops. Workshop location is to be determined and although it may be possible to find less expensive meeting space, that can often lead to additional travel costs (e.g. rental cars, taxi/uber, etc. may be needed to get participants to meeting locations).*

Best,

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Applicant Name: South Atlantic Fishery Management Council (SAFMC)
North Carolina Division of Marine Fisheries (NC DMF)

Project Title: **FY20: SAFIS Expansion of “SAFMC Release” and “NC DMF Catch U Later” Discard Reporting Applications**

Project Type: New

Requested Award Amount: \$118,500

Requested Award Period: One year upon receipt of funds

Submission Date: June 10, 2019; revised version submitted August 12, 2019

FY20 Atlantic Coastal Cooperative Statistics Program (ACCSP) Proposal for the SAFMC and NC DMF

OBJECTIVE:

- Combine two similar released fish reporting applications (*SAFMC Release* and *NC DMF Catch U Later*) into ACCSP SAFIS as a single, flexible and customizable release and discard reporting tool that is available to other partners.
- Expand the SAFIS application to increase the species that can be reported.
- Begin planning for development of an integrated, customizable data collection application to provide more efficient data collection and reduce future needs for individual applications.

NEED:

Losses to fish stocks from catch and release mortality is an increasingly significant component of the total mortality experienced by many stocks. Because such fish are not available for sampling by typical dockside monitoring programs, and observer coverage ranges from limited in commercial and for-hire fisheries to non-existent in private recreational fisheries, there is often no information available to characterize these losses for stock assessment modeling. Lack of certainty in species identification is another concern with the ‘self-reported’ data that are used to estimate releases. As a result, **improving information on released fish is a common stock assessment research need and is often a top priority in agency research plans. In the 2017 ACCSP Recreational Technical Committee prioritization, increased information on released fish was tied for the #2 priority. In the ACCSP request for 2020 proposals, information on releases and discards as well as APAIS/MRIP independent biological sampling for recreational fisheries are the #2 and #4 priorities respectively.** Discard characterization and information on discard reduction practices are priorities in the South Atlantic Council’s Research and Monitoring Plan for 2018-2022.

The South Atlantic Council (SAFMC) developed the reporting application *SAFMC Release* through its Citizen Science Program to provide information on released Scamp Grouper to be considered for use in an upcoming stock assessment **and for future management.** *SAFMC Release*, programmed by Harbor Light Software, provides a streamlined approach for fishermen to provide a picture of discarded fish along with additional details such as length, release location and depth, condition, and use of barotrauma reduction techniques. Because there is a severe lack of details on discarded fish across all fishery sectors, this app was developed for and is being promoted to all sectors - commercial, for-hire, and private recreational fisheries. **ACCSP has been an important partner in developing *SAFMC Release* and will provide a portal for data submission and warehousing. For this project, the *SAFMC Release* component will be expanded to allow reporting of shallow water groupers: Red, Gag, Black, Scamp, Yellowfin and Yellowmouth Groupers; Red Hind; Rock Hind; Coney and Graysby.**

North Carolina Division of Marine Fisheries (NC DMF) has plans to develop “*Catch U Later*”, a reporting app for recreational discards to enable separation of flounder releases into individual species, to collect information on the size of released fish and information on capture location. Flounders, Red Drum, Spotted Seatrout, and Weakfish are among the most targeted recreational

species in North Carolina. As fisheries management implements creel and size limits as well as seasonal closures the ratio of discarded fish to legal harvest has continued to grow. Indeed, between 2012-2017 discard ratios have ranged between (84-90%) for flounder species, (77-97%) for Red Drum, and (77-95%) and (77-93%) for Spotted Seatrout and Weakfish, respectively. Importantly, there is no current data collection program to represent the size at age distribution of discarded fish. Despite high angler preference for flounder and trout, ambiguity exists concerning identification. This confusion presents a unique challenge for fisheries management in that discard information provided by the recreational angling community may be inadvertently errant. To date the partitioning of discarded catch for these species is accomplished by applying the ratio of species within the observed harvest. However, this methodology is not ideal due to the assumption that discarded individuals share the same spatiotemporal distribution as those harvested. This concern is underscored by demonstrated ontogenetic differentials in habitat utilization and migratory patterns for these congener species. The proposed app will also be developed by Harbor Light Software and will build on some of the functionality of *SAFMC Release*, such as the ability to provide pictures of fish. While both the SAFMC and NC DMF projects are quite different, there will be a strong similarity in the tools – the apps – used by each. The *SAFMC Release* allows open registration for use of the application, while North Carolina *Catch U Later* users are statistically drawn from a list of licensed saltwater anglers. Data collected from the *Catch U Later* application will be used to determine the ratio of constituent flounder species within generic flounder discards. For this project, the NC DMF component will be expanded to allow reporting of trout (i.e., Spotted Seatrout, Weakfish), kingfish, and Red Drum.

Being able to collect photographic data and tie them to a fishermen's species identification, offers an approach to address concerns with self-reported data reliability. It provides a new data stream but creates challenges for QA/QC as validation of such data can't be readily automated or contrasted with other data sources. Current plans for QA/QC are labor intensive and require highly skilled personnel; such approaches are not efficient and may not be practical as these programs expand, and the amount of reports increases. There are examples that use trained volunteers to validate species identification. The Cornell Lab of Ornithology's eBird uses a combination of automated filters and a network of volunteer regional experts to work together to verify eBird data. To start, NC DMF will use existing staff as well as experts in the fishery to help identify species reported through the app. If these types of data collection methods are going to be successful, and expanded to address fisheries with extensive releases, a more efficient QA/QC process is needed.

Collecting information on released fish is just one of the challenges faced by ACCSP partners that has potential to be addressed through innovative electronic tools. Given the astounding proliferation of apps to impact nearly all aspects of people's lives today, and the willingness of the public to openly share information and experiences, it is not surprising that apps are increasingly viewed as a promising approach for collecting fisheries data. Electronic applications offer obvious benefits to the challenge of collecting information on fish that are not going to be kept and therefore are not available to traditional fishery sampling efforts. They can also be developed to address nearly any fisheries data collection need, leading to reduced errors, improved timeliness, and lowered labor demands as has been shown in the transition of MRIP APAIS from paper to electronic data collection. The relative ease with which applications can

now be developed may be good for finding innovative solutions, but it carries the risk of excessive “stovepiping” that results in unique data streams that are difficult to coordinate with other data streams. There is also the risk that a multitude of highly specific applications will impose excessive maintenance costs and lead to confusion amongst the fishing and scientific communities. Therefore, oversight and intentional design are required to ensure that applications collect valid information and that the data collected can be properly placed within the context of other ongoing reporting and monitoring activities, and coordination is required to prevent a proliferation of similar but ultimately incompatible data streams. ACCSP is uniquely situated to address design and data quality concerns through its existing program standards, and to provide coordination through its regional partnerships and infrastructure.

RESULTS AND BENEFITS:

The result of this project will be to provide a release information application that is more flexible and scalable to meet different partner and fishery needs and is able to support multiple projects that can be configured to address specific discard questions across fisheries sectors and jurisdictions. The intent is that the basic framework developed through this project will be further improved and expanded through future projects. Additional project components, such as exploring QA/QC approaches, will address some of the unique challenges that will arise when a flexible application is used to collect new types of data. The benefit to developing these tools within the SAFIS system is that doing so will ensure they meet ACCSP data quality and accessibility standards, are compatible with existing data collection programs, are available to all partners, and are kept up to date.

The release reporting application developed through this project is envisioned as the first step in building an innovative released and discarded fish information platform, consisting of a core application with iOS and android functionality for both phones and tablets and specific profiles tailored to unique projects and data needs that will function similar to E-Trips. ACCSP staff were involved in the development of this proposal. Database structure already exists in SAFIS and the Data Warehouse to accept photos and adequate storage is available. Observer funding across most fisheries along the Atlantic Coast has never been adequate, likely never will be, and many fisheries, such as the private recreational or the commercial snapper grouper hook and line, are challenging to sample through conventional observer techniques due to their sheer volume of participants and small vessels. Although a few specific fisheries are highlighted in this project, the proportion of catch attributed to releases is increasing in many of the popular fisheries along the Atlantic Coast, indicating that other ACCSP partners likely share the needs addressed by this project. Rhode Island Department of Environmental Management (RIDEM) Marine Fisheries has expressed interest in the utility of this app to be able to better characterize recreational discards in both the striped bass and bluefish fisheries. A recent Atlantic States Marine Fisheries Commission Striped Bass assessment found the stock to be overfished and undergoing overfishing. Release mortality accounts for a large portion of removals with recreational discard mortality accounting for 48% in 2017. Having better data to characterize the lengths of released fish, the effect of regulations on strong year classes, and information to better refine mortality rates (e.g. hook type) could be of use to managers and for the next assessment. Innovative monitoring approaches that rely upon technology and fishermen participation are necessary to fill the enormous data gap associated with released fish. Electronic reporting technology is rapidly

developing and offers a potential solution to collecting information on fish that are not available for sampling by scientists.

This project also proposes to begin developing plans for a comprehensive and flexible reporting tool that could be applied to a variety of fisheries data issues. This is a complex undertaking that would build off of the release reporting tool to allow reporting of more types of data, potentially addressing areas such as fishery independent monitoring and biological sampling. The long-term goal is to develop a menu-driven tool that partners could use to easily create a customized app by selecting specific data fields, without the need to develop stand-alone apps for each new project or data challenge. Partners would benefit by being able to create and use an electronic tool without incurring extensive development costs, and ACCSP would benefit by reducing the need for continual API and report development. A generic tool of this type could prove particularly useful as ACCSP moves from the traditional catch and effort data sources and into warehousing the next tier of fisheries data - biological and socio-economic. The project scope and approach developed through a planning team and workshop under this project would form the basis of a future proposal to build the generic app.

Primary Program Priority Addressed by this Project

The released fish reporting applications proposed to be combined and incorporated in SAFIS will provide a tool for collecting biological information on the component of catch that is released, addressing the 2020 Request for Proposal priority 1b and Recreational Technical Committee priority 2. The applications will collect biological and fishery data that is independent of APAIS/MRIP, addressing Recreational Technical Committee priority 4.

The specific benefits to each data type, the rank of the target species within priority matrices, and impacts to stock assessment included in the app, are addressed for each component below.

SAFMC Release & NCDMF Catch U Later

Primary Program Priority: Biological Sampling: 90%

For the SAFMC module, biological information will be collected on released shallow water groupers in both commercial and recreational fisheries. Scamp, Gag, and Red Grouper are in the top 25% of the biological sampling priority matrix. The commercial snapper-grouper hook and line fleet is #5 in the bycatch priority matrix.

- Data Collected for each trip: trip type (commercial, recreational, headboat, charter), date, user (ACCSP ID)
- Data Collected for each fish released: species (user's determination), length (based on ACCSP standards), location, depth, time, fate (dead or alive release), hook type, use of barotrauma mitigation (descending device, venting, line cut), and photograph (to validate and evaluate user IDs and lengths)
- Users may also file a 'no fish released' report

For the NC DMF module, biological information will be collected on recreational releases for three species of flounder (Summer, Gulf, and Southern), three species of kingfish (Southern, Northern, and Gulf), Spotted Seatrout, Weakfish, and Red Drum. Weakfish and Red Drum are in the top 25% of the biological sampling priority matrix.

Secondary Module as a by-product: Catch and Effort: 10%

A ratio of Southern, Summer, and Gulf flounder to total flounder by year, month, and area fished will be determined from a statistically drawn and trained panel of NC *Catch U Later* users. These proportions will be applied to the estimates of left-eyed flounder released (unobserved Type B2) catch to produce estimates of discards for each of the specific flounder species. This methodology will also be used for kingfish and trout.

Stock Assessment and Management Benefits and Impact:

Given the lack of information on discarded and released fish, the impact of this project to stock assessments is substantial. Stock assessments rely upon accurate information on total catch and removals from the stock and accurately allocating those removals to year classes. For fish that are landed, these requirements can be addressed through straightforward methods such as catch reporting or creel surveying to estimate removals and dockside sampling to collect length measurements and age samples (used by methods such as age-length keys to assign fish to age classes). Surveying and dockside sampling approaches cannot work when the fish are released on the water. Using the South Atlantic as an example that is in no way unique, no information is available to classify the size composition of released fish in the commercial snapper grouper hook and line fleet, the private recreational fleet, or the charter fleet. In some areas, fisheries observers are used to collect information on released fish. Observer coverage is limited due to high cost. Moreover, even if funding were available, logistics and liabilities remain a concern for some fisheries such as the commercial hook and line snapper grouper fishery which is prosecuted mostly by small vessels, and private recreational fisheries. Extremely limited observer coverage is available for the headboat fleet (primarily funded through ACCSP), but changes in fleet size and behavior raise concerns about the validity of such data to characterize removals from other fishery sectors. This lack of information is a major source of assessment uncertainty, as assumptions must be made to assign released and discard fish into length and thus age classes for the stock assessment.

In years past the lack of accurate information on discarded fish was not a major assessment concern or source of uncertainty, as landed fish generally accounted for the majority of stock removals. However, this is changing as regulations and fishing behavior are leading to increased discarding. For example, in the recent assessment of Red Drum (SEDAR 44¹), the Review Panel noted catch and release fishing was increasing and as a result estimated total removals from the stock was increasingly sensitive to discard mortality rates and discard losses. The Panel also questioned the validity of an assumption that the length frequency of discarded fish was similar to tagged fish. The assumption was necessary due to the lack of any data on the size of released fish that could be used to assign mortalities from release to appropriate length classes. There are several reasons why such an assumption may be invalid and a source of bias in the assessment results, but the total lack of data precludes even an effort to determine the direction of bias or magnitude of uncertainty. The Review Panel considered this data lack significant and an important issue in the Red Drum assessment.

¹ SEDAR. 2015. SEDAR 44 – Atlantic Red Drum Stock Assessment Report. SEDAR, North Charleston SC. 890 pp. available online at: <http://sedarweb.org/sedar-44>.

Consider some other examples for target fish of this study. The most recent assessment (SEDAR 53²) indicated that over fifty percent of the fishing mortality experienced by Red Grouper is due to discard losses. Given that this stock was found to be overfished and overfishing was occurring, these discard removals are significant, and therefore the assumptions made regarding their size composition are critical. In this instance, the length composition and selectivity for the discard losses was based on observer records from the headboat fishery and it was assumed that these data were representative of all fishery sectors. As noted above, there are no data to test this assumption so its impact on assessment uncertainty and bias is unknown. Similarly, harvest to discard ratios for flounder are 9:1 in North Carolina. A discard mortality rate of 10% applied to released flounder results in total removals due to discard losses that are equivalent to harvest. It is not practical to collect information on discards of flounder by private anglers in small vessels through observers. Since even modest improvements in the information available to characterize discard removals and improve discard mortality estimates could improve stock assessments when the discard losses are significant, alternative methods of collecting the necessary information to properly characterize the size and thus age composition of discarded fish should be pursued.

A similar lack of information exists to classify the depth where fish are captured and released and the use of barotrauma reducing actions such as venting or descending. Depth and barotrauma reduction are significantly correlated with release mortality rates, but it is difficult to refine the overall release mortality rate applied for a stock assessment without finer scale information on released fish.

Small improvements in estimates of discard mortality, based on data rather than assumption, can result in large changes in the estimated removals from a fish stock. Based on the results of ACCSP-funded headboat observer studies, as cited in the 2019 Recreational Technical Committee proposal, the Red Snapper release mortality was reduced from 37% to 28.5% due to the use of circle hooks. Applying this percentage change to the estimated 2018 MRIP discards reduces the discard losses to the population by 274,000 fish. This is quite a difference when considered in light of the allowable 2018 recreational harvest of 29,656 fish. This is also relevant for flounder given the current method applies a ratio of observed catch, which is not an accurate representation of released fish. The ability to accurately characterize discards could substantially improve stock assessments and management decisions.

Data Delivery Plan:

The reporting applications will deliver data directly to ACCSP through an API, building on the existing API that currently accepts data from *SAFMC Release*. Data will be submitted by users, directly through the application, when they are connected to a network.

² SEDAR. 2017. SEDAR 53 – South Atlantic Red Grouper Assessment Report. SEDAR, North Charleston SC. 159 pp. available online at: <http://sedarweb.org/sedar-53>.

APPROACH:

Task A: Create and add enhancements based on the existing implementations of *SAFMC Release* and *NC Catch U Later* applications to create SAFIS application **with partner options.**

Harbor Light Software

- Set up separate profiles for specific projects addressed in the app. For this project, that includes NC inshore versus SAFMC offshore users. The project profiles will ensure users are asked questions relevant to the project that matches their trip. Architect the application to be more flexible in supporting the additional data collection needs that other partners may have.
- Add additional species:
 - SAFMC - shallow water grouper
 - NCDMF - Red Drum, kingfish, and Spotted Seatrout/Weakfish
- Investigate new technologies which assist the accurate determination of length from photographs taken by the mobile devices hosting the application
- Modification of communication with the ACCSP-provided API to insure proper communication of data between the client application and ACCSP databases. **ACCSP databases will store transaction records as well as photographs of discarded catch.**
- Incorporate analytics data to gain insights into usage patterns of the application such as geographic usage of the application or ease of use of particular features. Similarly, incorporate error reporting features to proactively be alerted to reliability issues with the application after it has been deployed.
- QA/QC the application before releases
- Manage the deployment of the application directly to beta users, and ultimately maintaining a presence in the Google Play Store and Apple App Store
- Provide second-tier technical support for issues found with the application, including correcting errors found in the implementation of the required features

SAFMC/NC DMF

- QA/QC and test application

ACCSP

- Update the API as needed
- Update reports as needed and allow easy access to photos that are linked to the trip records.

Task B: Public Outreach (SAFMC/NC DMF)

- Notify current participants of *SAFMC Release* and *NC DMF Catch U Later* of transition to SAFIS application
- Recruit new participants, to further participation in the existing projects and expand participation for the new species
- Notify ACCSP partners of the new SAFIS application

Task C: SAFIS Application Deployment (ACCSP)

- SAFIS application deployed
- Reports available in Data Warehouse to view/download data

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Task D: Data collection, QA/QC, and analysis (NC DMF/SAFMC)

- Data successfully submitted via app to SAFIS/Data Warehouse
- SAFMC provide QA/QC for data collected through their projects; edit/correct as necessary; when submitting photos participants are asked to submit pictures of a whole fish, ideally with a measuring tape or other object of known size in the image (e.g. soda can); photos will initially be reviewed by SAFMC staff and length validation will be done when possible
- NC DMF provide QA/QC for data collected through their projects; QC of Catch U Later submitted images will be accomplished using MRIP certified APAIS technicians, DMF Biologists, and Stakeholders (i.e. For-Hire Captains). Length data will be ascertained by calibrating the pixel length of fish images with an item of known length (e.g. coin). The automation of these process has great potential but is outside the scope of this investigation.
- Data made available for assessment and management as necessary
- Determine proportions for released Southern, Summer, and Gulf flounder to total flounder released by year, month, and area fished. Same for kingfish and trout
- Explore long term solutions for addressing QA/QC and validation needs of the photographic and species identification data, considering volunteers and citizen science approaches

Task E: Planning for next phase of integrated, customizable generic application

- Conduct one in-person and multiple webinar scoping meetings with ACCSP, Harbor Light Software, and ACCSP partners SAFMC, NC DMF, GA DNR, and RI DEM, and ACCSP committee representatives (e.g. Commercial Tech, Recreational Tech, Information Systems, Operations, etc.) to develop needs and objectives for an integrated, flexible app
- Organize a design team including ACCSP, Harbor Light, ACCSP committee representatives, and other interested parties to further develop application plans and prepare a proposal to develop the app

Metadata

Additional information will be recorded during the project to ensure released fish data is properly addressed in management and stock assessment analyses. This includes regulations such as seasons and size and bag limits that directly affect release rates; location and trip type; depth; use of descending devices.

GEOGRAPHIC LOCATION:

The SAFIS application will collect data in NC inshore and coastal waters via the NC DMF component and collect data in coastal South Atlantic waters from North Carolina through the East Coast of FL to the FL Keys via the SAFMC component. The geographic scope of the project includes all ACCSP partners in all regions, as they will be able to use or modify the base application to meet specific project needs.

FUNDING TRANSITION PLAN:

Project contains a defined end point. This is a one year project.

MILESTONE SCHEDULE:

Table 1. Milestone Schedule

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Create and add enhancements to existing base code	x	x	x	x	x							
Update API and reports	x	x	x	x	x							
Feedback from users and incorporating changes/fixes in application			x	x	x	x	x					
Public/Partner Outreach					x	x	x	x	x	x		
SAFIS Application Deployment						x						
Data Collection, QA/QC & Analysis			x	x	x	x	x	x	x	x		
Planning for next phase of integrated, customizable generic application			x	x	x	x	x	x	x	x		
Semi and Annual Report Writing						x				x	x	x

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PROJECT ACCOMPLISHMENTS MEASUREMENTS:

Table 2. Project Accomplishments Measurements

Project Component	Goal	Measurement
Create and add enhancements to SAFIS Application	Modify existing applications to general framework and gather initial feedback	SAFIS application developed, tested, and ready for deployment
Public Outreach	Promote program and inform users of the transition in application	Users are aware and able to transition to new application and new users are recruited to participate in the additional species
SAFIS Application Deployment	Have application easily accessible and available	Application accessible through app stores
Data Collection, QA/QC, & Analysis	Users submit data on the targeted species using the application	QA/QC completed; data available for management and stock assessment, as needed; long term QA/QC approaches evaluated
Planning for next phase of integrated, customizable generic app	Describe the need and identify potential data collection activities and scope potential electronic reporting solutions	Create a development and implementation plan for a generalized electronic data collection tool

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COST SUMMARY (BUDGET):

Item	ACCSP Share	Partner Share	Total
PERSONNEL COSTS			
SAFMC Personnel Julia Byrd, Citizen Science Program (10%) John Carmichael, Deputy Director (5%)		\$7,800.00 \$6,961.20	\$14,761.20
SAFMC QA/QC process part time position	\$24,000		\$24,000.00
NC DMF Personnel Drew Cathey, Biologist II (10%) Chris Wilson, Biologist Supervisor (5%)		\$4,710.10 \$3,277.80	\$7,987.90
NC DMF QA/QC process part time position	\$24,000		
CONTRACT			
Contractor Software Development	\$45,000		\$45,000
SUPPLIES			
Recruitment/Retention Promotional Items	\$500	\$1000	\$1500
TRAVEL			
In-person meeting	\$25,000		\$25,000
TOTAL	\$118,500.00	\$23,749.10	\$142,249.10
Percentage	83%	17%	100%

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BUDGET NARRATIVE:

Personnel (\$48,000): Personnel funds will be used by SAFMC and NC DMF to each hire QA/QC process part time position. Personnel cost is estimated at \$20/hour for a total of 1200 hours for each position. The positions will assist with Task D: Data Collection, QA/QC, and Data Analysis. Job duties will include assisting with QA/QC and exploring long term solutions for addressing QA/QC and validation needs of the photographic and species identification data, considering volunteers and citizen science approaches.

Supplies (\$500): SAFMC will utilize supply funds to print promotional materials (e.g. wallet cards, postcards) to inform users of transition to new SAFIS application and recruit new users. Funds will also be used to purchase small promotion items (e.g. fishing towels, measuring tapes, etc.) to help increase recruitment and retention rates of participants.

Contractual (\$45,000): Harbor Light Software will develop the application software, using the software written for the existing *SAFMC Release* and *NC DMF Catch U Later* applications as core reference with enhancements for branding, additional species, modifications to the ACCSP API and flexibility for supporting different data collection profiles. Harbor Light will also provide second-tier technical support, management of the deployment of the application through respective app stores, perform technical feasibility analysis of image-based length determination technologies and identify architectural enhancements to support a wider range of data collection applications.

Travel (\$25,000): Travel funds will be used for the in-person workshop associated with Task E to develop needs and objectives for an integrated, flexible application. Workshop will be two days with approximately 20 participants. Estimated costs include meeting space (\$5000), participant travel (\$10,000) and lodging, per diem, and miscellaneous participant costs (\$10,000).

Summary of Proposal for Ranking

Proposal Type: New

Primary Program Priority: Biological Sampling - 90%

- The released fish reporting applications proposed to be combined and incorporated in SAFIS will provide a tool for collecting biological information on the component of catch that is released, addressing 2020 Request for Proposals priority 1b and Recreational Technical Committee priority 2. The applications will collect biological and fishery data that is independent of APAIS/MRIP, addressing Recreational Technical Committee priority 4.
- For the SAFMC module, biological information will be collected on released shallow water groupers, in both commercial and recreational fisheries. Scamp, Gag, and Red Grouper are in the top 25% of the biological sampling priority matrix. The commercial snapper-grouper hook and line fleet is #5 in the bycatch priority matrix.
- For the NC DMF module, biological information will be collected on recreational releases for three species of flounder (Summer, Gulf, and Southern), Weakfish, and Red Drum. Weakfish and Red Drum are in the top 25% of the biological sampling priority matrix.

Data Delivery Plan:

- The reporting applications will deliver data directly to ACCSP through an API, building on the existing API that currently accepts data from *SAFMC Release*. Data will be submitted by users, directly through the application, when they are connected to a network.

Project Quality Factors:

- **Multi-partner/Regional impact including broad applications:** This project will combine two similar released fish reporting applications (*SAFMC Release* and *NC DMF Catch You Later*) into ACCSP SAFIS as a single, flexible and customizable release and discard reporting tool with multiple modules that can be available to other partners. The geographic scope of the project includes all ACCSP partners in all regions, as they will be able to use or modify the base application to meet specific project needs. The SAFMC component collects data through the South Atlantic and across all sectors for species with significant release mortality concerns. The NC DMF component collects data in inshore and coastal NC waters.
- **Contains funding transition plan:** Project contains a defined end point. This is a one year project.
- **In-kind contribution:** 17%
- **Improvement in data quality/quantity/timeliness**
 - Provides improvement in data quality and quantity.
 - There is currently no data available to separate NC flounder discards into individual species, and no data to assign discards to length classes.

Yellow highlighted comments indicate sections that help with the ranking process

Green highlighted comments indicate changes made to the initial proposal

- There is currently no data available to assign released shallow water groupers to length classes other than limited headboat observer effort
- **Potential secondary module as a by-product: Catch and effort - 10%.** A ratio of Southern, Summer, and Gulf flounder to total flounder by year, month, and area fished will be determined from a statistically drawn and trained panel of NC *Catch U Later* users. These proportions will be applied to the estimates of left-eyed flounder released (unobserved Type B2) catch to produce estimates of discards for each of the specific flounder species. This methodology will also be used for kingfish and trout.
- **Impact on stock assessment**
Stock assessment impacts are significant. Assessments rely upon accurate catch data for individual species, accurate assignment of catches to length and thus age classes, and accurate accounting of total population removals including release mortality. This project may help provide such information for fisheries for which it is now lacking.

Other Factors:

- **Innovative**
The project is innovative, applying rapidly developing electronic reporting technology to the problem of obtaining critical biological information for released fish.

Andrew M. Cathey

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Professional Preparation:

East Carolina University, PhD, Interdisciplinary Biological Sciences, 2013
Appalachian State University, BS, Ecology and Environmental Biology, 2004

Professional Experience:

Biologist/Chief Data Analyst, North Carolina Division of Marine Fisheries: Nov 2017-Present
Statistician, North Carolina Division of Marine Fisheries: Jul 2014-Nov 2017
PhD Candidate, East Carolina University: Oct 2011-Dec 2013
Graduate Research Assistant, East Carolina University: June 2007-Oct 2011
Research Specialist, Brody School of Medicine, East Carolina University: 2005-2007

Research/Work Experience:

11/01/2017-Present *North Carolina Division of Marine Fisheries-Biologist/Data Analyst*
08/11/14-11/01/17 *North Carolina Division of Marine Fisheries-Statistician*
08/01/09-12/13/13 *East Carolina University Department of Biology-Graduate Research Assistant*

Teaching:

08/01/12-05/06/13 Instructor of Record-East Carolina University, Greenville, North Carolina, Ecology
08/01/08-05/06/11 Teaching Assistant-East Carolina University, Greenville, North Carolina, Introduction to Biology Laboratory

Professional Memberships:

Coastal and Estuarine Research Federation
South Eastern Estuarine Research Society
American Fisheries Society
Sigma Xi

Publications and Technical Reports:

Cathey AM (2016). Evaluating an Ongoing Recreational Flounder Giggling Mail Survey using Dockside Intercepts. *North Carolina Division of Marine Fisheries Final Project Report*. Grant Number 2007-F206

Cathey AM (2015). Assessing Electronic Mobile Devices for the Collection of Recreational Fishing Data. *NOAA Final Project Report*, Task Title: Assessing the Use of Electronic Mobile Devices in Recreational Angling Data, Grant Number EA-133F-12-BA-0034

Cathey AM, Miller NR, Kimmel DG (2014). Spatiotemporal Stability of Trace and Minor Elemental Signatures in Early Larval Shell of the Northern Quahog (Hard Clam) *Mercenaria mercenaria*. *Journal of Shellfish Research* 33(1):247-255

Cathey AM, Miller NR, Kimmel DG (2012) Microchemistry of Juvenile *Mercenaria mercenaria* shell: Implications for Modeling Larval Dispersal. *Marine Ecology Progress Series* 465:155-168

Presentations:

Coastal and Estuarine Research Federation, Society, Estuaries, and Coasts: Adapting to Change. Daytona Beach Florida, November 6-10, 2011.

Poster Presentation: Shell Microchemistry of Juvenile *Mercenaria mercenaria*: Spatiotemporal Patterns and Implications for Modeling Larval Dispersal.

South Eastern Estuarine Research Society. Morehead City and Beaufort North Carolina, April 11-13 2012.

Oral Presentation: Shell Microchemistry of Juvenile *Mercenaria mercenaria*: Spatiotemporal Patterns and Implications for Modeling Larval Dispersal.

Coastal and Estuarine Research Federation, The Changing Coastal and Estuarine Environment a Comparative Approach. Mar Del Plata Argentina, November 11-14, 2012.

Oral Presentation: Shell Microchemistry of Larval *Mercenaria mercenaria*: Implications for modeling Larval Dispersal.

American Fisheries Society, 145th Annual Meeting. Portland Oregon, August 16-20, 2015.

Oral Presentation: Assessing Electronic Mobile Devices for the Collection of Recreational Fishing Data.

Awards:

“*Best Graduate Student Oral Presentation*” Southeastern Estuarine Research Society; Semiannual Meeting, Morehead City and Beaufort, North Carolina. April 11-13, 2012.

“*National Shellfisheries Association Sandra Shumway Best Student Paper in the Journal of Shellfish Research Award*” In Volume 33: *Spatiotemporal Stability of Trace and Minor Elemental Signatures in Early Larval Shell of the Northern Quahog (Hard Clam) Mercenaria mercenaria*.

JULIA BYRD

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EDUCATION: UNIVERSITY OF CHARLESTON, SC, Charleston, SC

-**Masters of Environmental Studies**, focus on environmental and marine biology,
December 2004

WAKE FOREST UNIVERSITY, Winston-Salem, NC

-**Bachelor of Science in Biology**, Minor in **Environmental Studies**, May 2000

WORK EXPERIENCE:

Citizen Science Program Manager, South Atlantic Fishery Management Council (SAFMC); March 2019 – present)

- Provide programmatic leadership and support for the SAFMC's Citizen Science Program
- Develop and deliver training programs to work with participants to design and implement citizen science projects
- Foster collaboration between researchers, scientists, and fishermen to support projects
- Develop grant proposals for citizen science projects and assist in program partners in developing grants
- Serve as PI or co-PI on grant supported citizen science projects addressing SAFMC research priorities
- Assist in developing and delivering outreach materials and training related to the Citizen Science Program and projects
- Communicate scientific, technical issues to a variety of audiences
- Build relationships with fishery professionals and stakeholders throughout the Southeast U.S. to help engage more people in the SAFMC's Citizen Science Program.

Southeast Data Assessment and Review (SEDAR), South Atlantic Fishery Management Council (SAFMC)

SEDAR Coordinator (August 2012 – February 2019)

- Plan, coordinate and manage SEDAR stock assessment projects and procedural workshops. Duties include project management, work planning, timeline development, brainstorming strategies, problem solving, event planning, and facilitation.
- Chair and/or facilitate SEDAR stock identification, data, assessment and procedural workshops. Experience includes facilitating variety of group discussions engaging scientists, managers, fishermen, and other stakeholders in order to lead groups through productive discussions and explore different points of view.
- Build relationships with fishery professionals and stakeholders throughout the Southeast U.S. to help engage more people in the SEDAR Stock Assessment Program.
- Communicate scientific, technical issues to a variety of audiences
- Lead re-design of the SEDAR website and serve as SEDAR webmaster.
- Assist with coordination and facilitation of SAFMC's Snapper Grouper Visioning Project
- Assist with the development of the SAFMC's Citizen Science Program. Duties included helping coordinate and facilitate SAFMC's Citizen Science Workshop, helping develop SAFMC's Citizen Science Blueprint, and assisting the Citizen Science Program Manager in developing infrastructure for the Program.
- SAFMC's representative on the Atlantic Coastal Cooperative Statistics Program Operations Committee
- Instructor for Marine Recreational Education Program, Southeast – Science Workshop 2017
- Participate in SCDNR's in-water sea turtle regional abundance and health assessment survey as Chief Scientist or Scientific Crew

South Carolina Department of Natural Resources, Office of Fisheries Management (OFM)

Wildlife Biologist III (August 2005 – August 2012)

- Supervise and coordinate OFM's recreational fisheries dependent data collection and biological sampling, including survey design, field activities, data analysis, report writing, and grants administration

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- Provide technical assistance including periodic summaries of fishery and habitat data, and reports requested through routine monitoring of marine resources landings and survey data
- Serve as PI or co-PI on grant supported projects that focus on monitoring, research, or assessment activities designed to provide data necessary to marine fisheries resource managers and decision makers
- Conduct presentations for advisory committees, the general public, and other scientists on a variety of fisheries management and conservation issues
- Analyze commercial and recreational fisheries data from a variety of internal and external data sources
- Work on developing state legislation and public outreach for SCDNR initiatives
- Serve on the SCDNR's Rules and Regulations and Accountability Report Committees providing key outreach materials for the general public and the SC legislature
- Participate and serve as a Chief Scientist for SCDNR's in-water sea turtle regional abundance and health assessment survey
- Develop and manage databases for a variety of fisheries information
- Liaison between SCDNR's State Finfish Survey and the National Marine Fisheries Service Marine Recreational Information Program
- Protected Species liaison for OFM
- Coordinate and respond to NOAA Fisheries proposed rules published in the Federal Register
- SCDNR liaison for the National Saltwater Angler Registry
- SCDNR liaison for the Marine Recreational Information Program
- Help organize and participate in outreach and educational events
- Supervise, develop, and coordinate saltwater commercial and for-hire licensing data QA/QC
- Supervise biologists and hourly employees
- Participate in SEDAR data workshops

PROFESSIONAL MEMBERSHIPS:

- SC Chapter of the American Fisheries Society
- SC Fisheries Workers Association (2006-2017; President 2007-2008)
- ACCSP Recreational Technical Committee (2010-2012; Vice Chair 2011-2012)
- MRIP Angler Registry Database Work Group (2008-2012)
- Atlantic Large Whale Take Reduction Team (2010-2012)
- ACCSP Operations Committee (2015-present)

SELECTED TECHNICAL PUBLICATIONS AND PRESENTATIONS:

- Byrd, J., J. Carmichael, and J. Neer. 2017. The Importance of Peer Review in SEDAR Stock Assessments. American Fisheries Society Annual Meeting, Tampa, FL. (Oral presentation)
- VonHarten, A. and J. Byrd. 2016. Building a Fishery Citizen Science Program in the U.S. South Atlantic to Improve Management and Policy. 4th International Marine Conservation Congress. (Oral presentation and helped facilitate focus group.)
- Carmichael, J., A. VonHarten, and J. Byrd. 2016. Efforts to Develop a South Atlantic Fishery Management Council Citizen Science Program. NOAA Fisheries Quantitative Ecology and Socioeconomics Training Program Webinar Series. (webinar presentation)
- SEDAR. 2015. SEDAR Procedural Workshop 7: Data Best Practices. SEDAR, North Charleston, SC. 151pp. (editor)
- Arendt, M., J. Byrd, A. Segars, P. Maier, J. Schwenter, D. Burgess, J. Boynton, J.D. Whitaker, L. Liguori, L. Parker, D. Owens and G. Blanvillain. 2009. Examination of local movement and migratory behavior of sea turtles during spring and summer along the Atlantic coast off the southeastern United States. South Carolina Department of Natural Resources, University of Georgia, and College of Charleston, Final Report to NOAA Fisheries, Contract Number NA03NMF4720281, 177p.

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Green highlighted comments indicate changes made to the initial proposal

Proposal for Funding made to:

Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22204

Rhode Island Department of Environmental Management Proposal:
Voice Recognition using Dragon Speech within Dockside Interceptor Application (DIA)

Submitted by:

Rhode Island Department of Environmental Management
Fish and Wildlife Division
235 Promenade Street
Providence, RI 02908

Applicant Name: Rhode Island Department of Environmental Management
Division of Fish and Wildlife.
Project Title: Voice Recognition using Dragon Speech within Dockside
Interceptor Application (DIA).
Project Type: New Project (second year)
Principal Investigators: Mike Bucko, RI DEM
Requested Award Amount: \$60,540.80
Requested Award Period: One year upon receipt of funds
Original Date Submitted: June 10, 2019

Objective:

This project proposal, Voice Recognition using Dragon Speech within Dockside Interceptor Application (DIA), is a follow-up project focused on integrating voice to text capability into the Dockside Interviewer Application tablets, extending functionality developed during 2019 to prototype speech recognition. The goal of this project is to develop, test, and implement a hands-free voice recognition data recording module to be utilized in the field by ACCSP Fisheries Technicians to record type 3* and type 9** catch data. The module will be added into the Dockside Reporter tablet application (DIA) already in use on the Atlantic Coast.

The existing project focused on creating and using the native speech recognition capabilities in Android and Windows. The native speech recognition capabilities for these platforms both require an active internet connection, which is problematic while sampling off shore. The project has incorporated changes to the Dockside Reporter application to the design of type nine and type three data collection to accommodate integration of speech recognition into the application. The result of the project thus far has been positive and has been demonstrated that this functionality can be added into the DIA. This project "Voice Recognition to Text" represents an inexpensive approach to using an electronic fish board. The original android prototype dockside reporting application originally had the capability to connect with an electronic fish board, this utility was abandoned because of both cost and functionality issues.

However, the existing project has highlighted limitations in the native Google and Windows cloud-based speech recognition technologies in addition to the requirement of a reliable network connection. These technologies suffer from latencies sending data back and forth across the internet, and the tools available to optimize recognition results are still immature and not adequate for handling the specialized vocabularies found in a fisheries data collection application. While the existing effort has been valuable for prototyping application design, it is inadequate for deployment in real-world data collection environments outside the range of WIFI or cellular data connections.

This new proposal builds upon the results of the 2019 project. The Windows prototype from the 2019 project was based on the Android implementation and was ported with just enough functionality to test the speech recognition. This application will be fully completed to be feature equivalent with the Android release and will have Nuance Dragon speech recognition software integrated into the application. The Dragon software is only available on Windows but implements speech recognition directly on the PC running the application and does not need an internet connection. Additionally, the Dragon software contains utilities to improve speech recognition accuracy and performance, such as training for speaker-dependent recognition and the creation of custom vocabularies to handle tasks such as recognizing the hundreds of potential species names might be spoken into the application.

**Type 3 data described by APAIS protocols is lengths and weights of available individual catch (whole fish)*

***Type 9 data described by APAIS protocols is the observed and unobserved lengths of discarded whole fish caught on head boats*

Need:

Using technology that uses speech recognition for direct data input while handling fish sampled on a head boat holds the potential to greatly increase the efficiency and accuracy of the fishery technician in the field. A hands-free data recording utility would allow the fishery technician to measure fish faster than current keyboard entry systems or requiring the user to tap a screen to select items from lists. This increase in efficiency would allow for more interviews to be completed on head boat trips which in turn would result in more type 9 biological samples of recreational discards. This increased efficiency would allow the fishery technician to focus on the task of identifying and measuring the fish and thus increase both the accuracy and precision of the length data being collected. Furthermore, beyond this specific project, the increased use of speech recognition technology would have value in other data collection applications and could be applied to many fishery dependent and independent sampling programs.

The existing speech recognition technology requires a connection to a cellular signal which is not always available while sampling at sea onboard headboats. Therefore, alternate technology is required which can perform recognition using only the hardware in the mobile device such as a tablet.

Prototyping existing network-based speech recognition technologies has indicated that recognition accuracy is not robust enough to deploy with actual users in real world fishing environments. The Dragon software contains utilities that can greatly increase the efficiency of the hands-free process by eliminating the need to work through translation errors.

Approach:

The approach to this plan makes several (dependent) assumptions:

- The ACCSP continues to develop its Dockside Interceptor Application (DIA).
- The application programming interface (API) developed during that project is further modified, if necessary, to facilitate data collected from the project.
- All software enhancements to the ACCSP Dockside Validation tool developed under this proposal will be done in conjunction with the ACCSP, and the source code will belong to the ACCSP for future modifications, enhancements, or license by the ACCSP if desired. The software will be available for use by all partners.

Task 1: Test a voice recognition program to record data input from a Bluetooth microphone without a connection to the internet into the current Dockside Interceptor Application (DIA). The MS Windows Surface Go tablet will be the platform used to integrate Dragon Speech software into the DIA.

The project proposes to use existing ACCSP tablet-based reporting software (DIA) already in use for the MRIP APAIS. The DIA is currently used in collecting APAIS data from GA to ME. The design of the type 3 and type 9 interfaces took into consideration the addition of voice to text capability during the first phase of the project. The Android platform is currently being ported to the MS Windows platform with additional voice to text testing using Windows Speech Services technology used in the Windows 10 “Cortana” voice to text feature.

The existing prototype software design within the DIA that can process voice to text data inputted via a Bluetooth microphone will be enhanced to use the Dragon technology on Windows instead of the Google or Cortana prototyped implementations. Custom vocabularies will be created for use by fisheries technicians in the field on actual head boat trips.

The enhanced application and “voice to text” functionality will be tested on board the RIDMF R/V John H Chafee during the initial phases. Observers will ride along with the trawl survey to test the functionality of the microphone and recognition accuracy, while recording lengths and weight of fish using both pencil and paper forms for comparison. Two staff will be required to test the application, one will measure the fish and call out the lengths into the Bluetooth microphone while the other will document the lengths of the same fish on a traditional paper form. This approach will eliminate individual sampling bias generated from measuring fish as an error source during testing to allow for better evaluation of the voice to text technology. When satisfied the application is working as intended, it will be tested on board head boats using the same two sampler method as on the R/V Chafee. These trips will not coincide with trips already being sampled for APAIS. If possible, trips onboard head boats from the two major companies in Rhode Island will be used to test the utility of the application and account for different conditions from vessel to vessel, particularly noise levels. Sampling at sea will take place on four half day head boat trips. This sample size should be adequate to determine if the application is functioning as intended.

Results and Benefits:

The first phase of this project identified two major problems with using an open source platform for voice to text translation. Both Google translator and MS Windows Cortana require constant connectivity to the internet to be functional. Additionally, there is inherent lag time between action and reaction due to functioning over the internet. The lack of vocabulary customization has also revealed problems using the two open source platforms. Dragon speech software is currently only offered for MS Windows platforms. Dragon Speech is considered one of the premier products on the market for voice translation. The functionality of Dragon speech solves both issues identified by phase one of the project. It is questionable whether the voice to text type 3 and type 9 data collection would be functional in the field without the work proposed for phase 2.

The original proposal FY18 required constant connectivity to the internet. Each partner would incur a monthly cost for each android tablet, furthermore, some head boat assignments would need Satellite

service to connect offshore. These costs are eliminated by moving to the windows platform which would not need internet connectivity. All the software coding is easily transportable if in the future, Dragon Speech developed standalone product for android.

As of July 2019, funds were available in the original FY18 project to purchase the Dragon Speech software package. We have purchased “Dragon Profession Group 15 (Federal Gov. Package) maintenance and support Package and in doing so have reduced this proposal amount by \$2,169.72.

Although using MS Windows tablets represents a change in the current methodology for using the DIA via Android, it is a much more robust operating system capable of housing a wider range of software such as Dragon speech and would be considered an upgrade to Android. Currently DIA is deployed for MRIP APAIS on Android tablets. The life expectancy of these tablets is likely 3 – 4 years. At that point the Android devices could be replaced with MS Windows tablets with the voice to text capability proposed by this project. Using MS Windows as a platform would not necessarily replace the Android devices as all data is coming into ACCSP via an already developed API capable of accepting data from both sources. Thus, two platforms could be deployed in the field - one for general assignments and one for head boat ride alongs if the cost of the MS Windows tablets are cost prohibitive for coastwide deployment.

Geographic Location:

The location and scope of this project would cover all of Rhode Island and adjacent state waters fished by Rhode Island Head boat Captains. The work would be based out of the RIDFW Marine Section located in Jamestown, RI.

Table 1. Milestone Schedule (start date dependent upon time of grant award)

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Development and troubleshooting of software for tablet application	X	X	X	X	X	X	X	X	X	X	X	
Field tests at sea R/V Chafee							X	X				
Field Tests on at sea Head boats									X	X	X	
Report Writing												X

Project Goals and Metrics

1. The DIA functions on Windows tablets using Dragon Speech.
2. Bluetooth microphone linked to MS Windows tablet DIA and voice-to-text data entry is functioning as intended. When activated, speech recognition collected data will go into the appropriate fields.
3. Audible feedback mechanisms will be evaluation validating whether data has been recorded correctly. The audible feedback will help the fisheries technician determine whether the data has been successfully captured for each field utilizing voice to text.
4. Sea trials comparing the DIA voice to text against current methodologies are conducted and error rates are compared.
5. Usability and application design feedback will be collected during trials to iteratively improve the speed and accuracy of data entry using speech.

Table 2. Cost Summary. Please Note: All related hardware was purchased during phase one of this project.

Item	ACCSP Share	Partner- in-kind	Total
PERSONNEL COSTS			
RIDEM Personnel John Lake (10% of FTE staff time)		\$6,000	\$6,000
CONTRACT			
Contractor Software Development and Support 353 hours @ \$170/hour	\$60,010		\$60,010
SUPPLIES			
Head Boat Fare 8 trips @ \$50 each	\$400		\$400
Mileage 30 miles @ \$0.545 / mile (8@\$16.35)	\$130.80		\$130.80
Dragon Professional Group 15.0 (Federal Gov Package) Software, Annual Subscription, Maintenance and Support Package (4 Licenses)	\$0		\$0
TOTAL	\$60,540.80	\$6,000	\$66,540.80
Percentage	91%	9%	100%

Software D Software Development

Harbor Light Software, the developers of the Dockside Interceptor application will perform the integration of the Dragon speech technology into the application. Harbor Light Software is the vendor on the existing DIA speech product has developed the existing prototype integration of the Google and Windows speech capabilities.

Harbor Light Software will:

- Add support for the Dragon technology
- Work to incorporate usability feedback from field trials to improve the usability of the speech function
- Make any required modifications to the existing Dockside application to handle any new data reporting requirements necessitated by changes to the APAIS server API
- QA/QC the application before releases
- Manage the deployment of the application to users as required, in conjunction with distribution processes currently employed by the ACCSP
- Provide second-tier technical support for issues found with the application, including correcting errors found in the implementation of the required features

Summary of Proposal for Ranking Purposes

Proposal Type: NEW

Primary Program Priority:

Catch and Effort: 50% – This project will continue the ongoing work towards the implementation and validation of an ACCSP approved APAIS Program to collect recreational catch data (type 3 and type 9) from Party / Charter and Head boat vessels.

Data Delivery Plan:

- All data collected from the ACCSP Dockside Validation tool and all software developed will utilize https protocol for secure data transmission.
- All data transmitted to the ACCSP databases will be sent in accordance with the ACCSP's current published API's supporting this electronic validation solution.

Project Quality Factors:

Multi-Partner/Regional impacts

This project is building off previously funded multi-partner/Regional project the APAIS tablet DIA which is doing NOAA MRIP survey. The Regional impact are from States from Georgia to Maine. This proposal would further the utilities of APAIS DIA tablet in collecting recreational biological and harvest data coastwide of TWELVE Partners.

Greater than year 2 contains funding transition plan and/or justification for continuance

This last year is a two-year project.

In-kind contribution:

RIDFW will **provide 9% in** kind funding derived from 10% of an FTE Biologist's time to implement, evaluate, and report the results of the project (\$6,000).

Improvement in data quality/quantity/timeliness

This project will increase data quality/quantity and timeliness by:

- Providing a hands-free data recording system for at sea and dockside measurement of fish which will allow fishery technicians to focus more on the sampling by removing tablet input. The data will be instantly transcribed on the tablet
- The hands-free utility will allow fisheries technician to measure more type 3 and type 9 catches because they will not be spending as much time recording data allowing faster movement between sampling events which will increase quantity of data.

Potential secondary modules as a by-product:

- **Biological:25%** This application is designed to enhance the collection of type 3 catch.
- **Bycatch/Release: 25%** This application is designed to enhance the collection of type 9 catch with has been identified as a priority of the ACCSP Recreational Technical Committee.

Impact on stock assessment:

- The increase in Recreational Bycatch data and Biological data from 12 partners from (GA – ME) will greatly improve stock assessments.

Other Factors:

If successful, the technology utilized in this project could be expanded to enhance commercial port sampling and observer program functionality by providing a paperless hands-free electronic method to collect specimen lengths and eliminate the need for transcription / key entry of the data into a database.

Innovative:

Bluetooth headsets, and voice recognition is a new concept for dockside and at sea collection of fishery dependent data. If successful it could have far reaching impacts and cost saving for both fisheries dependent and independent sampling techniques. The innovation is the ability of having no cellular connection for voice to text translations for Headboat assignments.

MICHAEL J BUCKO

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Tiverton, RI 02878
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Education

B.S., Physics, 1978

UMASS - Dartmouth, North Dartmouth, MA

Work History

Rhode Island APAIS Lead Biologist – ASMFC (Oct 2015 – Present)

DEM –RIDFW Coastal Fishing Laboratory, Wakefield RI

- Acts as contact person for constituent questions regarding survey protocol
- Maintains and coordinates APAIS field sampler assignments (dockside & at sea)
- Performs daily/weekly field staff oversight and monitors weekly assignments
- Leads staff training on procedures and fish identification
- Performs phone validations for 10% of all intercepts completed (by sampler)
- Maintains state site registry information
- In consultation with MRIP, recommends base & add-on site allocation requests to ACCSP for site assignment draws
- Submits weekly data and assignment tracking to ACCSP for entry and processing
- Participates in data collection and data QA/QC
- Provides for-hire vessel directory changes as identified by field staff
- Conduct field interview assignments as needed, following APAIS survey procedures;
- Participates in ACCSP and MRIP APAIS meetings

Bucko's Tackle, Fall River, Ma

Manager/owner, 1978 - 2016

I have worked all aspects of the job from billing to retail sales and handling employees at Bucko's Tackle.

Experience

ACCSP, Arlington, VA

Advisor, 2004 - 2015

Represented Rhode Island recreational fishing in recreational data collection also attended MRFSS Constituents Wave Review from 2005 to 2009.

2009 - 2011

ACCSP ADVISOR COMMITTEE, CHAIRMAN, Arlington VA

As chairman of the ACCSP Advisor Committee, I have attended all the Operation Committee meeting and the Annual Coordination Council meeting presenting Advisory Committee rankings.

ACCSP, Arlington, VA

ACCSP Advisor on Recreational-Technical Committee, 2006 - 2015

My involvement on this committee is to represent first the ACCSP Advisory Committee as well as Rhode Island recreational fishermen.

Brookhaven National Laboratory, Brookhaven NY

Lab Technician, 1976 - 1978

I worked at the high energy lab on a work study program from Umass Dartmouth. My job was to provide support in building high energy detectors and wiring them into a CRAY computer.

General Manager, 1977 – 1978

Umass radio Station WUMD, North Dartmouth MA

My job was managing all aspect of the radio station. As manager I worked with a 7-member executive board. We managed 50 students operating the station.

- We helped develop a long-term strategic plan to increase the radio station power to ensure continued and future operations radio stations with the FCC.
- We worked with the executive board in adding by-laws to improve continued operation of the radio station and to have it remain as a student operated station.

Accomplishments

- My current career accomplishment at the ACCSP was developing the "Guidelines for ACCSP Advisors". Evolved in the basic format which was used as an outline. I wrote many of the key roles and sections of this guideline manual.
- Served on the Recreational Technical Committee from May 2011-2012, during which time we were involved redesigning the Recreational Data Standard for the ACCSP to be put in the 3rd Edition of ACCSP Program Design.
- The Recreational Technical Committee has been working on the State conduct of APAIS on the Recreational Technical committee from 2014 to 2015.



Atlantic Coastal Cooperative Statistics Program

1050 N. Highland Street, Suite 200A-N | Arlington, VA 22201

703.842.0780 | 703.842.0779 (fax) | www.accsp.org

June 10, 2019

To the members of the Operations and Advisory Committees:

The FY2020 Administrative Budget contains two changes. Primarily, the budget includes additional funding for personnel in the form of partial funding for the Recreational Program Manager (15%), full funding of the ACCSP IT Manager and Software Developer (from 50% in FY19), and inclusion of an additional Data Coordinator position required due to the increasing volume of data being managed by the program. Supplemental justification for these personnel changes is attached as an appendix to this cover letter.

Additionally, the ASMFC has increased its overhead rate from 15% to 16.13%.

Attachment I of the FY2019 Administrative Budget request, the 2019 ASMFC Strategic Plan (Goal 3), provides an overview of the high level tasks and milestones expected for the coming year.

Sincerely,

Geoff White and Julie Defilippi Simpson,

Co-Acting Directors, ACCSP



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Appendix I: Justification for personnel changes

Partial Funding of Recreational Program Manager

The Recreational Program Manager manages the MRIP survey implementation and guides recreational and for-hire data standards. In this role, a portion of those responsibilities pertain to activities that are outside of the scope of the funding authority for the MRIP state conduct. These activities include, but are not limited to, recreational standards, proceedings of the Recreational Technical Committee and other ACCSP committees, and involvement in the SEFHIER project. As such, a 15% portion of the financial responsibility for this position is being assumed by this grant.

Full Funding of ACCSP IT Manager and Software Developer

With the Commission's hiring of a Facilities and Technology Administrator, the duties of this position have changed to take on more software development. As a result of the shift in this role, the ACCSP, in the form of this grant, is again taking on full financial responsibility for this position. ACCSP funded this position at 50% last year.

Additional Data Coordinator

The continued success of the ACCSP in recent years has resulted in an increase in the volume of annual data, with biannual loads processing over 3,000,000 rows of data from roughly 35 sources. The demand for custom data requests rises as ACCSP gradually becomes a primary source for data intensive activities such as management actions and stock assessments along the coast. The growth of the program and expansion into additional modules intensifies the work of the technical committees, with the Data Team responsible for staffing the Standard Codes Committee, Commercial Technical Committee, Biological Review Panel, and Bycatch Prioritization Committee.

The development of the program and demand for data have outgrown the current load and dissemination processes and levels of QA/QC that were first established a decade ago. The Data Team must consistently coordinate with partners to ensure that the ever changing landscape of data on the coast come together in a precise and judicious manner. Current levels of staffing are strained under the continuing increase in the volume of data and the expansion into the full implementation of the biological module.

An additional staff member on the Data Team will allow for the continued maintenance and improvement of our load, dissemination, and QA/QC processes resulting in more dependable and timely data.

Our vision is to be the principal source of fisheries-dependent information on the Atlantic coast through the cooperation of all program partners.

Funding Proposal
FY20 ACCSP Administrative Budget

Applicant Name: Atlantic States Marine Fisheries Commission

Project Title: Administrative Support to the Atlantic Coastal Cooperative Statistics Program

Principal Investigator: TBD, Director, ACCSP

Requested Award Amount: \$2,012,744

Request Type: Maintenance/Administrative

Requested Award Period: March 1, 2020 through February 28, 2021

A. Goals

The Atlantic Coastal Cooperative Statistics Program (ACCSP) is a state-federal cooperative partnership between 23 entities responsible for fisheries management, and fisheries data collection on the Atlantic Coast: the 15 Atlantic coast states and the District of Columbia, two federal fisheries agencies (Commerce's NOAA Fisheries and Interior's U.S. Fish and Wildlife Service), three regional fisheries management councils (New England, Mid-Atlantic, and South Atlantic), the Potomac River Fisheries Commission, and the Atlantic States Marine Fisheries Commission (ASMFC). Partner agencies are listed in the original [ACCSP Memorandum of Understanding](#).

The Program was established in 1995 to design, implement, and conduct marine fisheries statistics data collection programs and to integrate those data into a single data management system that will meet the needs of fishery managers, scientists, and the general public.

By establishing and maintaining data collection standards and providing a data management system that incorporates state and federal data, ACCSP will ensure that the best available statistics can be used for fisheries management.

B. Objectives

1. Manage and expand a fully integrated data set that represents the best available fisheries data;
2. Continue working with the program partners to improve fisheries data collection and management in accordance with the evolving ACCSP standards within the confines of limited funds;

3. Explore the allocation of existing Program funds and work with partners to pursue additional funding;
4. Maintain strong executive leadership and collaborative involvement among partners at all committee levels;
5. Monitor and improve the usefulness of products and services provided by the ACCSP;
6. Collaborate with program partners in their funding processes by providing outreach materials and other support to demonstrate the value of ACCSP products and the importance of maintaining base support for fishery-dependent data collection programs to state partners and their executive and legislative branches as well as to all other partner agencies; and,
7. Support nationwide systems as defined in the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

C. Need

Various state and federal fishery management agencies on the Atlantic coast collect data on the status and trends of specific fish populations and the fisheries that utilize these resources; however, it is often difficult to develop sound recommendations to fisheries managers due to inconsistencies in the way data are collected and managed. The various data sets often cannot be integrated to provide accurate information at the state, regional, or coast-wide level. In addition, the disparate manner in which these data are collected and managed places duplicative burdens on fishermen and dealers reporting to multiple state and federal agencies and regions. Due to rapidly changing stock conditions, within-season regulatory changes and catch quotas have become common fishery management strategies. Timely and accurate harvest information for both recreational and commercial fisheries is required to determine the need for and effects of these management measures.

The [Atlantic Coastal Fisheries Cooperative Management Act of 1993](#) mandated a cooperative state-federal program for the conservation of Atlantic coastal fisheries. Section 804 of the Act requires the Secretaries of Commerce and the Interior to develop a program to support state fisheries programs and those of the ASMFC, including improvements in statistics programs. Since the mid-1990s, the ASMFC has provided administrative support for this coordinated effort to improve data collection and management activities.

In 1995 the states, the ASMFC, and the federal fishery management agencies on the Atlantic coast entered into a [Memorandum of Understanding \(MOU\)](#) to develop and implement a cooperative state-federal statistics program that would meet the management needs of all participating agencies. All program partners signed the MOU for the ACCSP at the Commission's 54th Annual Meeting in Charleston, SC. Following signing, an Operations Plan was developed to outline the specific tasks and timetables required to develop and initiate implementation of this program. Annual Operations Plans are developed by the ACCSP to provide guidance on further development and implementation of the Program.

D. Results and Benefits

The ACCSP developed and adopted 1999, 2004 and 2012 versions of the Program Design (now renamed [Atlantic Coast Fisheries Data Collection Standards](#)), which document the standards and protocols for collection and management of commercial, recreational, and for-hire fisheries statistics. Program partners developed and approved minimum data elements for collection of catch, effort, biological, social, and economic statistics. The ACCSP also developed standard codes and formats to ensure consistency of all data collected under the Program. These standards require periodic review and revision as the needs of fisheries managers and the state of the art of fisheries science change.

In 2000, the first version of the [Data Warehouse](#) was made available to the program partners. Since then, it has grown to encompass a 50 plus year time series of fisheries-dependent catch and effort data. Loading of biological data has begun. These data are constantly reviewed and updated as needed.

In 2004, the first version of the [Standard Atlantic Fisheries Information System \(SAFIS\)](#) was deployed. This system is used to collect Program-compliant data from commercial and recreational fishermen and dealers and is now deployed from Maine to Georgia. SAFIS is an ongoing and evolving system, requiring support, review and revision.

The ACCSP will continue to reduce duplication of effort by dealers and fishermen, make more efficient use of limited funds, promote education of resource users, and provide a more complete information base for formulating management policies, strategies, and tactics for shared resources. An integrated multi-agency program using standard protocols for reporting compatible information will lead to more efficient and cost-effective use of current federally and state funded data collection and management programs. The ACCSP will reduce the burden on the fishing industry to provide information in multiple formats to multiple agencies, and will provide more accurate and timely information to achieve optimum public benefits from the use of fishery resources along the Atlantic coast. The ACCSP will ensure the timely dissemination of accurate data on commercial and recreational fisheries for use in stock assessments and fisheries management through a comprehensive and easily accessible data management system.

E. Approach

The ACCSP is managed collaboratively by committee: the Coordinating Council, composed of high level fisheries policy makers from all the program partners, is the governing body; the Operations Committee provides guidance in standards setting and funding priorities. An Advisory Committee provides industry input into the process. A number of other technical committees provide input into various aspects of the process.

Program planning builds on basic principles related to the goals stated in the ACCSP MOU:

- Development of data collection standards and the implementation of data collection programs will be done cooperatively, across jurisdictional lines;
- Consistent coast-wide data collection standards will be implemented by all program partners that include data on all fishing activities -- commercial, recreational and for-hire fisheries;
- Once achieved, data collection improvements will be maintained;
- These data will be loaded and maintained in a central data repository and provided to data users through a user-friendly query system;
- Program planning will be done collaboratively, by consensus;
- The program will be responsive and accountable to partner and end-user needs; and
- Focus on activities that yield maximum benefit.

The Goal 3 of the ASMFC Strategic Plan (Attachment I) details activities to be conducted by ACCSP staff and committees under the FY20 Administrative Budget. Note that activities in support of the Marine Recreational Information Program are separately funded and therefore not included in this plan.

The ACCSP initially developed common standards collaboratively, by consensus, then began to work with program partners to implement the standards, according to a commonly agreed upon priority. All ACCSP technical committees, except for the Advisory Committee which is composed of industry and recreational representatives, are composed of managers and staff of the partner agencies and set policy by consensus. Only the Coordinating Council votes directly on motions.

The standards, known as the [Atlantic Coast Fisheries Data Collection Standards](#), for data collection and management are developed and maintained by ACCSP Technical Committees, with review and oversight by the Operations Committee, and advice from the Advisory Committee. The ACCSP Coordinating Council makes policy level decisions to adopt the program standards. The full-time ACCSP staff coordinates all activities conducted by the ACCSP.

The [Atlantic Coast Fisheries Data Collection Standards](#) documents all completed standards and provides the basic framework for full implementation of the ACCSP by all program partners. Administrative support of ACCSP activities is provided by the ASMFC and funded through overhead charges. The ACCSP is continuously evolving as technology and the needs of management and science change over time. Therefore the *Standards* and supporting systems are still in development. Support for the implementation of ACCSP modules is provided by staff in various jurisdictions. To this end, funding is required to provide for full-time staff for all ACCSP activities, as well as for travel and meeting expenses.

The ACCSP Director, reporting to the Executive Director of the ASMFC, provides leadership for the Program, overall programmatic management and guidance, and is responsible for the day-to-day operations. The ACCSP Program Coordinator provides assistance to the Director, coordinates Program activities and provides staff support for program and technical committees

by drafting, maintaining and coordinating program documents, and publicizes the availability and benefits of the Program. The Software Team Leader coordinates the development and management of ACCSP data management systems. The ACCSP IT Manager manages the information systems infrastructure. The Data Team Leader provides guidance for all data related activities. The Recreational Program Manager manages MRIP survey implementation and guides recreational and for-hire data standards. The Information Systems Specialist, Data Coordinators and Fisheries Programmer provide programming services and system support required to develop and fine-tune the data management systems, assist users as they access the system and provide quality management and control. The Data Coordinators also complete custom data requests, QAQC existing data, maintain data feeds, and directly participate in data intensive activities such as a stock assessment data workshops. The Information System staff provides expert consultations to partners as they implement new reporting and licensing/permitting systems. They also will continue to support development of SAFIS.

ACCSP staff will follow the Goal 3 of the ASMFC 2019 Strategic Plan during FY20, in consultation with all partners. Specific tasks to be accomplished during the period include initiation and maintenance of Partner data feeds from the commercial, recreational, and biological modules; conduct major redesign of SAFIS; complete Federal Information Security Management Act security audit and adjust security protocols as needed; and support of other partner projects (such as the SE SEFHEIR project) by providing technical expertise as necessary.

The ASMFC has basic responsibility for the logistics of all committee meetings which support the development of the ACCSP, including: the ACCSP Coordinating Council, the ACCSP Operations Committee, the Advisory Committee, the Outreach Committees (one which is jointly administered with ASMFC), the Recreational Technical Committee, Commercial Technical Committee, Information Systems Committee, Biological Review Panel, Bycatch Prioritization Committee, Standard Codes Committee, ASMFC Assessment Science Committee (used by ACCSP), and ASMFC Committee on Economic and Social Science (used by ACCSP). Full-time ACCSP personnel staff these committees for planning of work, providing minutes and other documents, and other follow-up.

The ACCSP has helped foster an improved atmosphere of cooperation among its partners. The Program has succeeded in establishing coast-wide fisheries data standards that all program partners have agreed to adopt. Data collection and management systems will be developed and deployed as the standards and Partner needs evolve. Program partners remain engaged in the process, and the program has made substantial progress towards its goals.

1. Geographic Location: Atlantic Coast (Maine through Florida); systems are being developed for coordination with Gulf of Mexico

2. Milestone Schedule: See Goal 3 of the ASMFC 2019 Strategic Plan (Attachment 1)

This is a continuation from previous projects. Table 1 contains the base administrative budget amounts by year since implementation began in 1999.

Table 1. Administrative funding for ACCSP from 1999-2019

Year	Funding	Number of Staff
1999	\$907,902	3
2000	\$681,451	3
2001	\$1,054,466	5
2002	\$1,178,677	6
2003	\$1,302,768	7
2004	\$1,298,319	8
2005	\$1,409,545	8
2006	\$1,380,598	8
2007	\$1,489,189	8
2008	\$1,447,620	9
2009	\$1,527,996	9
2010	\$1,509,899	9
2011	\$1,530,699	9
2012	\$1,509,555	9
2013	\$1,582,780	9
2014	\$1,718,447	9.5
2015	\$1,731,666	9.5
2016	\$1,623,360	9.5
2017	\$1,855,113	9.5
2018	\$1,854,249	9.5
2019	\$1,816,503	9.5

3. Cost Summary: The ACCSP requests \$1,748,699 for administrative support, committee travel and systems operations during FY20. The addition of the 16.13% overhead rate raises the request to \$2,012,744.

The funds used for the ACCSP shall be accounted for separately from all other ASMFC funds.

4. Personnel

Program personnel funded through this grant, except the Recreational Program Manager, are dedicated 100% to the ACCSP and are full-time employees of the Atlantic States Marine Fisheries Commission. Note that personnel associated with the MRIP state conduct and 85% of the Recreational Program Manager are funded under separate authority and not accounted for in this document. Fringe benefits which include health care, vision, dental, annual and sick leave are calculated at 27%. ASMFC salaries are kept confidential, thus only totals are displayed. In addition an agreement has been put in place with NMFS Highly Migratory Species (HMS) to partially fund the Information Systems Specialist who is responsible for maintaining HMS data

feeds. Note that the vacant Data Coordinator is a new position required due to the increasing volume of data being managed by the Program.

- ACCSP Director - vacant (to be filled in 2019)
- Program Coordinator – vacant (to be filled in 2019)
- ACCSP IT Manager and Software Developer (100% previously 50%) – Edward Martino
- Recreational Program Manager (15%) – Geoff White
- Software Team Leader - Karen Holmes
- Senior Fisheries Programmer – Nicolas Mwai
- Data Team Leader – Julie Defilippi Simpson
- Information Systems Specialist - Jennifer Ni
- Senior Data Coordinator – Joseph Myers
- Senior Data Coordinator – Heather Konell
- Data Coordinator – Michael Rinaldi
- Data Coordinator (new) – vacant (to be filled in 2019)

Salaries and Wages	
Total Salary	\$ 1,067,095
Benefits @27%	\$ 288,116
Total Costs	\$ 1,355,211

5. Travel

Travel is broken down into two general categories; committee meetings and staff travel. The bulk of travel is in support of committee meetings. While significant savings have been achieved by using remote meeting technologies (such as online meetings), face-to-face meetings are often required to complete the tasks assigned. In general, each committee will have at least one face-to-face meeting during the year. In addition to staff travel to support committee meetings, staff travel is needed for implementation planning, data collection activities, outreach efforts, and information system development meetings with partners.

The Program funds fares to and from the meeting site, per diem according to Office of Personnel and Management guidelines and facilities costs for the meeting itself. (The daily rate per meeting includes cost of airfare or mileage, lodging, meals and other travel related expenses.) Reimbursable participants include state fisheries directors and biologists, state and university scientists, law enforcement personnel and citizen advisors from Maine through Florida. Meetings will be held in various locations on the Eastern Seaboard, including but not limited to: Annapolis, MD; Norfolk, VA; Charleston, SC; Philadelphia, PA; Alexandria, VA; Providence, RI; Jacksonville, FL; Washington, D.C.

The travel budget is based on an estimated \$260 per day multiplied by meetings multiplied by days multiplied by membership plus staff.

Committee Travel	Meetings	Days	Membership	Total	Staff	Total	Grand Total
Advisory Committee	1	1.5	11	\$4,290	1	\$390	\$4,680
Biological Review panel	1	1	12	\$3,120	1	\$260	\$3,380
Bycatch Prioritization	1	1	14	\$3,640	1	\$260	\$3,900
Commercial Technical Committee	1	1	14	\$3,640	1	\$260	\$3,900
Coordinating Council (with ASMFC)	4	0.5	12	\$6,240	2	\$1,040	\$7,280
Operations Committee	2	2	12	\$12,480	2	\$2,080	\$14,560
Outreach	1	1	10	\$2,600	1	\$260	\$2,860
Recreational Technical	1	2	14	\$7,280	1	\$520	\$7,800
Information Systems Committee	1	1	13	\$3,380	1	\$260	\$3,640
Total Committees				\$46,670		\$5,330	\$52,000
Staff Travel							
Partner Coordination	4	2	2	\$4,160			
Data Support (Stock Assessment etc)	3	2	2	\$3,120			
IT Support	3	1	1	\$780			
Outreach	4	2	1	\$2,080			
GulfFIN Coordination	2	1.5	1	\$780			
NJ Staff Travel				\$4,000			
SAFIS Support	10	1	4	\$10,400			
Total Staff Travel				\$25,320			
Grand Total							\$77,320

Attachment II provides the FY19 schedule of the funding cycle and calendar of meetings, which serves as a tentative schedule for FY20.

6. Supplies

Supply costs include supplies not covered by the ASMFC overhead. This includes ACCSP specific materials for outreach, smaller information systems items such as network switches and cables.

Supplies	
Misc Hardware (cables, network hubs etc)	\$4,651
Backup Tapes	\$1,000
Total	\$5,651

7. Equipment

ACCSP maintains several large server systems and related hardware in support of the Data Warehouse, website, SAFIS and administrative functions. These systems typically have a 5 year life cycle after which they require upgrade or replacement. In cases of the larger items, lease options have been explored, but it appears that, in part due to current staffing, it is more cost effective to own and maintain the equipment internally.

Included are the costs are normal life cycle replacements of laptop and desktop systems, assuming replacement of 3 systems annually. Costs are based upon current market surveys and an estimate of our needs. We assume the replacement of one major infrastructure component (server, router, firewall, etc.) yearly.

Equipment	
Infrastructure Replacements (servers, UPS systems, etc.)	\$18,000
Desktop/Laptop Systems	\$4,500
Total	\$22,500

8. Other Costs

Hardware and software support are supplied by a number of different vendors and includes costs associated with licensing and maintenance fees (such as *Oracle* licensing).

The Program maintains three high speed internet connections and associated infrastructure in support of the server systems. The first is the primary internet connection used by all incoming and outgoing public traffic. The second is a dedicated line to the NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO). This second line provides full time secure connectivity requested by the Region. The third connection, using an entirely different technology and provider provides redundancy to the primary connection in case of failure. The system is configured to automatically fail over in the event of a failure of the primary internet connection.

Outside vendors include Hewlett Packard for systems hardware and software support; Oracle for database management systems support; DLT Solutions and Trident Solutions for hardware support. All pricing is based on the GSA schedule.

Communications supports high-speed internet connectivity for ACCSP and related systems and a direct secure connection to the GARFO Data Center in Gloucester, MA. Costs are based upon negotiated contracts with Cogent Communications, Level 3 Communications and Verizon.

Software maintenance and development workload at times exceeds staff’s resources. Contract services will be utilized to provide services that staff may be unable to perform.

E-Reporting Support

Funds are requested for electronic reporting outreach and support activities. Interest among state Partners and harvesters has been steadily rising and a steady stream of new users are adopting the system where agencies will accept electronic reports through SAFIS. In addition, recent and pending management actions mandate electronic reporting. SAFIS eTrips in both the mobile and on-line versions are likely to be used by the majority of harvesters as the reporting tool. In addition, the majority of trips will be reported to the SAFIS system regardless of the tool selected.

Funds requested include both costs associated with the initial deployment and ongoing support. Initial startup costs include but are not limited to in-person training workshops for harvesters and Partner Agency personnel and published training guides and videos that will be available via the ACCSP website. ACCSP continue to contract for help desk support for SAFIS which would include 24/7 helpdesk support, a toll free number to contact support personnel and a helpdesk ticketing program designed to keep track of all requests and provide feedback to the Program.

Other Expenses	2020
Software Support	\$60,000
Hardware Support	\$7,500
Communications/ Internet Connectivity	\$27,500
Printing (outreach)	\$2,500
Contract Services	\$175,000
Total	\$272,500

Budget Summary

Budget Summary	2020
Personnel	\$1,067,095
Fringe Benefits	\$288,116
Travel	\$77,320
Equipment	\$22,500
Supplies	\$5,651
Other	\$272,500
Total Program	\$1,733,182
ASMFC Overhead	\$279,562
Sub Total	\$2,012,744

ATLANTIC STATES MARINE FISHERIES COMMISSION

Five-Year Strategic Plan 2019-2023



*The nation behaves well if it treats the natural resources
as assets which it must turn over to the next generation
increased and not impaired in value.*

Theodore Roosevelt

Introduction

Each state has a fundamental responsibility to safeguard the public trust with respect to its natural resources. Fishery managers are faced with many challenges in carrying out that responsibility. Living marine resources inhabit ecosystems that cross state and federal jurisdictions. Thus, no state, by itself, can effectively protect the interests of its citizens. Each state must work with its sister states and the federal government to conserve and manage natural resources.

Beginning in the late 1930s, the 15 Atlantic coastal states from Maine to Florida took steps to develop cooperative mechanisms to define and achieve their mutual interests in coastal fisheries. The most notable of these was their commitment to form the Atlantic States Marine Fisheries Commission (Commission) in 1942, and to work together through the Commission to promote the conservation and management of shared marine fishery resources. Over the years, the Commission has remained an effective forum for fishery managers to pursue concerted management actions. Through the Commission, states cooperate in a broad range of programs including interstate fisheries management, fisheries science, habitat conservation, and law enforcement.

Congress has long recognized the critical role of the states and the need to support their mutual efforts. Most notably, it enacted the Atlantic Coastal Fisheries Cooperative Management Act (Atlantic Coastal Act) in 1993, which built on the success of the Atlantic Striped Bass Conservation Act of 1984. Acknowledging that no single governmental entity has exclusive management authority for Atlantic coastal fishery resources, the Atlantic Coastal Act recognizes the states' responsibility for cooperative fisheries management through the Commission. The Atlantic Coastal Act charges all Atlantic states with implementing coastal fishery management plans that will safeguard the future of Atlantic coastal fisheries in the interest of both fishermen and the nation.

Accepting these challenges and maintaining their mutual commitment to success, the Atlantic coastal states have adopted this five-year Strategic Plan. The states recognize circumstances today make the work of the Commission more important than ever before. The Strategic Plan articulates the mission, vision, goals, and objectives needed to accomplish the Commission's mission. It serves as the basis for annual action planning, whereby Commissioners identify the highest priority issues and activities to be addressed in the upcoming year. With 27 species currently managed by the Commission, finite staff time, Commissioner time and funding, as well as a myriad of other factors impacting marine resources (e.g., changing ocean conditions, protected species interactions, offshore energy, and aquaculture), Commissioners recognize the absolute need to prioritize activities, dedicating staff time and resources where they are needed most and addressing less pressing issues as resources allow. Efforts will be made to streamline management by using multi-year specifications where possible and increase stability/predictability in fisheries management through less frequent regulatory changes. A

key to prioritizing issues and maximizing efficiencies will be working closely with the three East Coast Regional Management Councils and NOAA Fisheries.

Mission

The Commission's mission, as stated in its 1942 Compact, is:

To promote the better utilization of the fisheries, marine, shell and anadromous, of the Atlantic seaboard by the development of a joint program for the promotion and protection of such fisheries, and by the prevention of physical waste of the fisheries from any cause.

The mission grounds the Commission in history. It reminds every one of the Commission's sense of purpose that has been in place for over 77 years. The constantly changing physical, political, social, and economic environments led the Commission to restate the mission in more modern terms:

To promote cooperative management of marine, shell and diadromous fisheries of the Atlantic coast of the United States by the protection and enhancement of such fisheries, and by the avoidance of physical waste of the fisheries from any cause.

The mission and nature of the Commission as a mutual interstate body incorporate several guiding principles. They include:

- States are sovereign entities, each having its own laws and responsibilities for managing fishery resources within its jurisdiction
- States serve the broad public interest and represent the common good
- Multi-state resource management is complex and dependent upon cooperative efforts by all states involved
- The Commission provides a critical sounding board on issues requiring cross-jurisdictional action, coordinating cooperation, and collaboration among the states and federal government

Vision

The long-term vision of the Commission is:

Sustainable and Cooperative Management of Atlantic Coastal Fisheries

Values

The Commission and its member states have adopted the following values to guide its operations and activities. These values affirm the Commission's commitment to sustainable

fisheries management for the benefit of recreational and commercial fishermen and coastal communities. They also acknowledge the growing importance of managing fisheries in a more holistic and adaptive way, seeking solutions to cross cutting resource issues that lead to long-term ecological and socio-economic sustainability.

- Effective stewardship of marine resources through strong partnerships
- Decisions based on sound science
- Long-term ecological sustainability
- Transparency and accountability in all actions
- Timely response to new information through adaptive management
- Balancing resource conservation with the economic success of coastal communities
- Efficient use of time and fiscal resources
- Work cooperatively with honesty, integrity, and fairness

Driving Forces

The Commission and its actions are influenced by a multitude of factors. These factors are constantly evolving and will most likely change over the time period of this Strategic Plan. However, the most pressing factors affecting the Commission today are changing ocean conditions, resource allocation, the quality and quantity of scientific information, competing ocean uses, a growing demand to address ecosystem functions, and interactions between fisheries and protected species. The Strategic Plan, through its goals and broad objectives, will seek to address each of these issues over the next five years.

Changing Ocean Conditions

Changes in ocean temperature, currents, acidification, and sea level rise are affecting nearly every facet of fisheries resources and management at the state, interstate, and federal levels. Potential impacts to marine species include prey and habitat availability, water quality, susceptibility to disease, and spawning and reproductive potential. The distribution and productivity of fishery stocks are often changing at a rate faster than fisheries stock assessments and management can keep pace with. Several Commission species, such as northern shrimp, Southern New England lobster, Atlantic cobia, black sea bass, and summer flounder are already responding to changes in the ocean. In the case of northern shrimp and Southern New England lobster, warming ocean waters have created inhospitable environments for species reproduction and survivability. For cobia, black sea bass, and summer flounder, changing ocean conditions have contributed to shifts in species distributions, with some species expanding their ranges and others moving into deeper and/or more northern waters to stay within preferred temperature ranges. Where shifts are occurring, the Commission may need to reconsider state-by-state allocation schemes and make adjustments to our fishery management plans. For other species depleted due to factors other than fishing mortality (e.g., habitat degradation and availability, predation), the states will need to explore steps that can be taken to aid in species recovery. And, if a stock's viability is compromised, Commission resources and

efforts should be shifted to other species that can be recovered or maintained as a rebuilt stock.

Allocation

As noted above, resource allocation among the states and between various user groups will continue to be an important issue over the next five years. Many of the Commission FMPs divvy up the available harvestable resource through various types of allocation schemes, such as by state, region, season, or gear type. The changing distribution of many species has further complicated the issue of resource allocation with traditional allocation schemes being challenged and a finite amount of fishery resources to be shared. Discussion may be difficult and divisive, with some states (and their stakeholders) wanting to maintain their historic (traditional) allocations, while others are seeking a greater share of the resource given increased abundance and availability in their waters. States will need to seek innovative ways to reallocate species so that collectively all states feel their needs are met. What will be required to successfully navigate these discussions and decisions is the commitment of the states to work through the issues with honesty, integrity, and fairness, seeking outcomes that balance the needs of the states and their stakeholders with the ever changing realities of shifting resource abundance and availability.

Science as the Foundation

Accurate and timely scientific information form the basis of the Commission's fisheries management decision-making. Continued investments in the collection and management of fishery-dependent and -independent data remain a high priority for the Commission and its member states. The challenge will be to maintain and expand data collection efforts in the face of shrinking state and federal budgets. Past and current investments by state, regional and federal partners of the Atlantic Coastal Cooperative Statistics Program (ACCSP) have established the program as the principal source of marine fishery statistics for the Atlantic coast. State and regional fishery-independent data collection programs, in combination with fishery statistics, provide the scientific foundation for stock assessments. Many data collection programs will continue to be strained by budget restrictions, scientists' workload capacities, and competing priorities. The Commission remains committed to pursuing long-term support for research surveys and monitoring programs that are critical to informing management decisions and resource sustainability.

Ecosystem Functions

Nationally, there has been a growing demand for fisheries managers to address broader ecosystem functions such as predator-prey interactions and environmental factors during their fisheries management planning. Ecosystem science has improved in recent years, though the challenges of comprehensive data collection continue. A majority of the Commission's species are managed and assessed on a single species basis. When ecosystem information is available, the Commission has managed accordingly to provide ecosystem services. The Commission remains committed to seeking ecological sustainability over the long-term through continuing its work on multispecies assessment modeling and the development of ecosystem-based reference points in its fisheries management planning process.

Competing Ocean Uses

Marine spatial planning has become an increasingly popular method of balancing the growing demands on valuable ocean resources. More specifically, the competing interests of commercial and recreational fishing, renewable energy development, aquaculture, marine transportation, offshore oil exploration and drilling, military needs, and habitat restoration are all components that must be integrated into successful ocean use policies. The Commission has always emphasized cooperative management with our federal partners; however, the states' authorities in their marine jurisdictions must be preserved and respected. The Commission will continue to prioritize the successful operation of its fisheries, but it will be imperative to work closely with federal, state, and local governments on emerging ocean use conflicts as they diversify into the future.

Protected Species

Like coastal fishery resources, protected species, such as marine mammals, sea turtles, and listed and candidate fish species, traverse both state and federal waters. The protections afforded these species under the Marine Mammal Protection Act and Endangered Species Act can play a significant role in the management and prosecution of Atlantic coastal fisheries. The Commission and the states have a long history of supporting our federal partners to minimize interactions with and bycatch of marine mammals and sea turtles. The listing of Atlantic sturgeon under the Endangered Species Act has added a whole new level of complexity in the ability of the Commission and its member states to carry out their stewardship responsibilities for these important diadromous species. The species spends the majority of its life in state waters and depend on estuarine and riverine habitat for their survival. Listing has the potential to jeopardize the states' ability to effectively monitor and assess stock condition, as well as impact fisheries that may encounter listed species. It is incumbent upon the Commission and its federal partners to work jointly to assess stock health, identify threats, and implement effective rebuilding programs for listed and candidate species.

More recently, the depleted status of the Northern right whale population and the potential impacts to this population by entanglement in fishing gear, particularly lobster and crab gear, has heightened concern for both whales and the lobster industry.

Increased Cooperation and Collaboration among the States and between the States and Our Federal Partners

Demands for ecosystem-based fisheries management, competing and often conflicting ocean uses, and legislative mandates to protect marine mammals and other protected species, further complicate fisheries management and require quality scientific information to help guide management decisions. There is a growing concern among fishery managers that some "control" over fisheries decisions and status has been diminished due to political intervention and our inability to effect changing ocean conditions and other environmental factors that impact marine resources. Fisheries management has never been more complex or politically charged. State members are pulled between what is best for their stakeholders versus what is best for the resource and the states as a whole.

While the issues may seem daunting, they are not insurmountable. In order for the Commission to be successful, the states must recommit to their collective vision of “Sustainable and Cooperative Management of Atlantic Coastal Fisheries,” recognizing that their strength lies in working together to address the fisheries issues that lie ahead. Given today’s political and environmental realities, the need for cooperation among the states has never been more important. It is also critical the states and their federal partners seek to strengthen their cooperation and working relationships, providing for efficient and effective fisheries management across all agencies. No one state or federal agency has the resources, authority, or ability to do it alone.

GOALS & OBJECTIVES

The Commission will pursue the following eight goals and their related strategies during the five-year planning period, from 2019 through 2023. It will pursue these goals through specific objectives, targets, and milestones outlined in an annual Action Plan, which is adopted each year at the Commission’s Annual Meeting to guide the subsequent year’s activities. Throughout the year, the Commission and its staff will monitor progress in meeting the Commission’s goals, and evaluate the effectiveness of the strategies. While committed to the objectives included in this plan, the Commission is ready to adopt additional objectives to take advantage of new opportunities and address emerging issues as they arise.

Goal 1 - Rebuild, maintain, fairly allocate, and promote sustainable Atlantic coastal fisheries

Goal 1 focuses on the responsibility of the states to conserve and manage Atlantic coastal fishery resources for sustainable use. Commission members will advocate decisions to achieve the long-term benefits of conservation, while balancing the socio-economic interests and needs of coastal communities. Inherent in this is the recognition that healthy and vibrant resources benefit stakeholders. The states are committed to proactive management, with a focus on integrating ecosystem services, socio-economic impacts, habitat issues, bycatch and discard reduction measures, and protected species interactions into well-defined fishery management plans. Fishery management plans will also address fair allocation of fishery resources among the states. Understanding changing ocean conditions and their impact on fishery productivity and distribution is an elevated priority. Successful management under changing ocean conditions will depend not only on adjusting management strategies, but also in reevaluating and revising, as necessary, the underlying conservation goals and objectives of fishery management plans. Improving cooperation and coordination with federal partners and stakeholders can streamline efficiency, transparency, and, ultimately, success. In the next five years, the Commission is committed to ending overfishing and working to rebuild overfished Atlantic coast fish stocks, while promoting sustainable harvest of and access to rebuilt fisheries. Where possible, the Commission will seek to aid in the rebuilding of depleted stocks, whose recovery is hindered by factors other than fishing pressure.

Annual action planning will be guided by the following objectives:

- Manage interstate resources that provide for productive, sustainable fisheries using sound science
- Strengthen state and federal partnerships to improve comprehensive management of shared fishery resources
- Adapt management to address emerging issues
- Practice efficient, transparent, and accountable management processes
- Evaluate progress towards rebuilding fisheries
- Promote sustainable harvest of and access to rebuilt fisheries
- Strengthen interactions and input among stakeholders, technical, advisory, and management groups

Goal 2 – Provide sound, actionable science to support informed management actions

Sustainable management of fisheries relies on accurate and timely scientific advice. The Commission strives to produce sound, actionable science through a technically rigorous, independently peer-reviewed stock assessment process. Assessments are developed using a broad suite of fishery-independent surveys and fishery-dependent monitoring, as well as research products developed by a broad network of fisheries scientists at state, federal, and academic institutions along the coast. The goal encompasses the development of new, innovative scientific research and methodology, and the enhancement of the states' stock assessment capabilities. It provides for the administration, coordination, and expansion of collaborative research and data collection programs. Achieving the goal will ensure sound science is available to serve as the foundation for the Commission's evaluation of stock status and adaptive management actions.

Annual action planning will be guided by the following objectives:

- Conduct stock assessments based on comprehensive data sources and rigorous technical analysis;
- Characterize the risk and uncertainty associated with the scientific advice provided to decision-makers
- Provide training to enhance the expertise and involvement of state and staff scientists in the development of stock assessments
- Streamline data assimilation within individual states, and among states and ASMFC
- Proactively address research priorities through cooperative state and regional data collection programs and collaborative research projects, including stakeholder involvement
- Explore the use of new technologies to improve surveys, monitoring, and the timeliness of scientific products
- Promote effective communication with stakeholders to ensure on-the-water observations and science are consistent

- Utilize ecosystem and climate science products to inform fisheries management decisions

Goal 3 - Produce dependable and timely marine fishery statistics for Atlantic coast fisheries

Effective management depends on quality fishery-dependent data and fishery-independent data to inform stock assessments and fisheries management decisions. While Goal 2 of this Action Plan focuses on providing sound, actionable science and fishery-independent data to support fisheries management, Goal 3 focuses on providing timely, accurate catch and effort data on Atlantic coast recreational, for-hire, and commercial fisheries.

Goal 3 seeks to accomplish this through the activities of the Atlantic Coastal Cooperative Statistics Program (ACCSP), a cooperative state-federal program that designs, implements, and conducts marine fisheries statistics data collection programs and integrates those data into data management systems that will meet the needs of fishery managers, scientists, and fishermen. ACCSP partners include the 15 Atlantic coast state fishery agencies, the three Atlantic Fishery Management Councils, the Potomac River Fisheries Commission, NOAA Fisheries, and the U.S. Fish and Wildlife Service.

Annual action planning will be guided by the following objectives:

- Focus on activities that maximize benefits, are responsive and accountable to partner and end-user needs, and are based on available resources.
- Cooperatively develop, implement, and maintain coastwide data standards through cooperation with all program partners
- Provide electronic applications that improve partner data collection
- Integrate and provide access to partner data via a coastwide repository
- Facilitate fisheries data access through an on-line, user-friendly, system while protecting confidentiality
- Support technological innovation

Goal 4 – Protect and enhance fish habitat and ecosystem health through partnerships and education

Goal 4 aims to conserve and improve coastal, marine, and riverine habitat to enhance the benefits of sustainable Atlantic coastal fisheries and resilient coastal communities in the face of changing ecosystems. Habitat loss and degradation have been identified as significant factors affecting the long-term sustainability and productivity of our nation's fisheries. The Commission's Habitat Program develops objectives, sets priorities, and produces tools to guide fisheries habitat conservation efforts directed towards ecosystem-based management.

The challenge for the Commission and its state members is maintaining fish habitat under limited regulatory authority for habitat protection or enhancement. Therefore, the Commission will work cooperatively with state, federal, and stakeholder partnerships to achieve this goal. Much of the work to address habitat is conducted through the Commission's Habitat and Artificial Reef Committees. In order to identify fish habitats of concern for Commission managed species, each year the Habitat Committee reviews existing reference documents for Commission-managed species to identify gaps or updates needed to describe important habitat types and review and revise species habitat factsheets. The Habitat Committee also publishes an annual issue of the *Habitat Hotline Atlantic*, highlighting topical issues that affect all the states.

The Commission and its Habitat Program endorses the National Fish Habitat Partnership, and will continue to work cooperatively with the partnership to improve aquatic habitat along the Atlantic coast. Since 2008, the Commission has invested considerable resources, as both a partner and administrative home, to the Atlantic Coastal Fish Habitat Partnership (ACFHP), a coastwide collaborative effort to accelerate the conservation and restoration of habitat for native Atlantic coastal, estuarine-dependent, and diadromous fishes. As part of this goal, the Commission will continue to provide support for ACFHP, under the direction of the National Fish Habitat Partnership Board.

Annual action planning will be guided by the following objectives:

- Identify fish habitats of concerns through fisheries management programs and partnerships
- Educate Commissioners, stakeholders, and the general public about the importance of habitat to healthy fisheries and ecosystems
- Better integrate habitat information and data into fishery management plans and stock assessments
- Engage local state, and regional governments in mutually beneficial habitat protection and enhancement programs
- Foster partnerships with management agencies, researchers, and habitat stakeholders to leverage scientific, regulatory, political, and financial support
- Work with ACFHP to foster partnerships with like-minded organizations at local levels to further common habitat goals

Goal 5 – Promote compliance with fishery management plans to ensure sustainable use of Atlantic coast fisheries

Fisheries managers, law enforcement personnel, and stakeholders have a shared responsibility to promote compliance with fisheries management measures. Activities under the goal seek to increase and improve compliance with fishery management plans. This requires the successful coordination of both management and enforcement activities among state and federal agencies. Commission members recognize that adequate and consistent enforcement of fisheries rules is required to keep pace with increasingly complex

management activity and emerging technologies. Achieving the goal will improve the effectiveness of the Commission's fishery management plans.

Annual action planning will be guided by the following objectives:

- Develop practical compliance requirements that foster stakeholder buy-in
- Evaluate the enforceability of management measures and the effectiveness of law enforcement programs
- Promote coordination and expand existing partnerships with state and federal natural resource law enforcement agencies
- Enhance stakeholder awareness of management measures through education and outreach
- Use emerging communication platforms to deliver real time information regarding regulations and the outcomes of law enforcement investigations

Goal 6 – Strengthen stakeholder and public support for the Commission

Stakeholder and public acceptance of Commission decisions are critical to our ultimate success. For the Commission to be effective, these groups must have a clear understanding of our mission, vision, and decision-making processes. The goal seeks to do so through expanded outreach and education efforts about Commission programs, decision-making processes, and its management successes and challenges. It aims to engage stakeholders in the process of fisheries management, and promote the activities and accomplishments of the Commission. Achieving the goal will increase stakeholder participation, understanding, and acceptance of Commission activities.

Annual action planning will be guided by the following objectives:

- Increase public understanding and support of activities through expanded outreach at the local, state, and federal levels
- Clearly define Commission processes to facilitate stakeholder participation, as well as transparency and accountability
- Strengthen national, regional, and local media relations to increase coverage of Commission actions
- Use new technologies and communication platforms to more fully engage the broader public in the Commission's activities and actions

Goal 7 – Advance Commission and member states' priorities through a proactive legislative policy agenda

Although states are positioned to achieve many of the national goals for marine fisheries through cooperative efforts, state fisheries interests are often underrepresented at the national level. This is due, in part, to the fact that policy formulation is often disconnected from the processes that provide the support, organization, and resources necessary to implement the policies. The capabilities and input of the states are an important aspect of

developing national fisheries policy, and the goal seeks to increase the states' role in national policy formulation. Additionally, the goal emphasizes the importance of achieving management goals consistent with productive commercial and recreational fisheries and healthy ecosystems.

The Commission recognizes the need to work with Congress in all phases of policy formulation. Several important fishery-related laws will be reauthorized over the next couple of years (i.e., Atlantic Coastal Act, Magnuson-Stevens Fishery Conservation and Management Act, Interjurisdictional Fisheries Act, Atlantic Striped Bass Conservation Act, and Anadromous Fish Conservation Act). The Commission will be vigilant in advancing the states' interests to Congress as these laws are reauthorized and other fishery-related pieces of legislation are considered.

Annual action planning will be guided by the following objectives:

- Increase the Commission's profile and support in the U.S. Congress by developing relationships between Members and their staff and Commissioners, the Executive Director, and Commission staff
- Maintain or increase long term funding for Commission programs through the federal appropriations process and other available sources.
- Engage Congress on fishery-related legislation affecting the Atlantic coast
- Promote member states' collective interests at the regional and national levels
- Promote economic benefits of the Commission's actions (return on investment)

Goal 8 – Ensure the fiscal stability & efficient administration of the Commission

Goal 8 will ensure that the business affairs of the Commission are managed effectively and efficiently, including workload balancing through the development of annual action plans to support the Commission's management process. It also highlights the need for the Commission to efficiently manage its resources. The goal promotes the efficient use of legal advice to proactively review policies and react to litigation as necessary. It also promotes human resource policies that attract talented and committed individuals to conduct the work of the Commission. The goal highlights the need for the Commission as an organization to continually expand its skill set through training and educational opportunities. It calls for Commissioners and Commission staff to maintain and increase the institutional knowledge of the Commission through periods of transition. Achieving this goal will build core strengths, enabling the Commission to respond to increasingly difficult and complex fisheries management issues.

Annual action planning will be guided by the following objectives:

- Conservatively manage the Commission's operations and budgets to ensure fiscal stability
- Utilize new information technology to improve meeting and workload efficiencies, and enhance communications

- Refine strategies to recruit professional staff, and enhance growth and learning opportunities for Commission and state personnel
- Fully engage new Commissioners in the Commission process and document institutional knowledge.
- Utilize legal advice on new management strategies and policies, and respond to litigation as necessary.



Atlantic Coastal Cooperative Statistics Program

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This list includes dates for fiscal year 2019, including ACCSP committee meetings, relevant dates of the funding cycle, as well as meetings or conferences ACCSP typically attends or which may be of interest to our partners. If you have any questions or comments on this calendar please do not hesitate to contact the ACCSP staff at info@accsp.org.

Jan 21-23:	APAIS Mid-Atlantic Training – Lewes, DE
Jan 29-31:	NEFMC Meeting – Portsmouth, NH
Feb 4-5:	Biological Review Panel Annual Meeting – Savannah, GA
Feb 6-7:	Bycatch Prioritization Committee Annual Meeting – Savannah, GA
Feb 5-7:	ASMFC Meeting/Coordinating Council Meeting – Arlington, VA
Feb 12-14:	MAFMC Meeting – Virginia Beach, VA
Feb 26-28:	APAIS New England Training – New Bedford, MA
Mar 1:	Start of ACCSP FY19
Mar 4-8:	SAFMC Meeting – Jekyll Island, GA
Week of Mar 11:	Commercial Technical Committee Annual Meeting – TBD
Week of Mar 11:	Information Systems Committee Annual Meeting – TBD
Week of Mar 25:	Operations and Advisory Committees Spring Meeting – Webinar (10am)
Week of Apr 8:	Recreational Technical Committee – Webinar
Apr 9-11:	MAFMC Meeting – Avalon, NJ
Apr 16-18:	NEFMC Meeting – Mystic, CT
Apr 29-May 2:	ASMFC Meeting/Coordinating Council Meeting; ACCSP issues request for proposals – Arlington, VA
Jun 4-6:	MAFMC Meeting – New York, NY
Jun 10:	Initial proposals are due
Jun 10-14:	SAFMC Meeting – Stuart, FL
Jun 11-13:	NEFMC Meeting – Portland, ME
Jun 17:	Initial proposals are distributed to Operations and Advisory Committees
Week of Jul 8:	Review of initial proposals by Operations and Advisory Committees – Webinar (10am)
Week of Jul 22:	Feedback submitted to principal investigators
Aug 6-8:	ASMFC Meeting/Coordinating Council Meeting – Arlington, VA
Aug 12:	Revised proposals due
Week of Aug 12:	APAIS Wave 4 Meeting – TBD
Aug 12-15:	MAFMC Meeting – Philadelphia, PA
Aug 19:	Revised proposals distributed to Operations and Advisory Committees
Week of Aug 26:	Preliminary ranking exercise for New Advisors and Operations Members – Webinar
Sep 16-20:	SAFMC Meeting – Charleston, SC
Sep 24-25:	Annual Advisors and Operations Committee Joint Meeting (in-person; location TBD)
Sep 24-26:	NEFMC Meeting – Gloucester, MA
Oct 8-10:	MAFMC Meeting – Durham, NC
Oct 27-31:	ASMFC Annual Meeting/Coordinating Council Meeting – New Castle, NH
Dec 3-7:	SAFMC Meeting – Kitty Hawk, NC
Dec 3-5:	NEFMC Meeting – Newport, RI
Dec 10-12:	MAFMC Meeting – Annapolis, MD

Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.

Plan for Condensing Technical Committees

Why change the structure of ACCSP's Technical Committees?

- The TCs are burdensome for both Partners and Staff.
 - Members often represent their agency on multiple committees, meaning a heavier ACCSP-related workload and less time for each committee.
 - Staff spend a lot of time organizing meetings, putting together meeting materials, and getting new members up to speed.
 - As members of committees often overlap, time is wasted by all parties presenting the same information to each group so that the non-overlapping members are informed.

- They are an inefficient means of gathering input from partners.
 - Often only 1 employee's perspective is provided for an entire agency.
 - Each partner has a representative on each committee. Representation is sometimes unfamiliar with technical requirements, making it challenging to liaise with partner organizations.

- Progress on tasks is slow.
 - Infrequent communication/engagement (only 1-2 meetings/year) means the committees spend a lot of time reviewing tasks/projects and recapping previous decisions.
 - Passing issues between TC's delays response time.
 - Membership turnover slows committees down.

- The current division of the TCs is obsolete.
 - The modules used to be more separate than they are now. For-hire and commercial data collection needs and methods are converging, and integrated reporting vision includes linkages to biological and at-sea observer data.

How can we adjust the structure of the TCs to address these challenges?

- Condense all existing TCs (with current membership) into one broader TC to provide a broader range of perspectives at the outset of a project.
 - The Program will not be limited to working within the confines of one TC for a given project.

- Use a combination of ad-hoc and standing working groups to accomplish projects and routine tasks. Full TC will meet to discuss cross-disciplinary items and then standing and ad hoc workgroups will break out to cover specific items.

- Increase in efficiency in that discussions won't need to be passed from group to group and work will be able to happen faster.
- Examples of ad hoc WGs:
 - Integrated Reporting Group
 - Aquaculture WG
- Examples of standing WGs: (Provided only for illustrative purpose)
 - Trip Reporting
 - Dealer Reporting
 - Sampling (biological, bycatch, etc.)
 - IS policy (change management)
 - Standard Codes
- Solicit volunteers from the ACCSP Technical Committee for a project, rather than relying on a previously designated representative. This is intended to increase engagement.
 - This allows TC members to volunteer for projects that are either a) interesting to them and/or b) important to their respective agency.
 - This approach would further clarify partner priorities.
 - Additional volunteers from partners are welcome and flexibility in membership is key. Equal representation is not always paramount, because not all tasks are of equal importance to the partners.
- Adopt a more task-oriented and organized approach to projects.
 - Develop project charters at the outset to define the scope and objectives of the working group, and to identify relevant stakeholders.
 - Once projects are complete, report results to the broader TC. Then dissolve working group to provide closure.