

**PROCEEDINGS OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
STURGEON MANAGEMENT BOARD**

**The Crowne Plaza Hotel - Old Town
Alexandria, Virginia
August 14, 2007**

Approved October 29, 2007

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ATTENDANCE

Board Members

George Lapointe, ME (AA)	Howard King, MD DNR (AA)
Sen. Dennis Damon, ME (LA)	Bruno Vasta, MD (GA)
Doug Grout, NH, proxy for Nelson (AA)	Russell Dize, MD, proxy for Sen. Colburn (LA)
Rep. Dennis Abbott, NH (LA)	Jon Siemien, DC
David Pierce, MA, proxy for Paul Diodati (AA)	Catherine Davenport, VA (GA)
Mark Gibson, RI, (AA)	Jack Travelstead, VA, proxy for S. Bowman (AA)
Gil Pope, RI, proxy for Rep. Eileen Naughton (LA)	Kelly Place, VA, proxy for Sen. Chichester (LC)
Eric Smith, CT (AA)	Louis Daniel, NC (AA)
Dr. Lance Stewart, CT (GA)	Jimmy Johnson, NC, proxy for Rep. Wainwright (LA)
Karen Chytalo, NY, proxy for Gerald Barnhart (AA)	John Frampton, SC (AA)
Pat Augustine, NY (GA)	Robert Boyles, SC (LA)
Brian Culhane, NY, proxy for Sen. Gunther (LA)	Malcolm Rhodes, SC (GA)
Tom McCloy, NJ, proxy for Chanda (AC)	John Duren, GA (GA)
Erling Berg, NJ (GA)	Spud Woodward, GA, proxy for Susan Shipman (AA)
Dick Herb, NJ, proxy for Asm. Fisher (LA)	Gil McRae, FL (AA)
Frank Cozzo, PA, proxy for C. Schroeder (LA)	April Price, FL (GA)
Eugene Kray, PA (GA)	Frank Montlione, FL, proxy for Rep. Needelman
Leroy Young, PA, proxy for Douglas Austen (AA)	Steve Meyers, NMFS
Craig Shirey, DE, proxy for Patrick Emory (AA)	David Perkins, USFWS
Bernie Pankowski, DE, proxy for Sen. Venables (LA)	A.C. Carpenter, PRFC

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

Ex-Officio Members

David Secor

Staff

Robert Beal
Nichola Meserve

Erika Robbins
Mike Howard

Guests

Bill Sharp, FL FWC
James Armstrong, MAFMC
Tom O'Connell, MD DNR
John Clark, DE F&W
Roy Miller, DE F&W
Charles Lynch, NOAA
Stephen Heins, NYDEC

Craig Shirey, DE F&W
Kim Damon-Randall, NMFS-NERO
Marta Nammack, NMFS
Kari Fenske, UMCES
Peter Himchak, NJ DFW
Steve Minkinnen, USFWS
Arnold Leo

The Sturgeon Management Board of the Atlantic States Marine Fisheries Commission convened in the Presidential Ballroom of the Crowne Plaza Hotel Old Town, Alexandria, Virginia, August 14, 2007, and was called to order at 1:00 o'clock p.m. by Chairman Eric Smith.

CALL TO ORDER

CHAIRMAN ERIC SMITH: Members of the Sturgeon Board, could you take your seats and we will begin with the board meeting. This is a meeting of the Sturgeon Management Board. For those who don't know me, I am Eric Smith, the board chairman. Pat Augustine is the vice-chair. Dave Secor is the technical committee chair. The staff is Erika Robbins. There are 19 voting members of this board, including the two services.

Now, not seeing many in attendance in the audience, we do have a new policy we're trying to inject into the system about public comment. Normally speaking, we would not take public comment on things that had been out to public hearing, but we don't have any of those issues, anyway. So, in the event we get to places in the agenda where people feel so inclined to comment, we'll probably take limited comment because it won't bog down because there are not many people here.

APPROVAL OF AGENDA

So, without anymore of that, let me go through some of the business parts of the meeting. You have seen the draft agenda. Are there items that you want to add to the agenda, other business or otherwise? Two subjects I know of. We received a letter from the Protected Resources Division of the National Marine Fisheries Service on sturgeon and issues of capture and artificial propagation. We'll talk about that in other business.

I believe there is also a status update on the potential ESA listing; is that correct? Okay, so we'll have those two items under other business. Are there any other items? Okay, without objection, then we will move forward with that agenda.

APPROVAL OF PROCEEDINGS

CHAIRMAN ERIC SMITH: Is there a motion to approve the proceeds of the January 2007 meeting – George LaPointe; seconded by Pat

Augustine. Are there additions to the proceedings or corrections? Seeing none, without objection, they are approved.

PUBLIC COMMENT

CHAIRMAN ERIC SMITH: Public comment, this is the time for comment on issues that are not on our agenda, so are there members of the audience who wish to comment on something related to sturgeon that is not on the agenda?

Seeing none, I'll move forward.

ATLANTIC STURGEON BYCATCH WORKSHOP REPORT

We are at Item 4 on the agenda, the presentation of the Atlantic Sturgeon Bycatch Workshop Report by Dr. Secor.

DR. DAVID SECOR: Thank you, Mr. Smith. We received an endorsement from the board to proceed with the focused Bycatch Workshop on looking at assessing bycatch in the New England and Mid-Atlantic waters, using the Northeast Fishery Science Center Observer Database. This occurred in – we had this before us, a publication, Stein *et al.*, appeared in the North American Journal of Fisheries Management. It highlighted the potential of bycatch particularly in gillnet fisheries, drift gillnets and sink gillnets as taking a substantial number of Atlantic sturgeon.

Both a fairly high mortality was observed and intercepts were fairly high, estimated to be about 1,500 per year in New England and Mid-Atlantic waters. We discussed this last year at our technical committee, and it was decided that this previous assessment done in the publication needed substantial revision. So, we went forward with our focus workshop.

This was hosted by Dr. Paul Rago and Dr. Gary Shepherd at Woods Hole – we thank them – the Population Assessment Division, Northeast Fisheries Science Center. Our goal was to analyze bycatch numbers, try to assess what the numbers were, mortality rates in the sink net and the trawl fisheries. The drift gillnet fishery is obviously not as it was previously. This also drove our assessment.

The fisheries have changed from the historical periods that was originally analyzed prior to

2000, and the more recent period, 2001 to 2006. Participants, we had from the Northeast Fisheries Science Center: Gary Shepherd, Tim Miller, Christine Lipsky. We had Jim Armstrong from the Mid-Atlantic Fisheries Management Council out of Dover join us.

We had Andy Kahnle and Kathy Hattala. The Hudson River population is probably the best assessed population so to it's important to have their expertise. Dr. Chris Hager has done some focused research at VIMS, funded through Virginia Sea Grant, looking at both field studies and lab studies on intercept and retention of sturgeons and gillnets. Then we had Erika Robbins' support, which we always very much appreciate. Kelly Place was there as an observer, Commissioner Kelly.

Let's dispense, first, with the trawl bycatch. Trawl intercept, at least in terms of this analysis and modeling that's included in your package – and I'll detail a little bit for the sink gillnet fisheries. But, we do estimate trawls intercept thousands of Atlantic sturgeon each year. However, very few of those sturgeon probably die.

In fact, over this six-year period, observed landings in the millions of pounds, only three sturgeon observed to have been brought up dead, so we couldn't even expand those numbers. We think that it's fairly small in terms of the amount of mortality that occurs in the trawl fishery, so, really, we don't need to proceed with that analysis much further.

So we're going to focus today on sink gillnet fisheries. I don't know how well you can see that. We pushed a little bit in your package. We did include color maps. I know we're not supposed to do color, but if you look on your CD, you can look at these pictures perhaps in an improved way. But, Jim Armstrong did a very nice GIS analysis.

This is sink gillnet effort, which shows you kind of the domain of the fisheries that we're looking at. They stem from North Carolina all up into the Gulf of Maine. You can see patterns of concentration around Assateague Island and Maryland. You can see it in northern New Jersey and New York Bight Region, off Rhode Island, coastal waters and then Cape Cod through the Gulf of Maine. That's where our

sink gillnet fisheries are across different fish species.

Now, the purpose of this analysis was to look at how well the observer dataset reflected that effort, and the effort comes from vessel trip records, I should say. And it does reflect it fairly well. If you toggle a little bit back and forth for them, you can see that they match up pretty well. The dots are observed trips. The concentrations match up well, except when we get down into kind of the Chesapeake/North Carolina region. It seems like we have more observed trips than the effort would indicate.

Now, the next slide Jim overlays bycatch and bycatch mortalities. We will see how the colors show up. The bycatch, the intercepts are green, the mortalities are red, and it does look like you can kind of make them out. This is for the entire six-year period, seasons combined. And, again, you can see that they match fairly well the effort that we see in the sink gillnet fishery, although they tend to be distributed in more shoal waters. Water shoal is about 50 meters.

And, again, if we look at the Chesapeake and North Carolina regions, we tend to see higher levels of bycatch and bycatch mortality then would be represented by effort. So, the coverage of the Northeast Fishery Science Center observer dataset is fairly consistent with the effort from the VTR records. They don't match up as well when we go down the Chesapeake and Cape Hatteras. We don't know if it's the property of the observer dataset or the VTR.

Second, sturgeon encounters tend to occur in water shoal of 50 meters. There are seasonal patterns that exist, but sturgeons are encountered in sink gillnets throughout the year. There are these major concentration points in effort, in sink gillnet deployments, and in sturgeon bycatch. They are up and down the coast, so this is kind of all the states' problems when we look at the Mid-Atlantic and the New England region.

This is a little bit about the modeling. In the original research paper, they took kind of an interpolation approach. They just did kind of a mathematical averaging interpolation. It wasn't quite that simple. Here, Gary Shepherd took the leadership on developing a modeling approach, where he tried to model the relative effects of season, of different spatial divisions, of depth, and I think there is mesh size and total landings.

For each one of these categories, then, you can develop the coefficient; and from VTR landings data, you can model, for different combinations of season and division, what your bycatch level would be. There was sufficient data from the observer dataset to model this not only for total number of bycatch but total number of deaths in bycatch for the sink gillnet fisheries.

Here is the result. You can see pretty good observer coverage of the sink gillnet fisheries in terms of total landings. On the order of about 5 percent were observed. All observed sturgeons were in the hundreds for the observer program. For the trawl fishery, it was in the dozens. So, we're talking about an order of magnitude difference in terms of observed sturgeon.

You can see here, rather than three that were observed in the trawl fishery, we have on the order of 150 observed over the six years that were dead. Now how does this scale up? Well, we are looking at thousands of Atlantic sturgeon being intercepted each year by sink gillnets. In terms of the model, dead Atlantic sturgeon, a mean of about 650 per year; then percent dead, just by comparing the two columns, an average of about 13 percent per year. That's 13 percent of intercepted sturgeon are caught dead. That doesn't say anything about after they're released, but it's just that the sturgeon are caught alive and in good condition before they're released.

The first finding is we went with the modeling approach rather than interpolation approach. This is a different approach than Stein *et al.* Analysis of the numbers aren't directly comparable. Total bycatch range, 2,700 is 7,900, but averaged about 5,000. The bycatch deaths ranged 350 to 1,300, but averaged 650. Estimated mortality was 13 to 14 percent.

If we did compare them to the previous analysis, which I just told you wasn't quite kosher to do, we see that bycatch levels are similar in terms of intercepted Atlantic sturgeon in the sink gillnets, but the number of dead Atlantic sturgeon are slightly less, as is the bycatch mortality rate.

Now we need to ask is 650 too much? And, to do this, we need to know how the different populations of Atlantic sturgeon, which I indicate in these ovals, the couple that we might have up in Maine, the Hudson River, the Delaware, the James River – and the North

Carolina systems are probably producing Atlantic sturgeon – how are these contributing to areas of high Atlantic sturgeon bycatch?

And then we need to know how productive those contributing populations are; can they sustain levels of bycatch that we would attribute to those specific populations? This is the same kind of issue that you guys are going to have probably with American shad and herring. It's an anadromous fish issue.

Well, we went through this and asked first what do we know, what can we apply to this problem? Well, we know from the analysis I just talked about that most of the deaths are occurring in the sink gillnet fisheries, and we also know that most of this occurs in the monkfish fishery, and we will talk more about that in a minute.

The model average bycatch is 650 per year; that's because of the distribution of bycatch, it's likely that several populations are contributing to bycatch in coastal waters. And then, finally, I didn't show you length distribution of bycatch, but generally fish become fully vulnerable when they're about 120 centimeters in total length, and we don't find many that are over two meters in length. That age range is between 11 and 20 years, so there is about ten years of vulnerability that the bycatch is centered on.

We know a lot about the Hudson River population, thanks to Andy Kahnle, Kathy Hattala and other researchers. We know from a past genetic study done in the nineties that the Hudson River population was a major contributor to coastal captured Atlantic sturgeon in sink gillnets in the New York Bight Region.

That sample was probably a little bit biased because it was proximal to the Hudson River, but in that study the majority of fish were Hudson River population fish. We know the Hudson River is likely the largest population in New England and Mid-Atlantic waters. We know, from Andy's work, that even small rates of bycatch mortality, less than 5 percent per year, on sturgeon populations could retard or curtail recovery.

In fact, in a recent revision Andy has gone to 3 percent as a population threshold for exploitation. A recent abundance of age-1 Atlantic sturgeon comes from the Hudson River. They released hatchery fish that were tagged and

enabled them to get a marked recapture estimate of 4,300 yearlings in 1995. That gives us a way of getting at how productive the Hudson River population is, and then we know what the natural mortality rate is likely for this long-lived species.

So, we can use this knowledge and estimate are too many Hudson River population sturgeon being removed by bycatch? Here we take a percent of Hudson River caught in bycatch as the contribution of Hudson River fish times the deaths of fish in the coastal regions divided by the number. We have got to make two modifications there.

The first one has to do with – we can't just simply take 650 fish; we have to apportion that across all the age classes that are vulnerable, and that's what I've done there, so it comes out to about 90 fish per year. Then we have to know when the fish become fully recruited and then adjust our abundance, so we can take that 4,300 estimate and downscale it according to the natural mortality that would occur in those age one until they become age eleven.

So, you take that calculation and we can take our threshold of 3 percent, you can run the numbers across scenarios of 50 percent Hudson River population contribution to bycatch, 25 and 10 percent. I think those are fairly conservative estimates because some of us believe that the Hudson River is a major contributor to those coastal stocks, if you will.

We used various levels of Hudson River recruitment centered on that 4,300 or 5,000 number. And here are color-coded, the different percent of Hudson River bycatch mortalities. The pink would be over the threshold; the yellow would be kind of warning level; and the others are substantially below the bycatch level.

And for those that have read the report – it's 92 pages and I appreciate that you did look through it – this table has changed. I made an error in the initial one so this is the modification, but it doesn't alter the conclusion substantially. So what can we infer about the current levels of coastal bycatch?

To remain stable or grow, Atlantic sturgeon can sustain only very low anthropogenic sources of mortality; that current levels of bycatch are likely retarding or curtailing recovery in the Hudson River population. We go by the concept that

populations smaller – this is the flat tax versus progressive tax issue, that 10 percent.

If you're a small population, removal is a whole lot worse than if you're a big population, so smaller populations are likely to be more detrimentally affected than large populations. The results of these scenarios are likely underestimates because we've only considered the observer bycatch deaths.

We know that deaths can occur to poaching. There was an example in Virginia in the late nineties where nearly a hundred were taken. Ship strikes become increasingly an issue. There is inland bycatch that is not part of the observer dataset. Because deaths in New England and Mid-Atlantic states are principally attributed to monkfish sink gillnet, then changes in effort should have an effect on these bycatch levels.

And, certainly, changes in how those fisheries operate in terms of gear deployment, gear variables, could have an effect on the level of bycatch and bycatch deaths for Atlantic sturgeon. Well, let's look at a little bit on the fisheries now. And, if we look at the principal fisheries that intercept Atlantic sturgeon, we have striped bass – these are all sink gillnet fisheries – striped bass, monkfish, dogfish, kingfish, groundfish and other categories.

If we look down the monkfish category, you can see it is unique. It uses bigger meshes. It uses nearly exclusive use of tie-down gear. It uses very long soak times or longer soak times than the other fisheries, although the groundfish also uses soak times frequently over 24 hours. The greatest number of deaths of Atlantic sturgeon, interactions with the monkfish fishery, but here, again, the groundfish fishery does take substantive numbers.

Incidents of mortality are highest for the monkfish fishery. Then if we look at all the deaths, 73 percent of them are attributable to the monkfish fishery. We have several sections in the report that look at very sophisticated analyses, trying to tease apart gear deployment variables and fishery variables by Tim Miller that I encourage you to look through. Then there is a very section written by Chris Hager that also looks at this more from an experimental point of view.

What we can say, though, is water temperature and soak times have the largest effect on survival of Atlantic sturgeon. Their incidents of death increases with rising temperature, and this is well known. Dr. Mark Collins in South Carolina has done some nice research on this in the past. Soak times are also very important. Soak times greater than 24 hours result in 40 percent incidents of mortality. That's pretty high. Those less than 24 hours result in 14 percent.

Now, this makes us a little bit optimistic. Sturgeons are fairly rigorous fish. It's why they do okay in trawls, and it's why they do okay with these shorter soak times. The mortality rate appeared to be unusually high in the gear attributes that were associated with the monkfish fishery. Although we tried statistically to tease these apart, we couldn't, but it does appear that soak time and tie-downs were important attributes.

All right, in summary, then, the current levels of bycatch deaths of Atlantic sturgeon in New England and Mid-Atlantic are occurring at levels that are likely curtailing recovery. Now, we haven't said anything about the South Atlantic. There is good bycatch work, but it's all rather research oriented and individual system oriented. There is not a similar kind of bycatch observer program by which we can make these estimates in the southeastern United States.

Levels of bycatch deaths from observer data are underestimates. Bycatch deaths are principally attributed to sink gillnet fisheries. Of these, the monkfish fishery is the most important. And, gear deployment variables, temperature, soak time, use of tie-downs and mesh size could be used effectively to reduce bycatch mortality in sink gillnet fisheries. At the current time, it seems like soak time may be the one that we have the best evidence in terms of having an effect on bycatch mortality. Thank you.

CHAIRMAN SMITH: Thank you, Dave. Questions for Dr. Secor? Pat.

MR. PATRICK AUGUSTINE: Thank you, Mr. Chairman, excellent presentation. I'm referring back to your documents about where you indicate that the sink gillnet for monkfish appears to be one of the largest, if not the largest contributor to mortality. I am just wondering – this is the first time I've heard of it. I'm on the Mid-Atlantic Council and we address monkfish

issues all the time. It's one of our species of concern.

Whether this report has or will eventually get to the New England Fishery Management Council and the Mid-Atlantic for their edification and review, if one of the things that we have to do within the councils' purview is to recommend shorter soak time, it would seem appropriate that your body, the technical committee advances that as necessary to New England and the Mid-Atlantic. I think it's very important that issue is brought forward. We're looking at ways to reduce bycatch. In this case with sturgeon, it's very important we do this. Thank you, Mr. Chairman.

MR. VITO CALOMO: Approximately what depth of water do these monkfish gillnets catch the sturgeon?

DR. SECOR: Principally in less than 50 meters of water. Now, we have not yet parsed it out. Tom Savoy asked a similar question. In New England, it may be that some of the bycatch tends to occur in deeper waters. The bathymetry there is deeper than in the Mid-Atlantic states.

DR. DAVID PIERCE: You mentioned a couple of times that the bycatch levels will curtail the recovery. I am interpreting that to mean that the bycatch levels are 4 percent or more per year? It's probably in the report and I can't recall where it is. Would you be in a position to give more detail regarding the extent to which the recovery is being curtailed?

DR. SECOR: Okay. Yes, I can comment a little bit about it. You just heard about SLYME, and we use a similar kind of model for Atlantic sturgeon. It is based on egg per recruit and it's an escapement-based method. It pertained to adult Atlantic sturgeon. So, it's, in fact, fairly conservative, because when you start harvesting younger ages, then it can be even higher for various reasons.

But, it is based on kind of a spawner escapement target, and it's based on a sustainable target. We're in a recovery program where we're trying to rebuild 20 age classes, adult age classes. So, if we are already above a level that we would say we can sustainably harvest Atlantic sturgeon, the inference is that we are curtailing recovery.

CHAIRMAN SMITH: Related to that one, I was curious about the slide. If you could go back to the one where you had the pink bar and the yellow bar, I guess my question is related to David's, the curtailing recovery one. I looked at it on a stock-specific basis and I looked at the Hudson.

It seems like you're in the realm of 1.5 or so percent as opposed to this less than 4 percent thing, and I wondered what I missed there. Because, if the total amount of bycatch mortality is then allocated out by river system – and I take your point that the smaller systems maybe have a worse impact – if you look at the Hudson as the major one, and I am looking at – unless the recruitment is in the realm of a thousand or less – and I thought it was 4,000 or is that stock size?

DR. SECOR: This table may be a little unclear. What I tried to show here is kind of the ones that are over and then the ones that are yellow are kind of a warning sign; that those are maybe not curtailing but retarding recovery that might otherwise occur. That's a fraction of what mortality we could excess, if you want to call it excess mortality we would allow on this.

CHAIRMAN SMITH: The bottom line is on a species like this, no mortality is a good thing, but, on the other hand, there are other fisheries that operate, too. Vito.

MR. CALOMO: Are you taking into consideration, in today's fishing world, of days at sea where limitations in the monkfish fisheries FMPs are considerably cut by more than half or more than two-thirds? Some areas have 12 days. The poundage is way down, what they can harvest per day. So I would say probably the sink gillnet fishery in the monkfish is cut way down drastically. So with the nets not being in the water like they used to, I think that would probably assist in the rebuilding of this fish, sturgeon.

DR. SECOR: Yes, sir, I agree. There was a comment about how the effort changes in the monkfish fishery should be translatable then into Atlantic sturgeon bycatch.

MR. CALOMO: The reason I'm asking that is that I think your presentation was quite clear and your graphs were very good. I enjoyed it. But also in your presentation, this wasn't brought up, and why I'm saying that is a fellow

commissioner here already wants to send a message to the New England Council about the monkfish fishery, how we should cut it down.

It sends the wrong message. The message is that they're not fishing like they used to. Most fisheries in the commercial are not, anyhow, especially this monkfish fishery. The southern states and the Mid-Atlantic are cutting way back in days. And working your way up to the northeast region, where I come from, they're cut considerably. I think you need to also portray that message. Thank you, Mr. Chairman.

CHAIRMAN SMITH: So, if I take your point, the current condition in the fishery has probably worked in large part to reduce this problem already.

MR. CALOMO: Absolutely.

CHAIRMAN SMITH: All right, other questions? Okay, seeing none, there were also research recommendations that you wanted to cover?

DR. SECOR: Yes, I'm sorry I didn't get to this slide. Obviously, we have some uncertainties about how populations contribute to coastal bycatch. We have genetic approaches now available to do this. There has been a problem in the past of getting representative samples, so we hope that this can be done more strategically in the future in terms of matching the samples of bycatch to their genetic identification.

The second source of uncertainty has to do with the abundance and productivity of the populations that contribute to bycatch, so this is our second recommendation. We think that the modeling approach, the new one taken, should be applied to the past data, the 1989 to 1999 period, so that we can make direct comparisons between historical and more recent bycatch levels.

It would be very nice to have the state effort statistics brought into the VTR dataset so that we can expand bycatch estimates further. The controlled mesocosm experiments that Dr. Hager is doing at VIMS is quite useful in terms of looking at gear factors that may be attributable to sturgeon intercept and retention. Thank you.

CHAIRMAN SMITH: Thank you. Questions or comments on those? Okay, seeing none, this brings us to Item 5. Karen.

MS. KAREN CHYTALO: Just one question. I see that you're looking at the genetic samples. The sampling design should ensure that genetic samples are representative of intercepted sturgeon, so is there an ongoing effort to look at the origin of these sturgeon, where they're coming from, what their riverine systems are?

DR. SECOR: I guess the short answer is no; that researchers and individual states collect these samples, but to build it into the Northeast Observer Program, that hasn't happened.

MS. CHYTALO: That hasn't happened. But, has the technical committee looked at the issue of restoration of sturgeon at all in different systems and do they have any concerns with the genetic integrity of the stock or anything like that? Have they weighed in on any of those types of issues? I'm just curious.

DR. SECOR: Certainly, we have. We weighed in heavily on the last NOAA assessment, which you will hear about. We spent quite a bit of time on that. At our initial bycatch meeting last year in Norfolk, we spent a lot of time looking at the population structure, the recent genetic data, how well it supported different populations, and what approaches were best to pursue in the future and came to the determination that the nuclear DNA, the micro-satellite DNA approach is up and running.

Dr. Tim King has markers that work for the populations we know about, and so we're ready to go with this. We just need better kind of sampling designs, and, of course, funding to pay for those analyses.

CHAIRMAN SMITH: Other questions or comments? Okay, seeing none, Item 5 on the agenda is the technical committee update.

TECHNICAL COMMITTEE REPORT

DR. SECOR: Well, we also these items at our technical committee meeting that we had last month. There are certain kinds of recovery programs that are system-specific, which are kind of nice. These are bottom-up programs that involve the public often, involve state/federal partnerships. There is one developing in St. Mary's River, mostly under the leadership of Georgia State University scientists; and then another one in the Chesapeake Bay centered at

James River but involving Maryland and Virginia Brood Stock Conservation Program.

We heard a bit about ship strikes. This is an emergent issue for us. We're not quite sure how to deal with this quantitatively, but we have very demonstrative proof as shown in this slide. This is a sturgeon that was obviously struck by a ship. It is a large adult female. It had ripe eggs in it. If you can't see, it is a severed Atlantic sturgeon. There is good work going on there in Delaware by Dewayne Fox and others.

We continue to try to develop ways to coordinate tagging and standardize tagging. We have discovered, through our technical committee, issues related to PIT tags – these are microchip tags – but also issues related to electronic tags. Because sturgeon are so far wandering and because issues like bycatch require us to understand how they migrate up and down the coast and how populations move specifically, it's critical that we're all using the same platform for tagging; and that also that we are able to contribute to central databases.

And here the U.S. Fish and Wildlife Service Annapolis Office has provided a lot of leadership, as has Tom Savoy stepped up in terms of developing an incipient kind of central database for acoustic tags.

At the next technical committee, what we're looking to do is review what is known of populations. It's been about five or seven years since we've last done this. We're feeling pretty good about this; a lot of exciting research going on in the Hudson River; satellite telemetry, more acoustic tags, mark recapture studies, habitat studies; similar kinds of work going on in the Altamaha River and in the Delaware River.

So there is a lot of Atlantic sturgeon work going on that may feed into the next assessment cycle. That gets me to the last issue. We spent a lot of time – we're grateful that we had folks come up from the Protected Division to inform the technical committee about some of the issues related to Atlantic sturgeon listing as threatened.

I was going to spend about eight slides on this, Mr. Chairman, but I just learned from you that we're going to hear from somebody else, so I wonder if it would be presumptuous for me to continue.

CHAIRMAN SMITH: It would probably be better under other business. Do you have a long presentation? It's six or seven slides, you said.

DR. SECOR: It reviews the material that NOAA presented to us.

CHAIRMAN SMITH: I think it would be helpful for the board to hear the presentation first and then hear what the technical committee had to say about it. Maybe we ought to just jiggle the agenda a little bit and do it that way.

DR. SECOR: Okay, will we get a presentation?

CHAIRMAN SMITH: I believe someone from Protected Resources – not necessarily right now, but there is a staff member that is going to give a presentation, I think.

MR. STEVE MEYERS: Thank you, Mr. Chairman, that's correct.

CHAIRMAN SMITH: Okay, so let's hear what the technical committee has to say after we hear that. Yes, Vito.

MR. CALOMO: Just clarification for me, I guess, and maybe others. When you say "ship strikes", what size vessel are you talking about?

DR. SECOR: I have to admit I don't know. I mean, often you get the parts that remain. Kelly, can you address that.

MR. KELLY PLACE: Sure. We've been witnessing ship strikes or witnessing the results for some years, actually myself for about 25 years on the James. Any size ship, anything from a John Boat – I know of John Boats that have killed 10-foot sturgeon in the last 15 years on the James – to large ocean-going freighters that come up the James, all the way to Richmond – almost any size ship. And they tend to be larger fish, but we have found small ones, too, that we think were probably killed by ship strikes. But it's unmistakable when you see a big one that's been killed.

MR. CALOMO: Mr. Chairman, why I asked that, being I guess a third-generation fisherman, when you say "ship" to me, it's not a John Boat. It's not a small vessel. You're talking about a large vessel. If you talk about vessels hitting and it looks like a propeller from a speedboat, just like the manatees, you know, they get cut in the

back, that's more of a sport boat. But there's a big difference between a ship in a vessel and a sport boat and it connotes something different to me.

ESA DISCUSSION

CHAIRMAN SMITH: Well, it was a good clarification. Okay, that takes care of the technical committee's summary except for the discussion on ESA, so we're at other business. Let's do that one first, get the ESA presentation, and then we can have the technical committee's review, and then we will take the last item last.

MR. MEYERS: Mr. Chairman, with your permission, I would like to ask Ms. Kim Damon-Randall of our Northeast Regional Office to come to the table for an update.

MS. KIMBERLY B. DAMON-RANDALL: I don't have a formal presentation prepared, but I can tell you what we're doing. The status report was completed in February and submitted to the National Marine Fisheries Service for review. Currently the Northeast Region and the Southeast Region are reviewing that information, as well as any other available information to make a listing recommendation.

That will then be sent to Headquarters Office for concurrence or non-concurrence. We expect or hoping that we can have our listing recommendations done by the middle of 2008, so we're a little bit far off from that. We're working on that right now. We don't know yet if the Northeast Region and Southeast Region are going to send joint recommendations or separate recommendations for the DPSs that were identified by the status review team.

In case you're not familiar with the term "DPS", it's Distinct Population Segment. The status review team identified five distinct population segments of Atlantic sturgeon throughout the range.

CHAIRMAN SMITH: What were those five DPSs?

MS. DAMON-RANDALL: The first one is the Gulf of Maine, which encompasses the area from the Penobscot down to the Merrimack. Then there is what is called the New York Bight, which encompasses the area from Cape Cod through the Delaware River. Then there is the

Chesapeake Bay DPS; the Carolinian DPS; and the South Atlantic DPS. Each of the riverine units within those DPSs are considered sub-populations of Atlantic sturgeon.

CHAIRMAN SMITH: So, really the whole coast?

MS. DAMON-RANDALL: Right, it's kind of taking the –

CHAIRMAN SMITH: That's how you broke it up.

MS. DAMON-RANDALL: -- using the information for discreteness and significance from the DPS Policy to identify populations that are most similar to each other and grouping those into distinct population segments.

CHAIRMAN SMITH: Okay, so that's it, so then the technical committee.

DR. SECOR: I didn't know you were going to be here, Kim. I'm glad to see you. You should be sitting up here because I just stole all your slides to present to this group.

CHAIRMAN SMITH: We're going to get your presentation one way or another.

DR. SECOR: I know it, but I modified them a little bit just to highlight some things. You know, I think '98 was the original or the last assessment before this one, and that involved a lot of state scientists from the technical committee. This one was a little bit different in that it was a federal team, but they did rely a lot on the TC membership and state and regional experts.

It was peer reviewed. It was kind of interesting. The peer review is now exposed. It's not anonymous, so many of your TC members also reviewed this. It was vetted scientifically. This has been sent to the board; hasn't it? As Kim said, these are the DPSs, and there is very strong genetic evidence that supports this level of organization for the most part.

It is the three central ones, the New York Bight, the Chesapeake, and the Carolina DPSs, that are proposed to be listed. It is a threatened status. And, as Kim said, what happens next, NMFS is going to consider the information and see if listing is warranted and will publish proposed

rules. This is the 4(d) rule that develops protective regulations.

Then I guess officially you're allowed a 60-day public comment period. For the Northeast Region, as Kim said, this is going to happen by mid-2008, the decision. What a threatened listing would mean, necessary and advisable actions to provide for the conservation of the threatened species is the 4(d) rule, and there is also a NEPA analysis that I think you're familiar with.

This is where I step a little bit out of my straight and narrow path as a scientist. I want to discuss this a little bit, because many of the scientists on the technical committee are concerned about what a listing will mean in terms of how science is conducted and how science will inform management.

So, this is a role that I think is appropriate for me to emphasize, but there really are three criteria for listing. The first two are what the scientists have reviewed thus far, threats to habitat and range and overutilization, and it does seem now that there are population DPSs that are threatened.

The third one was off limits for us to review. We're not experts in this, obviously, but this inadequacy of existing regulatory mechanisms – and I think this deserves discussion. What is the appropriate regulatory authority? We have known that Atlantic sturgeon have had problems for some time. We have acted on them at the technical committee level and the board level.

There are different models out there for managing endangered species. ASMFC, it could be argued that it already manages threatened species. Atlantic sturgeon, certainly, certain populations, American shad are in bad shape. It could go to NOAA federal authority, much like shortnose sturgeon; or, it could go to co-management by state and federal authorities. It's happened for Gulf sturgeon and the Maine Atlantic salmon.

I guess the discussion I'm hoping will happen between commissions and also between commissioners and scientists and commissioners and NOAA regional managers and Mr. Hogarth. I think it's important to give some indication that we have a record for Atlantic sturgeon in ASMFC. Its science is effectively informing

management and management doing well by the species. We have had a series of actions and records that we can draw upon. So, sorry, for my little soapbox, but I did want to at least initiate that discussion. Thank you.

CHAIRMAN SMITH: Would you mind toggling back to another slide – there, that one. It just went by so quick, I didn't have a chance to read it. Okay, thank you. Okay, questions on either Kim Damon-Randall's summary of what is up and Dave's summary of the technical committee view. Kim.

MS. DAMON-RANDALL: I just wanted to make a clarification. We haven't proposed anything for listing. The status review team did recommend three DPSs be listed, but they haven't been proposed yet.

CHAIRMAN SMITH: Thank you. Board members, comments or questions? A.C.

MR. A.C. CARPENTER: Having it listed as threatened, we currently have a complete moratorium under the ASMFC plan, so what additional regulatory actions would be anticipated here, if I could get some help in that regard.

MS. DAMON-RANDALL: I think that the fishing moratorium is at directed commercial fisheries. There are issues with ship strikes, with dredging, with water quality, with bycatch in other fisheries, so those would be things that would have to be looked at if the species were listed in recovery plans to try and curb those activities.

MR. GEORGE LAPOINTE: In partial answer to A.C.'s concern, if you have a monkfish sink net fishery in your state, you better get those fishermen engaged pretty quickly. I wanted to make a comment. It's hard to comment on the listing when you're kind of in the fuzzy proposed stage.

We have a fair amount of experience with the listing of Atlantic salmon seven years ago. It's easy to get people riled up before you know what is in the proposals, because I was right in the middle of the riling in the state of Maine. I urge people to really pay attention to the listing process; and as concrete proposals come up, tease them apart for what they'll really mean to your state and the fishermen in your state. We

have found, in working with the Fish and Wildlife Service and the National Marine Fisheries Service, that listing as endangered has been a survivable experience.

I mean, it certainly has impacted the aquaculture industry significantly, although they are still there. It has impacted some activities, but by teasing apart the proposed threats and actions, you can get to those real issues that impact the populations without slitting your wrists. I think that's important for people to consider, but right now, with all the proposals and fuzzy timelines, it's a hard time to engage significantly.

CHAIRMAN SMITH: The voice of experience. Vince.

EXECUTIVE DIRECTOR JOHN V. O'SHEA: Thanks, Mr. Chairman, and thank you, Dr. Secor, for your presentation. I thought it was very good. You know, I reviewed our winter cooperative tagging cruise each year that has been done in cooperation with the Service and the Fish and Wildlife Service, and most of the time recently with Dr. Wilson Laney.

I've been impressed by the number of sturgeon that cruise encounters. Your earlier presentation by the technical committee looked at the monkfish fishery, you know, the sink gillnet fishery, but I'm wondering if there's adequate data in things like the cooperative tagging cruise regarding trawl interaction that indicate that that may be a source of mortality that may be of concern to the technical committee; and the fact that it's generated during a scientific cruise, whether or not it's available and can be teased out. Has there been any discussion about – which, obviously, have huge implications in terms of a listing in terms of other fisheries.

DR. SECOR: Yes, we looked at trawl fisheries. They take a similar number as the sink gillnet fishery, maybe even more. We encounter them in our trawl work, too. The great thing about sturgeon, though, is they're sturdy. So, unless you're running very long trawls, they tend to come up okay.

Now, there are some outstanding issues like, well, what happens when you put them back in the water; is there any latent mortality? We don't know those things. But at least on ship, they're in good condition and they're put over. And as I indicated, in six years and I don't know

how many observer trips, only three have been observed dead in the trawl fisheries as opposed to 150 in the sink gillnet fisheries.

CHAIRMAN SMITH: Other questions? Karen.

MS. CHYTALO: Going back to the ship strike issue, do we have any idea of the severity of that issue or how often or does anybody have any numbers? I know in New York typically we usually see maybe one dead sturgeon a year, one or two, maybe, whatever. This past year, though, we had eight, and that was like, whoa, taking notice, you know, why was there such an increase all of a sudden in one year, during a short timeframe

We weren't sure why we were seeing that number, but I just didn't know if other people have seen an increase or whatever with the stock, some improvement in the stock, maybe, or whatever; are we going to see more of those types of things? I don't know what the trend is.

DR. SECOR: Yes, it's an interesting point. Those kinds of trends do make you a bit more optimistic about the status of the stock when suddenly the bycatch starts going up and ship strikes. It could be that we're seeing some recovery in populations like the Hudson River. In terms of assessing ship strikes, it is very difficult. I haven't really bent my mind around that.

I think there are some folks in Delaware that are beginning to think about ways to do this. The concern, though, is that these are big fish, big females often, and they're in fairly restricted navigation areas. There is this potential for an interaction.

MS. CHYTALO: But you have it listed there, so, therefore, it must be acknowledged that it is an issue that others have been seeing that going on, so I assume that we're seeing more or less – oh, you don't have.

DR. SECOR: I wonder if it's just that we're beginning to pay attention a little bit more. That would be my view.

CHAIRMAN SMITH: It's also interesting that those are probably your most valuable fish from a population recovery point of view if they're the big, ripe females. Okay, other questions from the board? I did see a hand come up in the

audience a while back. Was there a question or comment that someone had?

MS. DAMON-RANDALL: We just had another point of clarification. The factors that Dave put up, he called them listing factors. They're actually the five – DSA factors are not listing factors, and there's actually five of them. You have to list the species if it's threatened or endangered regardless of those. You're assessing the species' status. This is just a point of clarification.

CHAIRMAN SMITH: Okay. Yes, sir, Greg.

MR. GREGORY DIDOMENICO: Thank you, Mr. Chairman. Just one quick question, if I could. I'm Greg DiDomenico, Garden State Seafood Association. We've put in a data request from the observer program for several issues on bycatch, but one in particular being sturgeon bycatch in our gillnet fisheries, both drift gillnet and sink gillnet.

There is some concern that – or at least the people that I've spoken to – that so far the data that's been used from the observer program has identified several problems with the misidentification of not only mesh size in a particular gear and when an entanglement has taken place, also, but the misidentification of shortnose sturgeon versus Atlantic sturgeon. Is that being looked into and is that reflected in this report?

DR. SECOR: We did discuss some of the issues of errors on those observer data sheets. There is training that goes on, but there is recognized error. We just don't know how to look at that yet. We did assume that the things like mesh size were correctly reported.

The sturgeon identification issue did come up. Several of us thought that things that had been indicated shortnose sturgeon were most likely Atlantic sturgeon. Dr. Shepherd went back and investigated those incidences. They did take photographic records, and they were confirmed by species' experts at the Northeast Center.

Shortnose sturgeon, those that were identified, were very few in number of the overall dataset. I can't tell you what that is; it is in the report. They were omitted from the analysis, so the analysis wouldn't have changed, but it would

have made it, I guess, a bit more – the number of bycatch would have gone up.

MR. DiDOMENICO: Thank you, Mr. Chairman, one question, if I could, too. You identified drift gillnets as a fishery with possible takes or mortalities for sturgeon. What was the directed fishery in this drift gillnet fishery? What was the directed species, I'm sorry?

DR. SECOR: Yes, we only looked at sink gillnet fisheries in the more recent period. In the historical period that Stein *et al.* looked at, certainly, shad was still an important fishery.

MR. DiDOMENICO: Okay, when you say historical drift gillnets, what years are you talking about because we've had so many changes in directed fisheries that it's going to be important.

DR. SECOR: 1989 to 2000.

CHAIRMAN SMITH: Other questions or comments on this subject? Karen.

MS. CHYTALO: I just have one more question. With respect to the recovery programs that you were talking about – this is for my own information, I guess – do states have to get an approved recovery plan or is there something that they have to go through, or are they given any directions from the board as to what they can and cannot do or whatever?

CHAIRMAN SMITH: Do you mean now or in the event it's listed as a threatened species?

MS. CHYTALO: Now.

CHAIRMAN SMITH: It's just a moratorium on fishing. There may be a few other things, but that's the principal one.

MS. ROBBINS: ASMFC has a stocking protocol which states are asked to follow and present their plan, if they decide to use stocking as a restoration means, to the technical committee. The technical committee provides guidance. That plan has many recommendations as far as the best management practices for stocking as a restoration tool. It's requested that all states present them to the technical committee, and the technical committee will provide further guidance to those states.

MS. CHYTALO: But with part of that guidance, do they have any requirements on genetic integrity of the stock product?

MS. ROBBINS: They're requested to use fish that are most similar if they cannot use fish that are native to the systems in which they're stocking. I can get you a copy, if you'd like the protocol.

MS. CHYTALO: It's just that the only issue that we get concerned about using Hudson River fish for, you know – even though you might be doing it someplace else, much further away from the Hudson River System, that if the fish do spawn in those areas, where do those fish go back to? Where do they return? Do they go back to where they spawned in or where they originally came from or what? Do you have any clue; I don't.

DR. SECOR: Well, I shouldn't smile and laugh. I mean, genetic data does support homing. Okay, there is that. We don't know when the queues are during their early life. We've done an experiment in the Chesapeake. We're still looking for those fish to return. Those fish were released when they were fairly old, one year old. In a recent proposal by Maryland, they wanted to look specifically at this issue by rearing them alongside rivers and so on to see if they could get imprinting and then better returns on fish.

CHAIRMAN SMITH: Okay, without seeing other questions and comments –

MR. RUSSELL DIZE: Thank you, Mr. Chairman. In the state of Maryland, they offer a reward to the commercial fisherman for – when you catch a sturgeon, you call the Department of Natural Resources. They come, tag the fish, and release it, and the fisherman is given a reward of – I think it's \$50; isn't it, Howard?

MR. HOWARD KING: It was a hundred.

MR. DIZE: It was a hundred. That's mostly a pound net fishery. We don't see sturgeon in our drift gillnet. Thank you.

CHAIRMAN SMITH: Thank you. That may be why they didn't actually even review drift gillnets because it is kind of a smaller scale relative to the sink.

NMFS CORRESPONDENCE

Okay, the last item of other business, we got a letter from the National Marine Fisheries Service Protected Resources Division this week.

It was drawing our attention to an issue of the capture and attempted spawning of a sturgeon this summer. It brought to our attention that there are two policies out there on how to deal with fish in a recovery and a propagation type of a mode. There is one with the National Marine Fisheries Service and the Fish and Wildlife Service, and then there is another one that came forth from ASMFC, at different times.

The letter proposed that the joint two federal agencies' approach was more conservative, so they were asking for us to remind folks that in the future, if a fish is encountered and folks want to do something with it in terms of artificial rearing or whatever or propagation, they would like the states to follow the joint federal agency protocol.

Thinking about it for a minute, we decided maybe the best course of action, since it's not a time-critical thing, we ought to have staff – Erika is going to review both policies in kind of a side-by-side evaluation and report back to us at the annual meeting on where the deviations may be.

Then we will have a better informed sense of being able to say whether either the commission policy ought to be revised or the two federal agency policy simply ought to be embraced and ours ought to be put into the back of the library; follow one or the other policy or revise ours to be consistent or different.

So, unless there is any objection, we will just proceed that way and get the staff review so we know exactly what we're looking at in the two different documents and we will talk about it again in October. Is there objection to dealing with it that way? Okay, seeing none from the board, do you have a comment to make?

MS. MARTA NAMMACK: I was just clarifying on the control propagation policy, I think the letter talks about the fact that the Atlantic sturgeon is a candidate species. Therefore, that joint policy, which was published by the Fish and Wildlife Service and NMFS is applicable now. The stocking protocols, which were issued by ASMFC, I don't think focus on

whether or not the species is listed as a candidate or proposed species. That's all I wanted to say on that one. Thank you.

CHAIRMAN SMITH: Hopefully, those kind of things will come out in the analysis. Thank you. Okay, without objection, we will proceed that way.

OTHER BUSINESS

Is there any other issue to come before the board? Seeing none, we're adjourned.

A special thanks for Dr. Secor because you aren't really one of the state agency indentured servants that we can make do whatever we want. You're actually come from a university, so we very much appreciate your contribution.

DR. SECOR: You're very welcome, but I would like to highlight that this isn't a money fish, and the state scientists involved in this, they're doing it out of the goodness their hearts, too. There is a lot of great work out there that is going on because people are very motivated to work on this species. It's a real pleasure to serve on that technical committee.

ADOURN

CHAIRMAN SMITH: Great, thank you. Everybody convey that back to your staff, please. Thank you, we're adjourned.

(Whereupon, the meeting was adjourned at 2:05 o'clock p.m., August 14, 2007.)