

# Atlantic States Marine Fisheries Commission

## American Eel Management Board

*October 21, 2021  
11:30 a.m. – 12:15 p.m.  
Webinar*

### 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 ( <i>L. Fegley</i> )  | 11:30 a.m. |
| 2. Board Consent   | 11:30 a.m. |
| • Approval of Agenda   |            |
| • Approval of Proceedings from May 2021  |            |
| 3. Public Comment  | 11:35 a.m. |
| 4. Consider Extending Maine's Glass Eel Quota for 2022-2024 ( <i>K. Rootes-Murdy</i> )<br><b>Final Action</b>                      | 11:45 a.m. |
| 5. Consider Fishery Management Plan Review and State Compliance for the 2020 Fishing Year ( <i>K. Rootes-Murdy</i> ) <b>Action</b> | 11:55 a.m. |
| 6. Progress Update on 2022 Benchmark Stock Assessment ( <i>K. Anstead</i> )  | 12:05 p.m. |
| 7. Other Business/Adjourn  | 12:15 p.m. |

# MEETING OVERVIEW

**American Eel Management Board**  
**Thursday, October 21, 2021**  
**11:30 a.m. – 12:15 p.m.**  
**Webinar**

Chair: Lynn Fegley (MD) Assumed Chairmanship: 10/19	Technical Committee Chair: Troy Tuckey (VIMS)	Law Enforcement Committee Representative: Beal (ME)
Vice Chair: Phil Edwards (RI)	Advisory Panel Chair: Mari-Beth DeLucia (TNC)	Previous Board Meeting: May 4, 2021
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, PRFC, VA, NC, SC, GA, FL, D.C, NMFS, USFWS (19 votes)		

## 2. Board Consent

- Approval of Agenda
- Approval of Proceedings from May 2021

**3. Public Comment** – At the beginning of the meeting public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

## 4. Consider Extending Maine’s Glass Eel Quota for 2022-2024 (11:45-11:55 a.m.) Final Action

### Background

- Addendum V (2018) set Maine’s glass eel quota at 9,688 pounds for three years (2019-2021) and to be revisited before year four (2022). The Board can extend Maine’s quota at 9,688 pounds for an additional three years (2022-2024) without requiring a new addendum; setting the quota at a higher level would require a new addendum.

### Presentations

- Extending Maine’s Glass Eel Quota by K. Rootes-Murdy

### Board Actions for Consideration

- Extend Maine’s Glass Eel Quota for 2022-2024.

## 5. Fishery Management Plan Review (11:55 a.m.-12:05 p.m.) Action

### Background

- State compliance reports were due September 1, 2021
- The Plan Review Team reviewed each state report and compiled the annual FMP Review.
- New Hampshire, Massachusetts, Pennsylvania, Georgia, and Florida requested *de minimis* status for their yellow eel fisheries; and South Carolina requested *de minimis* status for both their yellow eel and glass eel fisheries.

### Presentations

- Overview of the American Eel FMP Review by K. Rootes-Murdy (**Supplemental Materials**)

### Board Actions for Consideration

- Accept 2020 FMP Review and State Compliance Reports.
- Approve *de minimis* requests.

## 6. Progress Update on 2022 Benchmark Stock Assessment (12:05-12:15 p.m.)

### Background

- In May, the Board was provided an initial update on work by the Stock Assessment Subcommittee (SAS) to complete the next benchmark stock assessment. The SAS had met multiple times to evaluate and pursue modelling approaches but had encountered data and modelling challenges.
- From June-October, the SAS has continued work and identified promising potential modelling approaches to pursue further.

### Presentations

- Progress Update on Benchmark Stock Assessment by K. Anstead

## 7. Other Business/Adjourn

## American Eel

**Activity level: Medium**

**Committee Overlap Score:** Medium (SAS overlaps with BERP, Atlantic herring, horseshoe crab)

### Committee Task List

- TC –July 2019: review of Maine’s aquaculture proposal
- TC – September 1<sup>st</sup>: Annual compliance reports due
- 2022 Benchmark Stock Assessment

**TC Members:** Troy Tuckey (VIMS, TC Chair), Jordan Zimmerman (DE), Ellen Cosby (PRFC), Ryan Harrell (GA), Kimberly Bonvechio (FL), Bradford Chase (MA), Chris Adriance (DC), Robert Atwood (NH), Sheila Eyler (USFWS), Alex Haro (USGS), Wendy Morrison (NOAA), Carol Hoffman (NY), Todd Mathes (NC), Patrick McGee (RI), Jennifer Pyle (NJ), , Danielle Carty (SC), Keith Whiteford (MD), Gail Wippelhauser (ME), Tim Wildman (CT), Kirby Rootes-Murdy (ASMFC)

**SAS Members:** Sheila Eyler (USFWS, SAS Chair), Laura Lee (NC), John Sweka (USFWS), Troy Tuckey (VIMS), Jason Boucher (NOAA), Matt Cieri (ME), Keith Whiteford (MD), Kristen Anstead (ASMFC), Kirby Rootes-Murdy (ASMFC)

**DRAFT PROCEEDINGS OF THE  
ATLANTIC STATES MARINE FISHERIES COMMISSION  
AMERICAN EEL MANAGEMENT BOARD**

**Webinar  
May 4, 2021**

These minutes are draft and subject to approval by the American Eel Management Board.  
The Board will review the minutes during its next meeting.

Draft Proceedings of the American Eel Management Board Meeting  
May 2021

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**INDEX OF MOTIONS**

1. **Approval of Agenda** by Consent (Page 1).
2. **Approval of Proceedings of October 2019** by Consent (Page 1).
3. **Move to elect Phil Edwards as Vice-chair of the American Eel Management Board** (Page 9).  
Motion by Eric Reid; second by Cheri Patterson. Motion carried (Page 9).
4. **Move to adjourn** by Consent (Page 9).

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**ATTENDANCE**

**Board Members**

Pat Keliher, ME (AA)	John Clark, DE, proxy for D. Saveikis (AA)
Cheri Patterson, NH (AA)	Roy Miller, DE (GA)
Ritchie White, NH (GA)	Craig Pugh, DE, proxy for Rep. Carson (LA)
Nichola Meserve, MA, proxy for D. McKiernan (AA)	Lynn Fegley, MD, proxy for B. Anderson (AA)
Raymond Kane, MA (GA)	Russell Dize, MD (GA)
Sarah Ferrara, MA, proxy for Rep. Peake (LA)	David Sikorski, MD, proxy for Del. Stein (LA)
Phil Edwards, RI, proxy for J. McNamee (AA)	Pat Geer, VA, proxy for S. Bowman (AA)
David Borden, RI (GA)	Chris Batsavage, NC, proxy for K. Rawls (AA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)	Jerry Mannen, NC (GA)
Matt Gates, CT, proxy for J. Davis, CT (AA)	Bill Gorham, NC, proxy for Rep. Steinburg (LA)
Rob LaFrance, CT, proxy for B. Hyatt (GA)	Ross Self, SC, proxy for P. Maier (AA)
Maureen Davidson, NY, proxy for J. Gilmore (AA)	Doug Haymans, GA (AA)
Joe Cimino, NJ (AA)	Spud Woodward, GA (GA)
Tom Fote, NJ (GA)	Jim Estes, FL, proxy for J. McCawley (AA)
Adam Nowalsky, NJ, proxy for Asm. Houghtaling (LA)	Marty Gary, PRFC
Kris Kuhn, PA, proxy for T. Schaeffer (AA)	Chris Wright, NMFS
G. Warren Elliott, PA (LA)	Mike Millard, USFWS
Loren Lustig, PA (GA)	

**(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)**

**Ex-Officio Members**

Mari-Beth DeLucia, Advisory Panel Chair

**Staff**

Bob Beal	Chris Jacobs	Joe Myers
Toni Kerns	Jeff Kipp	Marisa Powell
Maya Drzewicki	Heather Konell	Julie Defilippi Simpson
Tina Berger	Laura Leach	Caitlin Starks
Kristen Anstead	Dustin Colson Leaning	Deke Tompkins
Pat Campfield	Savannah Lewis	Geoff White
Lisa Carty	Kirby Rootes-Murdy	
Emilie Franke	Sarah Murray	

**Guests**

Bill Anderson, MD DNR	Delayne Brown, NH F&G	Lewis Gillingham, VMRC
Pat Augustine, Coram, NY	Jeff Brust, NJ DEP	Angela Giuliano, MD DNR
Mike Bednarski, VA DWR	Heather Corbett, NJ DEP	Carol Hoffman, NYS DEC
Alan Bianchi, NC DENR	Jessica Daher, NJ DEP	Kyle Hoffman, SC DNR
Jason Boucher, NOAA	Julie Evans	Jesse Hornstein, NYS DEC
Bill Brantley, NC DENR	Sheila Eyler, USFWS	Asm. Eric Houghtaling, NJ (LA)

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**Guests (continued)**

Wilson Laney  
Mike Luisi, MD DNR  
Chip Lynch, NOAA  
Shanna Madsen, VMRC  
Casey Marker, MD DNR  
Molly Martin, NOAA  
Genine McClair, MD DNR  
Mike Millard, US FWS

Steve Myers  
Brian Neilan, NJ DEP  
George O'Donnell, MD DNR  
Paul Piavis, MD DNR  
Bill Post, SC DNR  
Somers Smott, VMRC  
Renee St. Amand, CT DEEP  
David Stormer, DE DFW

Jason Surma, Woods Hole Group  
John Sweka, USFWS  
Michael Toole  
Jessica Valenti, Rutgers  
Scott Wagemann, Cornell Univ  
Megan Ware, ME DMR  
Meredith Whitten, NC DENR  
Rene Zobel, NH F&G

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The American Eel Management Board of the Atlantic States Marine Fisheries Commission convened via webinar; Tuesday, May 4, 2021 and was called to order at 10:45 a.m. by Chair Lynn Fegley.

**CALL TO ORDER**

CHAIR LYNN FEGLEY: Welcome everybody! We're going to call to order the meeting of the American Eel Management Board. My name is Lynn Fegley. I represent the state of Maryland, and have the honor of serving as your Chair today. I just wanted to also make a note that today sitting for Bill Hyatt is Rob LaFrance, so I wanted to extend a welcome to him.

**APPROVAL OF AGENDA**

CHAIR FEGLEY: With that, the first order of business is going to be approval of our agenda. Is there anybody, if you have any suggested changes or modifications to the agenda, please raise your hand.

MS. TONI KERNS: I don't see any hands raised, Lynn.

CHAIR FEGLEY: Okay, seeing none, then we will consider the agenda approved by consent.

**APPROVAL OF PROCEEDINGS**

CHAIR FEGLEY: This Board hasn't met in a little while, and the proceedings from the last meeting are from October, 2019, and they were in the meeting materials. If you have any edits or changes needed to those meeting minutes, please raise your hand.

MS. KERNS: I don't see any hands raised, Lynn.

CHAIR FEGLEY: Awesome, so we will consider the proceedings from October, 2019 approved by consent.

**PUBLIC COMMENT**

CHAIR FEGLEY: Next, we have public comment. I know that I have at last one person, so if you would like to make public comment, I would request, this is a short meeting, so to keep us on time I would request that you keep it pretty brief. If you have public comment, please raise your hand, we'll get you recognized and on the microphone.

MS. KERNS: Des Kahn's hand is up.

CHAIR FEGLEY: Okay, Desmond Kahn, please go right ahead.

MR. DESMOND KAHN: Thank you very much, Madam Chair. Yes, briefly, I sent hopefully the members of the management board received a copy of my 2019 paper titled trends in abundance in fishing mortality of American eel. The reason I re-sent this to you, is because the ongoing stock assessment is occurring right now.

I used a very widely used set of data in this paper, to look at the trends in abundance of eels, which was not used in the last assessment. I would like to encourage the Stock Assessment Team to consider using it. That is the MRIP catch per trip index of abundance, and because I used the whole Atlantic coast, this was an immensely powerful dataset with many thousands of data points every year. I think it's quite reliable, and the only part of the MRIP data that the last assessment used, was the recreational landings, which had declined and were declining.

This may have given them the signal that the stock was declining, but in fact what happened over this period from 1981 to 2014, which is what I covered, was that people stopped keeping American eels. The discard rate increased noticeably. The fact that there was not a reduction in landings, did not really indicate abundance at the time. But they may have gotten that signal.

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Just in brief, what the trend was, was that they were in a peak in '81, declined dramatically until 1995, remained low for several years, and then starting in 2003, the stock began recovery, and by 2014 was back up to half the level it had been in 1981. This does not seem to me to be consistent with a depleted status.

I'm going to just wrap this up with one more comment. What the last assessment did, they had three different sets of indices that they came up with three different trends in abundance from, and not one of those trends agreed with any other trend. They didn't have a clear, sound picture of the trend in abundance, and I believe the MRIP catch per trip, which is used in virtually every assessment I worked on, striped bass, weakfish, bluefish, is a great resource for assessments. That is all I would like to say, thank you very much.

CHAIR. FEGLEY: Thank you, Des. I appreciate your comments and insight. Okay, so we have anybody else who would like to provide public comment? If you do, please raise your hand.

MS. KERNS: Lynn, I do not see any other hands raised at the time.

CHAIR FEGLEY: Okay, thank you, Toni.

### **REVIEW THE 2020 COMMERCIAL YELLOW EEL LANDINGS**

CHAIR. FEGLEY: With that we'll move on to the next agenda item, which is to Review the 2020 Commercial Yellow Eel Landings. I just want to take a minute. We just got off the ACCSP call, and I really want to extend appreciation to all the states for getting their landings in, so that we can have this discussion at the spring meeting. I know we were a little bit skeptical that we could make it happen, and just thank you to all of you and your staff for making it work. With that I'll turn it over to Kirby, and I think to Mari-Beth DeLucia as well for the Advisory Panel Report.

MR. KIRBY ROOTES-MURDY: Good morning all, this is Kirby Rootes-Murdy. I think Maya is working to get up on the screen my presentation, there we go. I have a brief presentation to review recent yellow eel landings information. To help provide some context to why the Board is reviewing this information today, I wanted to provide some background first.

Addendum V, which was approved in 2018, was initiated in part as a response to preliminary 2016 yellow eel landings that indicated that the cap at that time established in Addendum IV, had been exceeded. Through Addendum V, a new cap was established of 916,473 pounds, as well as a new management trigger, and a cap overage policy. Under Addendum V, the current cap is evaluated against the management trigger, or if the cap is exceeded by 10 percent for two consecutive years, then the Board will take management action. To prevent the management trigger from being met, Addendum V outlines the process of proactive monitoring. As Lynn mentioned, annually the Board is to review yellow eel landings from the previous year at the spring meeting, in an effort to respond as quickly as possible if needed. If landings exceed the cap, the Board will convene a work group for this task, determining whether voluntary action may be needed, based on the magnitude of the overage and the trend in landings.

In the event that landings exceed the cap by 5 percent or more in one year, the work group will make recommendations to the Board on what type of voluntary action to reduce landings of states or jurisdictions that harvested 1 percent or more of the coastwide total in the year of the overage. To aid with this review by the Board today, an Advisory Panel meeting was scheduled late last month.

There was, unfortunately, low turnout for the webinar, and we only had a few folks follow up outside of the webinar by phone to provide

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feedback. Mari-Beth DeLucia, our Advisory Panel Chair will present a report of feedback we did receive from both Advisory Panel members and other individuals involved in the yellow eel fishery.

The Board should consider the current American Eel AP representation and following this meeting follow up with staff, if there is an interest in changing the current membership. On the screen we have a summary of the recent year's landings. Preliminary yellow eel landings from ACCSP indicate the total coastwide landings in 2020 were 225,122 pounds, which is a new time series low. That is going back to when the FMP, the fishery management plan for American Eel was initiated in the late 1990s.

On the screen the table shows each jurisdiction's landings from 2016 through 2020. As you can see, coastwide landings have continued to decline every year since 2016. Maryland landings, which annually comprise more than 60 percent of the coastwide total during this time period, saw an approximate 60 percent decline in landings for 2019 to 2020.

New Jersey, which annually from 2016 to 2020 reported the second or the third highest total for a jurisdiction, saw an approximate 70 percent decline in landings from 2019 to 2020. While not every jurisdiction had landings in 2020, those that did saw their landings decrease from last year to this year, or excuse me from 2019 to 2020.

To protect confidentiality for 2020 landings from Maine, New Hampshire, South Carolina, and Georgia are not presented in this table. We don't have state compliance reports yet for the 2020 fishing season, as Lynn indicated, this information is provided through ACCSP, but compliance reports and review of the fishing year on a whole will take place later in the fall, when compliance reports are due then. With that I'll take any questions at this point.

CHAIR FEGLEY: Any hands, Toni?

MS. KERNS: Pat Keliher has his hand up.

CHAIR FEGLEY: Okay, Pat Keliher, go right ahead.

MR. PATRICK C. KELIHER: Thank you, Madam Chair. I'm just wondering with the pandemic, and all the agencies dealing with COVID, if any of the declines may be related to any reporting discrepancies that might have come about based on the pandemic.

CHAIR FEGLEY: Yes, I'm not sure who is best equipped to answer that question. You know certainly, each state is different. I guess I would suggest maybe we listen to Mari-Beth DeLucia's report a little bit, because I think it brings into sort of a bright light what is going on with eels, and it is not reporting. Maybe if it's okay, Pat, maybe we'll do that, and Kirby, thanks for that presentation, and I think if we can go on to Mari-Beth that would help.

#### **ADVISORY PANEL REPORT**

MS. MARI-BETH DeLUCIA: Great, thank you, Madam Chair. Good morning everybody. I'm just going to give a short presentation on the feedback we received from our Advisory Panel meeting in late April that Kirby mentioned. As Kirby eluded, there was only a few participants on the AP, myself, Mitch Feigenbaum, Lawrence Voss, and Jimmy Trossbach from Maryland, who provided comments by phone.

I do want to note that we did get comments provided by watermen in Maryland, who are not on the AP, and the following slides and comments and summary, those comments are summarized together. The AP basically gave feedback on hearing the questions regarding the recent landings and the markets for yellow eel, and I'm going to talk about those next.

I think there was a general consensus from the AP and the Maryland watermen that the current changes in landings, or the low landings I should say, are really driven by market

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conditions and not changes to the eel population. One AP member felt that there was not any real change in catch per unit, and that any increase in that was probably due to less effort.

Maryland watermen reported increasing availability in yellow eels, and that they appear abundant. There is less effort and more eels. There is an increase in catch per pot, compared to past years. You know the primary markets for yellow eel generally in the past have been the international market, the European market for frozen eels, and grocery stores and restaurants.

That has been, I think about almost 80 percent of the entire market. The domestic market really is driven by the bait market to wholesalers for the recreational fishery for striped bass, blue catfish and cobia. There is a smaller, limited domestic Asian market for grocery stores and restaurants here in the United States, but that is pretty limited, and probably not driving a lot of what we're seeing at the market.

Both the European food market demand and the U.S. domestic bait demand have decreased, and there are multiple factors for this. There have been over the last two decades and increasing reliance on the eel that are developed in the European aquaculture farms, changing preferences for these eels versus the wild eels.

Due to the conservation concerns in regards to the European eel in particular, there has been a decrease in demands for wild caught eels in Europe. For example, Aldi grocery stores have stopped carrying smoked eels. Obviously COVID-19 has significantly impacted almost everything, both the European markets and the recreational bait fisheries, especially last year. Markets in general just have been shrinking over the past decade. There seems to be a decrease in individuals still active in the eel

fishery, and a lot of fishermen are moving to more lucrative fishery species. Farm raised eels from Asia have also taken over the restaurant markets in the United States. Just kind of the overall message was there was a lot of things factoring into why the landings have decreased so much, but not necessarily because of any change in the population.

The AP felt there was lots of uncertainty going into a future fishery. The performance, we probably will see a small increase for landings, due to an increase in bait landings. There is a lot of pent-up demand for recreational fisheries right now, so you know since most folks couldn't fish last spring and summer.

There is probably going to be very little change to the European markets, due to ongoing COVID issues and restrictions. But there is some optimism for future markets with wild eels in Europe. There is still demand for those eels versus your farm raised eels. I think that's about it, questions?

CHAIR FEGLEY: Thank you so much, Mari-Beth, any questions for Mari-Beth? I think I see John Clark and then Marty Gary. Go ahead, John.

MR. JOHN CLARK: Hey, Mari-Beth, I was just curious. I saw that there was a concern about the cost of bait from one of the fishermen. Is that something else that has come up quite a bit, because I know in Delaware when horseshoe crabs, when the moratorium was put in place in the mid-2000s, we saw our landings just plummet, because you used to be able to get your bait for free, and then you had to pay for it. I was just wondering if that was a concern across the board.

MS. DeLUCIA: Yes, John, that did come up in the conversation that the cost of bait is one of the reasons the fishermen are moving to other species. The high cost of bait, I should say.

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CHAIR FEGLEY: Okay, thanks for that. Marty Gary.

MR. MARTIN GARY: Thank you, Madam Chair, and thanks, Mari-Beth for your presentation. I guess a quick comment and then a question for you, Mari-Beth. One metric I think that is not unique to some of the jurisdictions in the Bay region is the increase in fishing license sales during COVID.

Again, I don't know if this is something we've seen up and down the coast or even nationwide. When COVID hit, a lot of people bought fishing licenses. I know our license sales went up dramatically. That would suggest more people fishing, maybe more demand for the bait. But I'm sure it's not that simple, and I remember talking to Jimmy Trossbach a couple years ago, he's a wealth of knowledge.

I would certainly believe him when he says that demand in the bait market dropped. But I was just wondering if that little nuance came out in the discussion, Mari-Beth. You know there might be more people fishing, but for whatever reason, but still there isn't really an increase and a demand for eels. Maybe they shift tactics, or there were different strategies or different baits they used. I don't know. I don't know if that came up in your discussion, but I thought that was interesting.

MS. DeLUCIA: Sure, I'm going to try to answer this, but I'm going to let Kirby jump in if I don't get it right. I believe that most of the wholesale bait for eels for-hire trips, you know taking boats out to fish, and that is what really declined last spring and summer. That is how I interpreted it. Does that make sense?

MR. ROOTES-MURDY: I'll just jump in and add to what Mari-Beth was saying. Our understanding from what we've received feedback from, from eel fishermen, including Jimmy Trossbach, was that because of the COVID restrictions that were put in place last

year, that limited people being able to go out on those types of trips, there was a drop in the demand for bait at that point.

With some of those restrictions already being lifted, some individuals think that there could be an increase in the domestic bait demand. But as Mari-Beth noted, I think that's important to understand in the context of the whole pie, so to speak, of bait landings versus food market landings. The domestic bait demand is a much smaller percentage of what the overall landings are annually.

MR. GARY: Thanks Kirby and Mari-Beth for that. That makes perfect sense, if that's the case. You know if it's driven by the for-hire sector, so I appreciate that answer, thank you.

CHAIR FEGLEY: Okay, I've got Russell Dize next, and then Bill Gorham, you're on deck. Russell, go ahead.

MR. RUSSELL DIZE: Lynn, the big problem in the commercial catching of eels in this area, the Chesapeake Bay, the middle area, is market. A good friend of mine, one of the bigger eel fishermen on the Bay, Tommy Ludnum, last fall set his traps and three days later he had to take them right back up, he couldn't sell any eels.

That is mostly to the fresh market that goes overseas. This spring he never even set, and the ones that did set, they worked for a couple weeks and then they could not sell any eels. The problem in this part of the Bay, in Maryland part of the Bay is selling the bigger eels to Europe, and they are just not selling. There is no market at all. Tommy told me that the man told him there was exactly no demand for eels. I think he sells to Delaware Valley Fish Company, and he said that there just was no demand, no sale.

CHAIR FEGLEY: Yes, thanks for that, Russell. That clearly was the resounding chorus from

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the Maryland watermen that the markets just weren't there. Bill Gorham, go ahead.

MR. WILLIAM GORHAM: Sorry, that was an accidental hand raise, I apologize.

CHAIR FEGLEY: Yes, I hate it when that happens. Okay, are there any more questions right now for Mari-Beth? Toni, do you see any hands?

MS. KERNS: I do not, Lynn.

CHAIR FEGLEY: Okay, so before we move on, I just want to circle back to Pat Keliher to your question about reporting. Is that something that you want to discuss further, or just kind of put it on the states radars, to check into their reporting rates?

MR. KELIHER: Lynn, that is fine. I think a lot of questions were answered. I was just kind of curious if there were any issues that states may have had during the process of both harvester reporting and dealer reporting. But I think for the sake of today, I would just carry on.

### **PROGRESS REPORT ON THE 2022 BENCHMARK STOCK ASSESSMENT**

CHAIR FEGLEY: Okay, fair enough. With that, the next agenda item them would be going over to Kristen for a Progress Report on the 2022 Benchmark Stock Assessment, so Kristen Anstead, take it away.

DR. KRISTEN ANSTEAD: Today I'm going to give the Board a progress update on the benchmark stock assessment for eels that's currently underway, and scheduled for a peer review and presentation to the Board in 2022. This is a snapshot of our current timeline. We did the data workshop late last year.

We had great participation from all the states, and you know thank you to everyone, this is a coastwide species, and we had a really comprehensive data submission that was on

time, and so we have really been working through the submitted data. We've had multiple calls. We've developed abundance indices, and began working on some potential models, so that is sort of where we are now.

We are having kind of regular check ins to go over that progress, and on those calls, we always have Canada DFO representation, although I will note it is not a formal collaboration. We don't have their raw data or stock assessment scientists, but we do always have one to two representatives that do chime in, and give us feedback, and supplement what we know with what they might know, so that's been really great around this process.

We do also have continued participation from our USGS collaborators, and I'll talk a little bit about that in a minute. We haven't quite scheduled our first assessment or modeling workshop, but we were planning on having two this year, and taking this to peer review in about a year from now, and presenting it to you all next year at the annual meeting.

We do have some new datasets submitted for the stock assessment from the previous benchmark in 2012. We asked that indices of abundance have at least 10 years of data, and so now we have some ramp data that has come online. That is exciting. We have developed abundance indices by three stages this time, so the last assessment it was YOY and yellow eel.

This time we differentiated the elvers, so while we had many more datasets than this sent to us, these are the ones that we've accepted for benchmark purposes, so several YOY, a handful of elver surveys, and then 16 yellow eel abundance indices. We also have landings, so from ACCSP we have validated landings from 1998 to 2019, but we do have the 2020 landings, which are considered preliminary. But we have those to work with. I will note that some of the abundance indices don't go through 2020, since as you know that was a

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problematic year for data collection. We kind of had a handful that are 2020, some are 2019. We're still kind of working out what a terminal year will be, because it could be problematic to end on 2020, given that we don't have comprehensive data.

We also have historic landings, there are even landings that go back before 1950, so depending on the methods, we already pursue, we do have a way to go back in time, although we are a lot less sure of those, they come with a lot of asterisks next to them. Then we have recreational estimates from MRIP. We've had those in the past, but we always note that there is a lot of error associated with those estimates, and we use them with a lot of caveats.

We also have life history information, either derived from the data submitted, such as growth parameters, or collected from published literature. Here is a list of potential models and analyses that we're trying for the eel stock assessment. Some have already been rejected for not being appropriate for eels, or for us not having the right data to fully develop that model.

Those are indicated with a red X. Some have been developed, and we will use them in the stock assessment, as you can see with the green checkmark, and several are still under development, and they get a little pencil. Of those that are under development, there still could be limited applications for them. For example, the LIME method.

There is enough data in the Mid-Atlantic to pursue that, but it won't get at the coastwide stock status with reference points. I'm not going to go through all of these, but I want to note a couple of them. One is this YOY Survey Analysis, the first one on the list. It has come up in the past, both from the Board and members of the TC that these YOY surveys are really intensive for data collection.

They require a lot of time and personnel, and there is a lot of associated biological data, like pigments, lengths, and so we are having someone on the SAS look at that data, so do the pigment stages change from year to year? Could we reduce that data requirement and get the same quality of data? We are having someone kind of look at these YOY surveys, because we know it's a big effort to get them collected, and see if we can make any recommendations about kind of lessening effort if it's possible.

We also have a collaboration with John Young and his research group at USGS. They are developing a habitat model to examine whether and how GIS-based habitat assessments could aid the stock assessment, particularly if habitat information could inform estimates of eel population, size, sex ratios, biomass.

Because of data availability, this habitat model currently he is developing it for kind of the Delaware Bay, Chesapeake Bay Watershed, and he is also coming against some of the data limitations that we are in some of these other models. It's under development, he participates in all our calls, and we get regular updates from him.

The SAS was reluctant to pursue some of the same trend analysis as we did in the past, such as ARIMA or a traffic light analysis, since the last assessment a peer review panel and the Board did not use those really for management. But if we can't get anything else to work, we might pursue them, so they get a big question mark there. But overall, it has been a challenge to fully develop some of these models that we've been pursuing, to a point where we can get a coastwide quantitative stock status with an overfishing and overfished definition, and you know estimates of biomass and that sort of thing.

We do have some challenges. We do have more data since 2012, but it's a lot of the same

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types of data. We don't have a lot of new types of data, and we're just finding that many models are not appropriate for eel. You know we're trying some surplus production models, but they violate almost every one of the assumptions that go along with applying those models for a species.

You know we know that eel is panmictic, and that it is one population. But there is so much variation in the demographic traits. They inhabit different waterbodies, and in those different waterbodies they have different growth rates, different sex ratios. The males and females mature at different times from each other and along the coast, so it's just really challenging to get demographic data that reliably represents American eel across its range.

We decided not to pursue the DBSRA again, and I just wanted to touch on that, because I know it came up during our 2017 update as well, why we didn't make any tweaks to that during the update. It's just that the criticisms from the last peer review can't be resolved at this time, and the same issues remain, which kind of leads us back with the trend analysis question.

We still have those, and we can always run them, but we're having some challenges getting some models to work for this species. We have, as I said, had several calls with the SAS, and on our last call we looked at some preliminary model work, made some recommendations to each other, and we're spending the next month, you know each kind of following up on those tasks that the group gave some feedback on.

We're going to continue to work on those models. We also, because of some of the concerns and challenges we have, hope to consult ASC, so we're lucky they are having a call in a couple weeks, and we would like to kind of take some of these problems to the ASC. What it would mean for an assessment if it can't really move the information forward from

the last benchmark, or maybe they have some recommendations about other avenues to explore.

We are going to consult the ASC about some of the challenges we're having. Then we do have a call after the ASC call later this month with the SAS, to kind of look at that model work that had been done over the last month, and kind of discuss the best path forward. We will plan to update the Board at the annual meeting in 2021. With that, on my next slide I can take some questions about our stock assessment.

CHAIR FEGLEY: Okay, thank you very much, Kristen. You know I think we all understand the challenges we have with assessing the species. I remember after the 2017 update we had some discussions around the fact that we were getting in the mid part of the range in the Mid-Atlantic states, we had very stable trends, and there was some discussion about maybe the fact that a trend was just reflected as stable was actually missing some of the increased incidence of higher abundance, it was maybe masking from what was going on. Hopefully, you guys will figure out a way to maybe get a little more clarity, but we sure understand the challenges before you. With that, John Clark, I see you have your hand up. Go right ahead.

MR. CLARK: Thank you for the presentation, Kristen. Just a question about the commercial landings data, which was the basis for the DBSRA model. As you mentioned, unfortunately we have more years of data, but we don't have a greater range of data sources to use. Are the models you are going to be using, do many of them rely on the commercial landings data again, because as we just heard in the AP presentation, we know the market has been terrible, so the landings won't be really reflective of the population out there in recent years. Thanks.

DR. ANSTEAD: Yes, thanks for that. Many of them do have landings as an input, but we also

have all those abundance indices, so we have many ways to kind of look at trends in this population. But yes, it's worth noting that many of them do rely on landings, and that was a comment of the last peer review panel, even outside of these recent declines in catch was that our landings are shaky at best, at least for the past, and so that is a major challenge to the models as well.

CHAIR FEGLEY: Okay, any other questions for Kristen?

MS. KERNS: I don't see any more hands, Lynn.

CHAIR FEGLEY: Well, thank you again for your presentation, and good luck, we know it's a lot of work. All the best on this endeavor. We'll look forward to seeing what you guys come up with.

#### ELECTION OF VICE-CHAIR

CHAIR FEGLEY: The last item on our agenda is to elect a Vice-Chair. I will just put it out to the Board, if there is somebody that would like to make a motion to do this, and I see Eric Reid has his hand up. Mr. Reid, go right ahead.

MR. ERIC REID: Thank you, Madam Chair, I think staff has a motion. If not, it's not a very big motion. **Okay, I move to elect Phil Edwards as Vice-Chair of the American Eel Management Board, and I would appreciate a second.** My rationale is he's extremely qualified, and God bless him.

CHAIR FEGLEY: Thank you, Eric, is there a second?

MS. CHERI PATTERSON: Cheri Patterson, seconds that.

CHAIR FEGLEY: That was an amazing amount of hands that all went up at the same time, so we'll go ahead and give that second to Cheri Patterson.

Okay, is there any discussion on this motion? If you want to discuss this, please raise your hand. Okay, I see no hands raised. With that I'll just ask, is there any opposition to electing Phil Edwards as our Vice-Chair? **Okay, seeing none, it looks like Phil, you are officially our Vice-Chair.** Congratulations! Okay, and I think that just about does it. Kirby, is there any other business that I'm missing?

MR. ROOTES-MURDY: No, not that I'm aware of.

#### ADJOURNMENT

CHAIR FEGLEY: Awesome, okay so with that I will just see if there are any objections to us adjourning, please raise your hand, and if not, we will consider ourselves adjourned. Thank you everyone very much for your time.

(Whereupon the meeting convened at 11:23 a.m. on Tuesday May 4, 2021.)