

**ATLANTIC STATES MARINE
FISHERIES COMMISSION**

TAUTOG MANAGEMENT BOARD

**Doubletree Hotel Crystal City
Arlington, Virginia**

February 20, 2006

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WELCOME/BOARD CONSENT

The Tautog Management Board of the Atlantic States Marine Fisheries Commission convened in the Washington Ballroom of the Doubletree Hotel Crystal City, Arlington, Virginia, Monday afternoon, February 20, 2006 and was called to order at 12:00 o'clock noon by Chairman David Pierce.

CHAIRMAN DAVID PIERCE: All right, we have a quorum. This is a meeting of the Tautog Management Board. My name is David Pierce, for those of you who do not know. This is my first go round as chairman of the board.

It's been a long time since this board has met, largely because we have been waiting for stock assessment information to be provided, the assessment itself, the peer review. We have that information in hand, and that will be reviewed today and will be basis for any decisions we may need to make today regarding further management actions for tautog.

A quorum is present, it appears, so the meeting will come to order. Everyone has a copy of the agenda. There is only one change to the agenda that I know of, and that will be after Number 6 and before Number 7, advisory panel nominations. There may be some and we will get an update on that sometime very soon.

I believe that Tina may have some information for us to look at. Anyway, we will be in a better position to know where we stand regarding nominations as we get deeper into the board meeting this afternoon.

All right, if there is no objection, then the agenda will be adopted as printed with that one addition. There being no objection, the agenda will be adopted.

The next business in order is approval of the minutes to our August 16, 2004, meeting. Are there any corrections to the minutes? There being no corrections or objections, then the minutes will be approved as circulated.

PUBLIC COMMENT

Public comment is next. Is there any member of the public out there who would like to speak about today's agenda or comment on today's agenda or any other issues that relate to tautog that the board might find interesting?

2005 STOCK ASSESSMENT

I see no hands from the audience; therefore, we will go on to the next item on the agenda, and that is the 2005 Tautog Stock Assessment. We have a presentation from Paul Caruso. Paul Caruso is the chair of the Tautog Stock Assessment Committee. He will then be followed by a presentation given by Tom Miller regarding the peer review of that particular assessment.

Before Paul begins, I think we need to give him and the rest of the technical committee a word of thanks for the effort that they have put into this assessment.

As I indicated a little earlier on, we have not met in about one year and a half, a

little over a year and a half, and the primary reason for that was we needed information regarding the status of stock and how successful we have been in keeping to our fishing mortality rate targets. With that said, Paul, if you would provide that report.

MR. PAUL CARUSO: Good afternoon. This is the first time you've seen me for a while. I'm happy to report that I'm here on our tenth anniversary of our FMP for tautog, and we have an assessment before you.

I have about a 20-minute PowerPoint presentation that will hopefully answer most of your questions before you ask them. Certainly, if there are questions you have along the way, feel free to stop me and ask your question.

Tom will follow with the peer review; so if you have some, I guess, outstanding questions about what is right and wrong about the assessment, I don't want to steal any thunder from Tom, so I won't point out what is wrong about the assessment. I'll only talk about what is right.

I do hope that the PowerPoint presentation comes out on the screen behind me as it does on the screen before me. It looks like there may be some formatting issues, but hopefully the rest of the slides will look the same.

You're missing a full color shot here of a nice big male tautog. First of all, just to review for those of you that are state directors, who of your agency are on the technical committee. As you know, the technical committee approves the assessment after it goes from the stock assessment subcommittee and to the peer review.

The members are Paul Caruso from Massachusetts; Jason McNamee from

Rhode Island; Deb Casillio from Connecticut; Alice Weber, who was our existing chair; Peter Himchak, who just happens to be sitting there at the table; Richard Wong, Harry Hoenig and Joe Simmenno from Virginia.

The stock assessment subcommittee, as you know, is usually a much smaller group, led by myself. Jason was present. Alice was our ex-officio chair. Jeff Brust, Richard Wong and John Hoenig were the members of the stock assessment subcommittee. Essentially these are the people that did the leg work.

Technical assistance was also provided by Najih Lazar from Rhode Island, Division of Fish and Wildlife. Najih has done some of the past assessments, so his help was instrumental in getting the VPA to work.

Laura Lee, who was responsible for expanding a lot of the recreational catch data for us and Gary Shepherd, who is kind of my go-to man. When I have a VPA problem, he is right down the street in Woods Hole. I can call Gary on the phone; and if need be, drag him up to help me out with the VPA.

Administrative assistance was provided by Lydia, seated at my left; Patrick Kilduff of the ASMFC, as well; and John Boardman, who is my assistant at the Division of Marine Fisheries.

Just a brief update on stock management – I know most of you have been involved with this species for a while, but some of you may not have known where this comes from, but essentially the ASFMC and the states together manage Tautog as a coastwide stock.

State regulations control the fisheries. The initial FMP was written in '96. At that time the F target was F equals natural

mortality, which was equal to 0.15. And, we had an interim F target of 0.24. Mainly because there was an addendum that delayed implementation of the initial target, it was just thought to be too much too fast.

The minimum plan compliance elements are fairly simple. You have a minimum coastwide size of 14 inches for both the commercial and recreational fisheries, and states are required to collect their limited sample of age samples, about 200 per year per state, which, as you'll see, has helped us a great deal in the last year with the tautog stock assessment work.

Recreational fishery controls are size, bag limits and seasons; nothing new here. Commercial fishery controls, we have size and bag quotas in some states. We have closed seasons and pot escape panels and vents.

In 1997 the first addendum for the plan was done. It basically had some errata in it and deal with de minimis status and revised compliance schedule, delayed things for another year, so to speak.

In 1999 you had another addendum, which adjusted the compliance schedule again, because a couple of states were having trouble catching up, if you will. In 2002 we had a third addendum, which revised the F target to spawning stock biomass target, 40 percent SSB.

At that time, the fishing mortality rate that goes with that target was 0.29. That target was primarily to give some states some flexibility if they had a larger or a smaller size limit.

As far as the assessments themselves, we've had a few. The SARC 26 was the very first one. We started that when the process started – the FMP process started

in '95. And, initially the SARC rejected the initial VPA, mainly with problems due to aging. We didn't have much age information at that time.

SARC 30 was held in 1999. We had a couple of models floating out there. We had a biomass dynamic model, which was rejected by the SARC. They did accept the virtual population analysis models at that time.

There was a collaborative tagging estimate of F. At that time the terminal year F estimate was 0.29. In 2002 we did an assessment update, and it looked, at that time, that fishing mortality had risen back up a little bit to 0.41. The main reason we think because of that was the initial size limit.

The fish had essentially grown past that size limit, and we're now vulnerable to the fishery, so we're playing catch-up with the fishing mortality rate. And, also at that time, the biological target of F 40 percent SSB was revised to 0.29, mainly because the weights of the fish were getting heavier as they matured, and the size limit did its job.

And here we are in 2005, or 2006 now, but we completed this assessment in 2005, last fall.

We have a coast-wide VPA. Plus, we have a state-by-state status report for each state, which is a little bit of a twist on what was done in the past. So, the main report before you are the Tautog Technical Committee consensus findings.

There are state status sections, which are provided by the individual states. There are state status sections in the main report. They are basically a summary, and they represent the Tautog Technical Committee's consensus findings.

The appendices which you have from each state or most states still represent the state's individual respective findings. They do not represent the consensus finding of the technical committee, so that's an important distinction.

A little bit of stock information; the stock ranges from Maine to Georgia. The stock unit itself is from Massachusetts to North Carolina, and North Carolina has very minimal landings. This time around in the assessment, North Carolina landings were left out of the assessment.

It really wouldn't make any difference one way or the other. They're less than a half a percent of the total landings. Delaware has de minimis status for the commercial fishery, just to throw something in there.

A little bit about the life history of the animal – it's a labrid. It's a temperate reef fish, a lot like a, I guess you would call it northern grouper in its life history and life habits. It's a fairly slow-growing fish, and it's very long-lived, which makes the growth rate look even lower than it is for the first few years.

The average size of tautog in the fishery is about four pounds, and the maximum size at age is about twenty pounds, twenty-plus pounds in thirty years, so they live quite a long time. Maturity schedule is 50 percent at age three and about 100 percent at age five.

As far as their movements, they tend to move inshore to spawn in the spring. They disperse to nearby waters and structured habitat for the summer. They like to live around rocks and pilings. They move offshore to deeper-structured habitats in the fall, and they're very inactive in cold temperatures. They essentially hibernate in the winter.

In the southern range, things may be little bit different. We don't believe they undertake the seasonal offshore movements down south. It seems they have an offshore and inshore population that tend to stay right there for the year.

Your terms of reference are up here on the board. These were approved by the board last year at about this time, I believe. The important ones are the last three. The first four get you to where you need to be, and the last three are essentially there to provide estimates of the stock status and trends and fishing mortality on a coast-wide basis; and if possible for each state, evaluate those biological reference points we talked about earlier and reviewed the stock status and mortality with respect to those reference points.

That is to know where we stand today. The fisheries themselves, it's largely a recreational fishery. Over 90 percent of the landings in the time series are from the recreational fishery. The private and party/charter boat modes are the dominant modes.

The shore mode was historically important, but has since declined. As we increased the minimum sizes, which are not that available to the shore fishery, we tend to lose those anglers. It's a targeted recreational species because of their habitat, the baits and the gear configuration needed to catch them.

They're essentially not a bycatch in most fisheries. People are actually targeting tautog. They go tautog fishing, and that's what they're going to catch or not. The commercial fishery is only about 10 percent of the total landings in the time series mean, and the dominant gear types in the commercial fishery coastwide are trawls, pots, hook and line.

Pots are more important the further you go to the north. Okay, as far as the data we had to pull the assessment together, just a brief review here – we had the recreational catch-and-discard estimates in number and some length frequency data.

The commercial catch is available in pounds from the National Marine Fisheries Service. We have no discard estimates. There is no useable length frequency data or effort data for the commercial fisheries. In recreational effort, we have effort data, but we have no auxiliary data to standardize that effort.

As far as the recreational catch estimates themselves, they come from the MRFSS survey. Most of you are pretty familiar with it. It's a two-part survey. You have a telephone survey that uses random digit-dialing in coastal counties for effort. You have an angler intercept component that gets the catch-per-unit effort at the dockside/shoreside/boatside level.

And, the two are put together; they get you final estimates. Tautog is an infrequently intercepted species, so the data is fairly poor for early in the time series, but the data has since improved. It's still not at a level of some popular species like striped bass or scup, but it's a lot better than it was back in the early eighties.

I'm not going to go into the details of the recreational catch here, but basically you guys are familiar with the fact that there's an A-Plus, B-1 catch, which is the observed catch and the fish that the angler reports that he caught. You have a B-2 catch, which is the fish that were released alive.

The data comes to us in numbers of fish by state, by mode, and year. There are lengths available for a small number of measured fish in the A and the B-2 catch.

We happen to have auxiliary data from New York, New Jersey, Delaware and Virginia and from the American Littoral Society that we could use to build up these catch length frequency distributions, which you're going to see in a future slide here.

The recreational discards were estimated from the B-2 catch. They're available as numbers by year by state, weight and mode. We assumed at the time of the assessment a 2.5 percent discard mortality rate, like we have in the past assessments.

At the time the assessment was peer reviewed, we only had one source of information regarding that rate, and that's from Simpson and Gates in Connecticut in 1999. But, luckily enough, after I was putting this together, I dipped into my file and, lo and behold, there was another paper there from the southern end of the range done by Lucy and Arendt, and the discard mortality estimates from that study were very similar to Connecticut, actually a little lower, about 1.5 percent.

So, we have a little bit more comfort now with our discard mortality rate. The length frequency distribution of the discards was estimated by region from the ALS data, plus the auxiliary data from New York, New Jersey and Virginia that these states were able to provide from some dedicated studies.

The commercial catch, as has been mentioned before, is only available as pounds per year by state. Since it's not a National Marine Fisheries Service managed species, we don't get any commercial lengths or weights from the port-sampling program.

State commercial data is likewise spotty. It has poor temporal, spatial and gear-type coverage. So, we're able to use the catch weights on the recreational fishery to

estimate the numbers of tautog caught in the commercial fishery. Since the fishery operates in the same time and space and the same areas as the recreational fishery, it's not too much of a stretch here.

The catch numbers were expanded to numbers at length using the same recreational length frequency distribution that we used for the recreational fishery estimate. So to get the combined losses, essentially we expanded that recreational catch at length for each year by state.

We expanded the B-2 mortality losses by region. We expanded the commercial catch at length by state and summed it by region. We took all that and applied these regional age-length keys.

We have age-length keys from the beginning of the time series to the present, from what we call the southern region, which is New Jersey and south, and from the northern region, so the respective regional catch at ages were applied to those age-length keys, and we have a combined regional north and south catch at ages, which were combined to yield the coastwide catch at age.

This particular graphic, you want to take note of the trend in this graphic because by the end of the slide presentation, it will look like about 90 percent of the other graphics. The combined loss history is here. The purple dotted line is the mean for the time series.

I guess you could say pre- and post-FMP catches were fairly – or combined losses were pretty high in the eighties, spiked in the mid-eighties, dropped to a low in 1998 and has since started to come up just a little bit in the last few years.

This trend is going to be very similar to a lot slides you're going to see in the next

few minutes. This busy little slide basically just tells you where the length data came from and the sample sizes for that data.

But, if you look at the northern region and southern region columns, you will see that at the beginning of the time series, the large numbers mean they were poorly sampled. When you get to the mid-nineties, you start to see numbers in the 100-182 range, which means that we had adequate length sampling for the keys.

And on the southern region, you see the same trend. By the time you get to the late nineties, you start to see the sample size has gotten better. We're down in the 98-55 range. And in the northern range, the last few years, because the fishery has dropped off, our length samplings dropped off a bit. In the south, the length sampling is still pretty good.

I don't think you're going to be able to see this too well from where you're sitting, but the general trend here is to look at the shape of these curves, and what these curves indicate is the recreational length frequency distribution. And, the noble part is if you look at the left-hand side of the graphics, for the beginning of the time series, which are in the upper left-hand corner, you have a lot of fish in the small 10 to 30 centimeter range.

And as you get to end of the time series, which are in the lower right-hand corner, those fish have disappeared, meaning your legal size has had an effect. Those fish are not in the catch at age anymore. And, unfortunately, with the northern region, we've also lost some of the bigger fish on the right-hand side over time.

We've lost some of these larger fish from the fishery which generally is an indication that the fishery is over-harvested in the past. In the south, you see a similar trend.

For the left-hand side of the curve, minimum sizes had an effect, you've gotten rid of most of the fish underneath 25 or so centimeters.

But, in the southern range you don't see the same age truncation in the larger end of the spectrum that we saw in the northern age, which would tend to indicate that overfishing hasn't been as strong or as longstanding as it has in the north in the southern region.

Our age data sources are here. This is the northern region. Generally, with tautog, one unfortunate thing about managing tautog is we need a fairly robust age-length key. Generally about a thousand fish are needed to fill out the age key, which is why we go to the states and ask them all to collect a couple of hundred, because we put them all together and we come up with a thousand.

And, you could see that the keys in last two years, 2002 and 2003, we have individual year age keys, which is the first time we have done this. We haven't had samples big enough to do that in the past. It's always been a criticism of the peer-review process in the past that the age keys spanned multi-years and it makes the catch at age pretty messy.

It makes the VPA have a hard time closing in on particular year classes, but at least in the last two years that we did the VPA here, we have much better age sampling, and we have some good single-year age keys.

It's a similar trend in the southern region. There's one error on the slide here. The last two years, 2002 and 2003 we have a combined key, but you can see which states provided the age keys in the early part of the time series in the south. "HM"

stands for Hoffstetter/Monroe, "GW" stands for Geoff White.

But, as we get into the nineties, where the FMP came into play, all the states are starting to contribute. We do have age samples from Delaware for 2003, but they just weren't aged in time for this assessment. So, I guess you could say the "stone soup" approach and getting age data is working out.

Everybody is bringing some vegetables to the table here, and we're able to make a pretty good stew out of it. As far as fisheries-independent data, we have -- for available indices we have Massachusetts, Rhode Island, Connecticut, New York and New Jersey all have trawl survey indices.

The New York Index is just for age one. They have actually age zero and age one. We were only able to use the age one indices. Likewise, in Rhode Island they have an age zero and age one key. We only used the age one and older. We were pretty much able to use all the age one to age twelve-plus keys for the state.

But as you can see from this slide, south of New Jersey we don't have any fisheries-independent data. I'm just going to run through a series of indexes. Again, you can note the general trend. It looks a lot like the first slide you saw.

The fisheries-independent index from Massachusetts, we had a high abundance in the eighties. It dropped off in the early nineties, maintained pretty low levels up until just about last year, so it's taken a little bit of time to get back off the dime with Massachusetts.

Rhode Island, the same general trend, the eighties were high, mid-nineties were low, and started to come up again at the end here. Connecticut, almost exactly the same

trend, the survey starts a little later, going downhill, '94, '95, we get to bottom out, and a little bit of a climb out of the gutter in the last few years.

New York, again, is just an index for age zero and one in this particular slide. We see the trend start a little later. We have high in the late eighties to early nineties. Their survey starts in '87. It dips down in the mid-nineties and is starting to climb up again a little at the end, with the last year being an exception.

And New Jersey, almost identical trends again, another couple of years delay. They started the survey a little later, bottomed out in '97, and coming up a little bit, except for the last year.

As far as the maturity data that goes into the VPA, the 50 percent maturity at age 3, a hundred percent at age 5. This is based upon Jenowith's work in '63, and it's pretty dated. We should be thinking about doing some more of this work, updating things.

We used the spawning date of June 1, based upon the coast-wide, I guess you could say, average of when the starting date is. The proportion of natural mortality before spawning is about 0.42, and the proportion of F occurring before spawning is 0.15.

The natural mortality rate we used is the same one we used in the last three VPA runs. It's 0.15, and it's based upon, I guess you could say, a collection of several methods, and I won't labor on that. Basically, we're still at 0.15.

The weights at age in the spawning stock biomass, we used the same weights we did from the previous assessments. In 2001 and 2004 we had some age data from my work in Massachusetts and Geoff's White

work down south, so we got some recent spawning stock in weights at age from that work.

The recreational harvest trends start to look exactly like that combined removal trend you saw before. You get that spike in '86, high levels in the eighties, dropping right down in '98 to the bottom, and just barely starting to come up a little bit in the last few years.

The recreational discard trends are increasing through the time series. I think if we thought the discard mortality rate was a serious factor, we would be concerned here, but essentially here I look at this as good news. It means your minimum size and your bag limits are doing something and people are putting fish back in the water.

The recreational CPUE trends basically are trendless. They don't really tell us anything. There may be a slight uphill trend there. The commercial harvest trends are very similar to the recreational trends. Again, you have the big mid-eighties high there, falling to a low point in '99, a little bit behind the recreational low point; and, again, the last few years it's just starting to climb a little bit.

I am going to go through four or five slides here now that show the stock status for the states that represent a consensus opinion of the technical committee. This may be a little hard to follow, but I'll try my best.

Massachusetts trends, you had that high stock abundance in the mid-eighties, the high catches in the mid-eighties, the mid-nineties. Catches and stock levels have since dropped, but are fairly steady at about half of the prior levels. Very recently, 2005, recruitment seems to be increasing.

The recreational harvests are greatly reduced and appear capped by the recently enacted restricted bag limits, but the commercial harvests are still rising ever so slightly. This slide here depicts a relative exploitation rate, which you could, I guess essentially, use the proxy for F and get an idea where Massachusetts has been over the last few years.

You can see that mid-eighties high is when the exploitation rate was very high. It dropped in '97 to a low point. We have a bump in 2000, which I can't explain. It's just rising ever so slightly the last couple of years.

Rhode Island has very similar trends as Massachusetts, being our neighbor to the west. Biomass was at the high levels in the mid-eighties, and harvest and exploitation rose in the early nineties to very high levels. Since management, exploitation levels have dropped to more moderate levels. The stock appears to be increasing in number a little bit.

Biomass should increase as the stock matures. The recent recreational catch increase is of some concern given the existing regulations, and quota has capped the commercial landings. I think they're at about a 50,000 pound quota a year for the commercial fishery.

Again, a similar trend in exploitation, just rising ever so slightly at the end here. The next state -- I guess you could say it's a dual state status here, we're talking about Long Island Sound and Connecticut Trawl Survey. It goes into New York waters as well, so we're able to look at the stock status in this particular water body separate from the rest of New York.

In that body of water, the stock levels appear that they were high in the early eighties and declined to low levels in the

late nineties. Harvest levels and exploitation were high in the mid-eighties to mid-nineties. Since we have implemented the FMP and the restrictions, exploitation seems to have returned to more moderate levels; not necessarily low but moderate levels.

The stock is showing some increase in recruitment over the last few years. Again, like Rhode Island, there is some increasing recreational harvest in the last few years, which is a bit of a concern given the outputs of the VPA and where we are at with the target, but the commercial harvest remains fairly low in Connecticut to give a quite restrictive commercial fishery limit.

Again, the relative exploitation rate is coming up in the last few years, which is not necessarily the direction we want to go in right now.

And, for New Jersey, stock levels were high in the late eighties through early nineties, but have declined to lower levels since and have remained fairly low. Since management restrictions, exploitation has dropped to moderate levels. There is some sign of increasing stock size, but availability to the survey gear may be a bit of an issue.

We have quite a bit of noise in their survey. Their recreational harvest, however, has stayed very low over the last few years. The commercial harvest has gone up, but just a very small amount. This one is a little bit noisier. You can see it stayed down pretty low the last couple of years.

For Delaware, they have no fisheries-independent index, so their stock level is uncertain. Harvest level and exploitation have varied without trend, but age truncation is evident in their age samples,

so there is probably some overfishing there at least in the past.

Recreational harvest has declined post-management, but has increased again over the last few years. I think the moral of the story here with some of these trends you can see is we went through this management scenario over the last few years where the catches were knocked down by bag limits and size limits, and then the fishery bounces back.

The fish grow into the fishery and people recover some of these lost fish, and then we knock it down again, and things tend to trend up a little bit. Each time the peak kind of trends down a little lower, but we're still kind of going through this, I guess you could say, up and down the wave type of thing, and the waves are getting a little smaller here.

So, we are getting there but a little slower than we'd like to. This one here is fairly trendless. It looks like exploitation is going up just a bit at the end.

Maryland, again, no fisheries-independent index, so we're uncertain about the status of their stock. The catch-at-age distribution doesn't show that age truncation, so that they might not have overfished in past, but they're starting to see some increased catches and increased harvest, and exploitation may be going up a little bit based upon the Virginia findings.

Commercial harvest levels have increased over time, but are still relatively small, and the recreational harvest remains at low levels. There is your Maryland recreational harvest. We have no exploitation rate because we don't have an index for them, but you can see their harvest has remained fairly constant over the last five or six years.

In Virginia, Virginia brought to us a lot of catch-curve analysis. We still don't know much about the stock level, because they also don't have an independent source of data. The overall exploitation rate appears to be below the target levels, but may be rising over the last two years.

The commercial harvest levels have increased post-management. The recreational harvest has gone up. You can see that blip in the last couple of years for Virginia at the tail end.

Okay, we'll get to the VPA results. We have a mean square residual value of 0.6, which is just a measure of the fit of the model. To put it in context, I think fluke, you get about a 0.5, and some things like bluefish are right around 0.6, 0.65, so the model fits fairly well to the data we used; 49 out of 51 independent abundance indices.

The catch at age is from 1982 to 2003. That's a little change from the last VPAs. The last VPAs included '81. Since the people down at Silver Spring thought that the '81 data is pretty sketchy for the recreational sector, we dropped it from the run this time, because we have plenty of years in there now.

We have ages 1 through 12-plus. The F estimate is the catch-weighted average F from ages 8 to 10. In past VPAs it was 7 to 11. Seven is not a fully recruited age anymore, so that has been dropped from the F estimate. In the past, adding age 7 tends to bring the F estimate down a little low.

And, we dropped age 11 because that's too close to the plus group, and the way the model works is you have a lot of error in that estimate, so we don't use that year. So our terminal year F estimate is for 2003,

and the VPA results are 0.30, so you're slightly over the overfishing definition.

And as Tom will bring up later, you can see we've been over the overfishing definition for a couple of years. The terminal year of the VPA is the least precise we estimated. It's good to keep that in mind.

The genuine biomass estimate is about 11,000 metric tons, and the spawning stock biomass estimates are up just a little bit from 2002, and you will see that in the next couple of graphics.

Here is our spawning stock biomass over the recruitment plot, and you can see in 2002 we got a gift from Mother Nature. We have fairly recruitment despite fairly low spawning stock biomass. Ideally, to get medium recruitment, about 4 million, I guess that is, you would have a spawning stock biomass in the 20,000 metric ton range, and you're about half that.

So, the spawning stock biomass is still pretty depressed; and if we want medium recruitment, we need to go a long way to get there. As far as the yield per recruit and spawning stock biomass per recruit outputs, F_{max} is estimated at about 0.69, but it's very poorly defined.

You get the same yield at about 0.35, a much more conservative reference point. Our spawning stock biomass estimate was re-estimated, and it's come down just a bit to 0.28. And just as something to think about, $F_{0.1}$ is about 0.20, which is a commonly used, very conservative reference point for the fish mortality rate.

The VPA estimated population, as you can see, has come up just a little bit in the last few years, mainly due to that large recruitment event in 2002. The VPA estimated spawning stock biomass shows

that things are pretty darned flat. We really haven't come out of the woods.

The spawning stock biomass is not increasing yet, and the main reason is that those animals haven't gotten to spawning age yet, and they don't have much weight yet. Here's that age 1 recruitment index, that 2002 year class. Here it shows it as 2003, because there is a one-year lag. This is the age 1 shown as age 1, and you can see the recruitment in the last couple of years has gone up a little bit.

And, as far as the fishing mortality rates, the three different colored lines are the three different runs that were done with the VPA over the last few years. The blue is the 2000 VPA. The 2002 update is in the purple dotted lines. The black is your most recent run.

And, essentially, what is going on here is there isn't a whole lot of – essentially, we've either done the same thing right three times in a row, or we've done it wrong three times in a row, but the good part is there's not a lot of difference here, which is pretty interesting alone, because this is the first time we've done the whole assessment in metric.

We went back right to square one, redid the entire VPA – excuse me, all the inputs in metric, so at least we know we did something right here. And the blue, solid lines going across the graph horizontally – the green, I should say, is your fishing mortality target, and you can see the terminal year here was just above it. The last couple of years we were above it.

We have been above it essentially since '99. So, where does that put us for the coast-wide stock status? The northern region stocks appear to be rebounding slightly from those low '90 levels and some historical overfishing. The current

northern region regulations appear to have lowered initial harvest, but may not be capping harvest in all states in the past few years.

The southern region stocks may not have been historically overfished, but it appears that recent exploitation rates are rising, so the danger bell should be going off a little bit. And, in the Upper Mid-Atlantic Bight, you have kind of a transitional thing going on in Delaware and New Jersey.

New Jersey, it looks like they were historically overfished, but exploitation is low now, quite low. Delaware is the other side of the coin. Historically, they might not have overfished, but their exploitation rate is going up. You have kind of a blend in the middle.

And I tacked this slide on in the end here – Tom has one very similar to it – that’s on a proportional scale, but this is where we have come with annual removal trends by state over the time series, and you can see that same general trend.

The key to the story here is to look at your individual state blocks; and if they’re getting bigger instead of smaller, you might want to be thinking about where you’re going from here. And that’s pretty much it for me.

You’re going to go over the research recommendations, Tom? Ours are the same, so I’ll let Tom do that before I run out of voice here. I’ve got some recreational harvest here, but I’ll leave that until later. Any questions?

CHAIRMAN PIERCE: All right, thank you, Paul. Any questions for Paul? Harry.

MR. HARRY MEARS: Thank you, Mr. Chairman. Paul, in several of your take-home slides state by state, you indicated

recruitment seems to be increasing in Massachusetts, Rhode Island -- and I think New York, you said it was specific to age one. What’s the parameter for Massachusetts and Rhode Island; what ages are we talking about there when you say recruitment is increasing?

MR. CARUSO: Well, it’s still the younger age fish, Harry. In the index, because of the numbers of those fish, that index is all ages, but if you looked at an age one index, you’d see the same trend.

MR. MEARS: So recruitment pertains to that portion of the population younger than the spawning age?

MR. CARUSO: Well, right now the message is coming through on those graphics from the younger than spawning age fish. Yes, these fish haven’t gotten big enough yet. That’s why you don’t see it in the SSB weight.

CHAIRMAN PIERCE: Eric.

MR. ERIC SMITH: For a species like tautog, it’s interesting how much similarity there is in state-by-state survey information, but, let’s face it, it’s probably the most non-migratory species that we manage under the Commission. So, I guess I wonder has the technical group or the stock assessment sub-group or the peer reviewers commented at all on the logic of managing this on a coast-wide stock basis?

MR. CARUSO: Well, you’re right, Eric, tautog is probably right behind quahog as being a local resource. They don’t move too far. You know, we’ve been into this coast-wide management scenario for the last few years, and the ideal would be to have a VPA for every state.

Unfortunately, we go back to the “stone soup” exercise. No individual state has

neither the resources nor the data to pull that off, so we're stuck with just a coast-wide metric that we can go back and use against the FMP, but at least we've broken from the mold here in that we have at least qualitative information for each state.

This is the first time we have done that. We talked about combining data in a regional basis, say, like Massachusetts, Rhode Island, Connecticut and New York. Again, the data tends to fall apart. The more we cut it up, the less data we have, and the more the VPA won't swallow it because the error is too big.

Subsequent to this VPA run, I've done a northern region run, which also indicates that the north has still got overfishing issues. But, I think it will be a while, if ever, if we ever get away from at least having to revisit some kind of coast-wide metric to see where we're coming from and where we're going. The best we can do at least for now is come to that qualitative agreement of where each state is headed.

CHAIRMAN PIERCE: Pat.

MR. PATRICK AUGUSTINE: Thank you, Mr. Chairman. Is it then your suggestion or recommendation that you're going to continue to use the same format in the future when we're dealing with tautog? In other words, it appears to me we'll be able to build a database state by state over a period of time that will tell us, as Eric pointed out, these fish are regional, and maybe we in each of the states can then take a closer look at what we have to do in our management process. Is that the idea of what you want to try to do?

MR. CARUSO: Well, I hesitate to prognosticate on the future because it seems like in most cases it's going backwards instead of forward in the data

sense. But, I don't know if you'll ever have the data at the state level to do analytical models.

I think you'll always be kind of stuck with this qualitative level. That's just my feeling. And maybe that's all right, because tautog is not the number one species or the number two species. It's still a management call as to where they want to put their financial resources.

This might not be the fish they want to do that. But, like I said, for now – and I think the peer group will agree with it, they looked at everything. They looked at all these state reports that are attached as appendices. I won't speak for Tom, but I think they felt that right now the VPA still rules the roost. It still gives us at least a metric we can go back on.

MR. AUGUSTINE: Mr. Chairman, a follow-up. In response to your comment of these are not a number one fish at this particular point in time, it depends upon who comes to the audience at the next meeting.

The minute we cut quotas and seasons, you'll find out how fast it becomes a number one fish. We have to have tautog. Otherwise, we're going to go out of business. Thank you.

CHAIRMAN PIERCE: Any further questions for Paul? I have one. For the benefit of the board, Paul, you indicated a couple of times that there are some overfishing issues for the northern region. Would you better characterize that for the board?

I believe you said that the fishing mortality is around 0.3 last year, very uncertain. Of course, last year in the VPA has got a great deal of uncertainty to it. Our target, I believe, is 0.29? So, would you better

characterize, on behalf of the technical committee, why that is the apparent message that at least in the northern area there seemed to be some overfishing issues.

MR. CARUSO: Well, first, I wouldn't limit it to the northern area. Like I said, you're getting harvest recruitment going on. It's that wave I talked about earlier. Some states in the northern region – actually, most states – their harvest is going uphill at a time when you want it to go downhill.

The F is above the overfishing definition. I guess if you took an average, it would be quite a bit above the overfishing definition. The bootstrap estimate F would indicate that the 0.29 is on the low side of your average.

In other words, if you ran the model enough times, you get more estimates that would be higher than that than lower than that. So, I guess you could say that there are states that need some work. Their harvest is going in the wrong direction at the wrong time.

CHAIRMAN PIERCE: Would you indicate what states have a trend that requires some attention by the board? I assume that is the conclusion of the technical committee, correct?

MR. CARUSO: Yes, it is. Well, you can go back to those graphics, David, but essentially Virginia's trend is upward, and Delaware's trend is upward, New York's trend is upward, Connecticut's trend is upward, and Rhode Island's trend is upward in the last couple of years.

I did get some data before I left about 2005, preliminary estimates, and some of those same states have gone back down a

little bit, but not as much as you would hope.

CHAIRMAN PIERCE: Those trends for those particular states, does that apply to both commercial and recreational fisheries, or do we have to go to each specific state to identify where there seems to be some concern by the technical committee?

MR. CARUSO: As you know, the last time we did an addendum the management was largely aimed at the recreational component of the fisheries, because it makes up the largest proportion of the catch, and that's still true in those states, as well as overall.

It's the recreational harvest trends that are driving an increase in mortality in the states that are going in an uphill direction. Of course, the fisheries are pretty well capped right now.

CHAIRMAN PIERCE: All right, thank you. I have got one further question, and then I'll go back to the board. In preparing for today's meeting, I went over the minutes of our last meeting about a year and a half ago, and I was reminded that back in 2004 we actually had a great deal of discussion about the commercial sampling in the state of New York.

There was no sampling in 2003 or 2004, and Gordon Colvin indicated that he would prepare a memo for ASMFC, to be delivered to ASMFC in the fall of that year regarding what their plans would be for the commercial sampling. So, would you be in a position to indicate, based on the technical committee assessment, whether or not we now have samples from New York?

MR. CARUSO: I could let Lydia answer that, but you will be looking at the state compliance on Agenda Item 5, and New

York is now in compliance. They could still use a few more, but they had 163, I think, Lydia, samples last year. They're not aged yet. We were unable to use them for the assessment, but they're back in compliance with that requirement.

CHAIRMAN PIERCE: All right, good, so the assessment, therefore, was not hindered by a lack of information – very good. All right, Lance.

DR. LANCE STEWART: Paul, it is a fine point, but I was just wondering if you have any information on the live fish market proportion of landings? And recognizing that, I think this is the urgency in the mid-nineties that really created the board's actions. First of all, does that have any way of being sorted out?

And, secondly, I am really surprised that the measures that we took to close spawning seasons on this stock and eliminate the peak catches in the fall before over-wintering, that they haven't come back stronger.

Did the technical committee look at the dynamics of the real tremendous market value of the live fishery, what proportion still exists? Well, the good points to this management plan have been somewhat eclipsed to this late date. I thought that they would be rebounding far faster.

MR. CARUSO: Well, Lance, as far as the landings to that component of the market, we don't have any hard data. I can only give you, I guess, some qualitative information. I think the market is – you know, the demand is not what it was, but it's still an ongoing proportion of the market.

I am not, I guess, that concerned about it because it seems to be captured in the commercial data. You know, there is still

a pretty price tag for these things, but I think most states have done a really good job capping their commercial fishery between quotas, bag limits and pot limits and all that.

Now, to your second question, I think we're all a little – I guess we have a similar mindset that we're surprised they haven't come back as fast as have other species, but I think it's really because that recreational catch was capped for a short period of time.

But, I think if you look at the states where the catch is going uphill, most of them have a fairly liberal fall bag limit, and that's where most of the harvest is coming from. There's been some pretty good weather in October and November in the last couple of years, so those states who had the differential bag limits, say, ten or so fish in the fall, their catch has gone up.

The states that have a fairly low bag limit all year, their catches seem to have stabilized and stayed low. So I think – I mean, if we have a bad fall, their catches will go down, too. But when you have good Octobers like we have the last couple of years, that ten-fish bag limit – I think it tends to drive effort more than – you know, it doesn't increase the individual angler catch as much as it drives more anglers to harvest tautog.

And you see a lot on TV and in the magazines about it, so evidently there's still quite a bit of interest in stacking up the tautog in the fall.

CHAIRMAN PIERCE: Peter.

MR. PETER HIMCHAK: Yes, I just had one comment on the data or the lack thereof, and a point of discomfort for me has always been the lack of MRFSS coverage for Wave 1. Not maybe so much

in the northern region, but at least from the New York Bight down through Virginia, we've seen an increasing recreational fishery at least during the month of January that carries right over from November through January.

We really have no MRFSS coverage to document the recreational landings and how they have either increased or what they have done over this time period.

CHAIRMAN PIERCE: All right, Board, if there are no objections, we'll go on to the next item of business, which is the peer review on this assessment. If you recall, again, at our last meeting back in August of 2004, we actually made a decision to ask for a specific peer review of the assessment to be provided by June of this year. Indeed, that task has been accomplished. With that said, Tom, I'll turn to you and ask you for your report.

DR. THOMAS MILLER: Thank you, Mr. Chairman. My name is Thomas Miller. I am on the faculty at the Chesapeake Biological Lab, and I was chair of the peer review for the tautog assessment. Also, on the review team were Dr. Yan Jioa from Virginia Tech, Mike Murphy from the Florida Fish and Wildlife Commission, and Mike Prager from the Beaufort Lab of the National Marine Fisheries Service.

The first thing to say is really a vote of thanks to Paul and his team for a very constructive and open discussion with the review panel. The review meeting was in November in Rhode Island of last year, and we really do thank him and the other members of the committee who made presentations to us to allow us to pull together, I think, a consensus summary of the review comments.

The review has two components. As you know, the first is to come up with some status of the stock comments, and the second is then to review the assessment itself. I'll deal with the status of the stock comments first, and then move on to the review term of reference by term of reference.

The first one is that the target for this fishery, as Paul has mentioned, was an F that gives a 40 percent SPR, currently estimated at 0.29. As I'll show in the next slide, the F has been above that target for 17 of the last 24 years. And, indeed, if you look at the running average of the last three years, we are considerably higher than the target.

The other point the review panel made was that is the only reference point for which this fishery is managed. There is no overfishing limit, and there is no overfished limit against which we can determine the true status of the stock, and that was something we saw as a shortfall.

The stock status is really summarized in this slide. In the blue bars are estimates of the spawning stock biomass from the coast-wide VPA. In the orange line is the F from the VPA, and the red horizontal dotted line is the target fishing mortality rate.

What you can see there is almost a fourfold decline in spawning stock biomass from the mid-1980's to the year 2000 and a consistent pattern of F being above the target. Now, if this is a true target, we would expect F to be evenly distributed above and below, and the very fact there is a consistent bias towards these being above the target suggests that we really aren't achieving that level.

As far as the assessment itself was concerned, we went through the

assessment document, paying close attention to each of the individual terms of references. I am going to go through each one of them, give you the term of reference and give you a list of the principal concerns that the review team brought up.

So, the first one, then, the first term of reference was to summarize the landings both in the recreational and commercial fishery by region and state. It was clear to the review panel the importance of the recreational fishery for this species, it dominates the removals from the fishery.

One of the points that brought concern to us was the unusually low discard mortality that seemed to characterize this fishery. This is of importance because, as I note in the lower bullet there, two to four times more fish are released than are actually landed.

So, the importance is that discard mortality estimate of how we expand the mortality on those released fish. At the time of the review, the estimate of 2.5 percent was from one study. As Paul said in his comments, he has since found a second study that seems to corroborate that mortality rate estimate, but I think our original concerns that the low number of studies and to some extent their limited spatial and temporal coverage is something that would give us concern.

The second term of reference was to summarize the length composition and the age-length data to the highest level of resolution. This was really the first point where the review panel faced up to the strong potential for sub-stocks or latitudinal gradients in this species, and this comes about in two areas.

First, there appeared to be a low sampling frequency for lengths in some sectors, most notably from the commercial fishery.

And there were some concerns about the aging that goes into the assessment.

We did note that there had been a substantial improvement in the quality of the age-length keys in recent years. Everyone should be congratulated for the increased resolution. The development of annual age-length keys is a substantial improvement.

But there really still is not enough data to define whether there are regional differences in age-length keys, and we did note the presence of one as yet unreviewed study from, I believe, Virginia, which would suggest there were in fact strong differences in the age-length keys up and down the coast, which would have strong ramifications on the finding of the assessment.

The third term of reference was to summarize the available indices of stock abundance. We noted that the indices for this species are not really designed for tautog. Most of them are trawl surveys. Tautog are not particularly vulnerable to trawl surveys, particularly their preference for rocky habitat, which trawl surveys try and avoid.

So there was some concern about the reliability of these indices for assessing relative abundance of tautog. But, the review panel was somewhat heartened by the coherence among all the indices, suggesting that they may well be capturing some true underlying trend in abundance.

We did note, as Paul showed in his presentation, the lack of trend in the MRFSS CPUE data, and agreed with the committee that it is currently not an appropriate index of abundance, but we encourage the committee to continue paying attention to that index should it

become more strongly related to relative abundance in future years.

The fourth term of reference was to estimate the age composition in the commercial and recreational fisheries. The review panel expressed some concern over differing approaches used among the states to both age and expand those ages. Then when you apply those expansions to the data, the review panel noted a lack of internal consistency within the individual surveys, so the surveys did not appear to track age structure particularly well.

That could either be because of strong inter-annual variation in recruitment. We were unable to assess that because there is not a very good survey in any of the areas to index recruit abundance; or, it may be because of the inter-annual variability and availability of fish to the survey gear.

That gets back to this notion that tautog may not be indexed particularly well by trawl surveys themselves. At the heart of the terms of reference was the development of the assessment model and to provide estimates of the status of the stock.

The review panel spent considerable time talking about the assumption of a coast-wide stock and the validity of that assumption. Some of the life history information we were given and some of the results that were shared with us about the results from tagging studies that indicate the low vigilities of this species certainly would suggest a regional sub-stock structure.

If indeed there is regional sub-stock structure, management at the coast-wide level leads to a situation where to achieve the target coastwide, you end up having some sub-stocks that are over-exploited

and others that are under-exploited. So, that's the consequence of the decision.

The result of all our discussions was that at the moment the review panel felt that the coast-wide VPA still provided the best scientific basis for management. Having said that, there were certainly numerous issues that arose from our discussions of the VPA.

These should not be viewed as fatal concerns, suggesting that we weren't confident in the results, more areas that we would recommend the assessment team look at in the future to improve the estimates of the status of the stock.

And I list five of the principal ones on the slide for you. The first one is, again, as Paul mentioned, there is considerable uncertainty in the catch-at-age matrix because of concerns regarding reporting, concerns regarding aging, and VPA assumes that there is no uncertainty in the catch-at-age matrix.

And it is appropriate, then, for the assessment team to review other model structures, such as forward-projecting statistical catch-at-age models which don't have this assumption of a perfect catch-at-age information.

One of the other assumptions in the VPA that gave rise for concern was the assumed proportional relationship between survey abundance and fish abundance. As we noted in our comments about the surveys not being particularly well designed for tautog, per se, it may suggest that the surveys aren't directly linearly related to the abundance of fish.

And, under these circumstances, any assessment model can give rise to some serious biases, and so we would recommend that future assessments

consider that proportionality assumption very strongly.

The assessment also gives a point estimate of F in the terminal year. And as many of you know, those F estimates are very uncertain, and so the review panel felt it would be much more appropriate to take an average of the last few years to characterize the current level of fishing.

We also commented on the stock and recruitment relationship, which Paul showed you; and with the absence of that 2002 year, the relationship appeared fairly strong and fairly linear, and that may well give you a firm foundation to suggest what may be an appropriate stock biomass target to set.

The sixth term of reference was to evaluate the biological reference points to determine whether those were appropriate or not. The committee felt that the use of an F 40 percent reference point, while well grounded, may give rise to the impression we have greater precision or greater knowledge about the stock than we really do; particularly given both temporal and spatial variability in how fish may recruit the various fisheries.

Given that, the committee felt it may be better to have a reference point not as the F that gives the 40 percent, but have the spawning potential ratio itself as something that would characterize the status of the stock, so you would get a status-of-the-stock report in terms of what percentage spawning potential ratio was presently characterizing of the stock.

The other point that we picked up on, given again this discussion about the potential for regional sub-stocks status, was that we welcomed the state reports. And as Paul said, we went through and

provided review comments and suggestions on each one of those.

One of the things we noted, however, is that although the coast-wide assessment said this stock is above the target, none of the state reports did.

All of the individual state reports said we're below the target. That's somewhat paradoxical how the coastwide can suggest we're over, but every individual state is almost saying, "Not me, sir, it's someone else." So what the review team recommended is that if there is a movement towards regional or state-specific management, must be accompanied by regional and state-specific terms of biological reference points.

The final term of reference was to provide the status of the stock. As I said to you before, the status of the stock is that it is marginally above the target. The issue that arises from that is the variability from year to year in how fish recruit to the fishery, and the VPA certainly suggests that there is variability from year to year in this partial recruitment and will impact the precision at which we calculate that F 40 percent SPR.

And so determining exactly where we are with the target remains somewhat problematical. The research recommendations that came out of the review panel mirrored quite closely those that the original stock assessment produced. I have listed the five theme areas that we identified in the stock assessment review report.

You'll find for each of those theme areas, there are four or five specific recommendations that accompany each theme. So, for example, in the first one the estimate of vital rates and fishery characteristics are a series of

recommendations to go back and reconsider things like the maturity schedule, as Paul mentioned, the data used in the assessment, the dates from the 1960's or so.

And as you've seen from the history of the spawning stock biomass, this species has experience considerable variation in spawning stock biomass, and there may well have been life history shifts that have gone along with that to suggest that many of the vital rates may have changed.

There was interest in research on the reliability of fishery-independent surveys, dealing with issues like the proportionality between the survey CPUE and the real abundance of fish, the reliability of trawl surveys for a highly sedentary species that inhabits areas that trawl surveys don't typically like to visit.

We felt in general that the VPA results, while a laudable step forward, had not really characterized the uncertainty in results due to a suite of assumptions, such as proportionality, such as the variability in catch at age, and we encourage research to address that issue.

We also felt that the target, the 40 percent spawning potential ratio, is unrelated to any knowledge of what an appropriate sustainability target might be, whether or not it is maximum sustainability yield or other potential targets, and so research in that area was considered important.

And, again, this final point of this discrepancy between the coast-wide finding of the fisheries being slightly above the target, with the individual state reports, that they are all below the target certainly is worthy of more research.

To deal with those particularly, we went through each of the individual state

reports, and we offer some suggestions as to why that discrepancy may have occurred. It may well be because the individual state reports made different assumptions about how fish recruit to the fisheries.

Those assumptions may be reliable for each individual state, but they mean that the state reports are not in fact comparable with a coast-wide assessment, so those assumptions may well be the underlying reason for the differences.

How to go forward, if that is the choice to go forward with more regional assessments, there were three potential options discussed by the review team. We were presented with a variety of catch-curve analyses implemented by several states.

We went through and we did a reasonable amount of analysis, looking at those catch-curve analyses, and conclude that a lack of standardization in the partial recruitment vectors is something that currently complicates our ability to understand the messages from those catch-curve analyses.

Rhode Island conducted a surplus production model. The issue with a surplus production model is that indices of young of year were used to characterize the stock, and that is generally an unreliable way to conduct a surplus production analysis.

So surplus production models, while appropriate, and the committee certainly welcomed a mixture of models in the assessment. Because it's different models giving you the same answer, you sometimes feel more confidence in the conclusion.

But, the surplus production models are going to be limited by availability of

appropriate indices. At the sort of pinnacle of these attempts, the idea of age-structured models for the individual reasons would certainly be a direction to move towards.

But as Paul mentioned in response to one of the questions, the availability of this data for these models is certainly going to be an issue -- and I just re-emphasize again that if we do move towards more regional management. And, certainly, the sort of life history of the fish is on the side supporting regional structure.

That must be accompanied by regional reference points and a substantial increase in data availability. And that summarizes the report.

CHAIRMAN PIERCE: Thank you, Tom. Clearly, you and the rest of the peer review panel have put a tremendous amount of work into this initiative; and as chair of the board, I congratulate you for a fine job.

And, frankly, from my being involved with peer review panels related to other assessments, certainly in the New England area, I think it's safe to say that this review, in terms of its quality and in terms of its depth, rivals, if not exceeds, the nature of the peer reviews that I have had the privilege of examining, certainly over the last few years, peer reviews that have involved, you know, researchers from overseas, for example, European researches -- I am referring specifically to some federal assessments that have been done -- so, thank you very much for all of that effort. Any question for Tom? Yes, Vito.

MR. VITO CALOMO: Thank you, Mr. Chairman. I think they've done a great job of presenting the tautog to all of us and have probably drawn a picture that I'm a

little confused about only because the F rate on discarded fish is very low, and yet they don't seem to rebounding.

From my point of view, I think that seems to be troublesome, to me, during your review. I had that question to give earlier, but, you know, you had it in yours, Tom, and it came up, and I was going to ask Paul about that, but, again, it brought to mind that it seems like that might be an area of concern.

Because, if there's a lot of small fish and yet they're not increasing -- well, they're increasing very slowly, if at all, in some areas -- then something is wrong there with that discarded rate because 90 percent of them are caught by hook and line, per se, and the survival rate, you're saying, is really high on discards, it doesn't make sense to me. That's something I think we should question and take a better look maybe with a tagging program or something if we have the finances available. Thank you.

CHAIRMAN PIERCE: Bill.

MR. WILLIAM A. ADLER: Thank you, Mr. Chairman. On that discard rate, I know from experience, when I was gillnetting, I never saw a dead tautog in the net. There were other fish that might be dead for one reason or another, but the tautog, for some reason, was strong; and, if they did get into lobster traps -- they weren't too big if they got in there -- but they were lively and presented quite a problem.

Just trying to take them out of the trap and let them go, and they were gone. So, I agree with what you say is unusually low mortality for that particular fish, because those suckers were -- they were going. They were discarded, you know, and they were gone.

So, I agree with that low discard thing. I am still confused with you can get all the states saying that they're not overfishing, and yet somehow the other – I don't know where all that information goes, into what mixing bowl, but where it comes out, it's overfishing. I think that one is a confusing one.

DR. MILLER: Okay, in response just to the second point, we think a lot of the reason for that discrepancy is differences in assumptions about the ages at which fish recruit to the different fisheries. Most of the states reporting catch-curve analysis assumed much younger entry to the fisheries than the VPA did.

And under those circumstances, that will bias estimated F's that come out of the calculation down. Now, as I said, it may be that for particularly the southern regions where those catch-curve analyses were principally done, that may reflect the reality in their fisheries.

But that certainly explains the discrepancy between how you could have a coast-wide VPA saying one thing and state analyses saying another thing, because they're making different assumptions about the recruitment of fish into the different sectors in the fishery.

CHAIRMAN PIERCE: Peter.

MR. HIMCHAK: Dr. Miller, could you comment on the appropriateness of a target F that was originally in the plan where it was equal to M of 0.15 in light of your concern over what we're presently using as the F 0.3 percent?

DR. MILLER: In most cases where F equals M is used as a target, it's used because there really isn't enough information to support other potential

targets. Our concern was more of the lack of a limit reference point than necessarily the particular value of the target that was chosen.

If you have a target, the idea is that half the time you're going to be above it, half of the time you're going to be below it. The concern is that without a limit, you really don't know in those years, when you're above it, whether that presents a serious problem to you or not.

So, the recommendation more is towards the development of the limit reference point. And it may be that the current target becomes the limit, and the lower target is set, but that becomes a management decision and not necessarily a basic science decision.

CHAIRMAN PIERCE: Jeff.

MR. JEFF TINSMAN: When we started down this road back in the mid-nineties, the Commission sponsored a number of regional aging workshops up and down the coast. I know in our case, we have technical staff that does most of that work. I think most other states operate the same way.

We've had a tremendous amount of turnover. We have people doing that work with information that's been kind of whispered down the alley from mouth to mouth over those years. I know when Geoff White was still here with the Commission, I had requested that another round of those workshops be convened, and I was told there wasn't money in the Commission budget for it.

I'm wondering with that being a central potential problem here whether the Commission would have resources to address that issue?

MR. ROBERT BEAL: I try to comment on that. The action plan for 2006 does not include any resources set aside for regional workshops for tautog. The action plan does contemplate or recognizes that this board may consider initiating an addendum to do some of the things or to address some of the issues that have been highlighted as part of the peer review.

So, if an addendum is not chosen or an addendum is chosen that doesn't take a lot of resources, we might be able to cobble something together, maybe one workshop, but I don't think we can put together series of regional workshops this year.

CHAIRMAN PIERCE: Jack.

MR. JACK TRAVELSTEAD: I was going to raise the same issue that Jeff just raised on this aging. I understand that some of the Virginia data, I guess, were subject to some criticism on the aging.

Can you tell me if there were other states whose aging data was a problem, or is it limited just to Virginia; and, does the technical committee have any recommendations on how to resolve that? I certainly would support the aging workshop that Jeff has suggested needs to be done.

I wonder if we could come up with some estimates of the cost of running that type of workshop and see what the likelihood would be of each state paying their own way to that type of thing rather than expecting the ASMFC pay for all of it?

CHAIRMAN PIERCE: All right, Jack, has made a suggestion. Bob, is that something you could look into since this is an important issue.

It was indicated by Tom that the imprecision of the aging seems to have

suggested that there's a linear relationship between stock and recruitment, so if the aging needs to be improved, then that will certainly provide us with more insights into the stock recruitment relationship, assuming it's not linear. So, is that something we can look into, Bob?

MR. BEAL: Yes, absolutely, we can look into it. I hate to speculate on the fly right now as how to much it would cost per person. I don't remember how long the last meeting was. I know it was two or three days – or, just one day. So if it's just one day, you know, it's not too expensive.

I think as the discussion unfolds over the next half hour or so, and the board determines which way they want to go with tautog management -- in other words, do you want to initiate an addendum now or don't you – I think probably has a lot of bearing on how many resources or to what extent the Commission could fund an aging workshop.

DR. MILLER: Just to clarify, I didn't want to suggest that there was criticism of the Virginia aging data. It was just a recognition that when we were discussing things, that there was an appearance that aged data from Virginia looked different from aged data in the rest of the range. It may be perfectly appropriate that that's case. There just wasn't information to suggest one way or the other.

CHAIRMAN PIERCE: Okay, board members, consider that one of the conclusions by the peer review panel has been that the VPA does provide the best scientific basis for assessing the resource; and, indeed, we now have that assessment that appears to have received a thumbs-up approval from the peer review panel.

They have offered up some excellent advice regarding how things can be

improved in the future, but as it stands right now the VPA provides the best scientific basis for further assessment and then management of tautog.

With that said, as you ask further questions of Tom, please think about the next step in this process today. Recognizing that it's a short meeting, do you feel that based upon what you've heard so far, the stock assessment and the peer review report, do you feel there is enough information and enough justification to suggest that we should move forward with an addendum; and, indeed, if that is the case, what should the objectives be related to the assessment findings that have been provided. So, with that said, any further questions of Tom? Lance.

DR. STEWART: Thank you, Dave. I was just pondering the lack of rebound success here with the management measures, thinking of several observations I've made under water over, you know, hundreds of hours of tautog, there's some key elements that may be missing.

One is the behavior of the species that is essential for the spawning process to occur, and that I mean by a large size aggregation and assemblage, because these are wrasses that shoot up to the surface of the water and spawn en masse.

And, as I've seen it happen over the years, it's almost maybe even a learning process of the small size labrids, that the larger adults have to be in that assemblage. How we're going to manage this is another issue, but I think it may be a very real characteristic of the species, that although you get them to a spawning stock biomass, the behavioral assemblages and lack of some of the larger sized classes may inhibit the success of fertilization even though you have gravid females.

So another thing to really look at is the fecundity differences as they mature in two or three age classes. There's tremendous increases in the female stock. And another extremely important point that I don't see reflected well in the review – and it's nobody's fault because a lot of it isn't in the data or in the reviewed manuscripts and all – is the extreme dependence on juvenile young of the year for shelf substrate, not just pilings, but shelf substrates.

And some of the parallels that occur in the Chesapeake and especially Long Island Sound, where we've had a tremendous reduction in oyster reef habitat – Long Island Sound, for example, with the MSX and Dermo in the nineties, just as we're trying to correct tautog populations, the acreage of coverage went to less than one-half.

Now, we're talking 40,000 acres of culched ground. So, some of these things may be in play and how the management board addresses these, because they aren't quite, you know, mathematically specific, may be important. So, strange things like even having a maximum like the tautog may be very important.

CHAIRMAN PIERCE: Okay, board members, please, again, specific questions of the presenters, Tom and also Paul; and after we finish up with those questions – and I hope that will be very shortly, because we have lot more to get accomplished here this afternoon.

I would entertain a motion to accept both the stock assessment peer review panel reports. Pat.

MR. AUGUSTINE: Thank you, Mr. Chairman, I was going to ask if you were looking for a motion; and then as a follow on, I was going to ask for clarification on

your point of talking about developing an addendum or an amendment.

Prior to that, I would move that we accept the 2005 stock assessment report and the peer review panel report.

CHAIRMAN PIERCE: There a motion and a second, second by Vito Calomo. Any opposition to the motion? I see none; the reports will be accepted by the board. Yes, Pat.

MR. AUGUSTINE: And a follow on, Mr. Chairman. What specifically did you have in mind when you mentioned a possible follow-on action at this time? I mean, in view of the fact we don't show any of that as a part of our agenda, would you think of something in terms of our next meeting that should be looked at for the next meeting of the Tautog Committee?

CHAIRMAN PIERCE: Yes, in light of the shortness of the agenda and the nature of the agenda itself that went out to the public, I would be surprised if there were any specific motions for action to pursue an addendum.

However, if there is anything that has said here by Paul and by Tom that would suggest an addendum is needed, we can certainly benefit from some brief discussion regarding what that action might be; and, specifically, what's the justification for it.

But, clearly, we'll have to have a specific board meeting devoted to that task. And, again, it's a two-hour meeting, and that's the way ASMFC board meetings tend to be, two hours, in contrast to council meetings where they go the whole day.

So, I must admit that with tautog and the importance of these particular reports,

we're a little bit short-changed in terms of the amount of time we have to devote to this. So with that said, any further questions?

All right, is there any board member who would care to, once again, follow up on my suggestions? Yes, Jack.

MR. TRAVELSTEAD: Well, I'm going to go back to the aging workshop. I think at a minimum the board should seek to have some type of workshop some time this year. I think it would be appropriate to ask staff to investigate the cost of that, the availability of funds, and contact all of the member states to see if they could contribute to the cost of that workshop.

CHAIRMAN PIERCE: All right, thank you, Jack. Is there any board member who would object to that course of action? I see none; therefore, Jack, we'll move in that direction. Yes, Bruno.

MR. BRUNO VASTA: Following up what Jack has just recommended, I think some of the points that Lance brought out should be definitely brought up by the committee itself, because I think that's very important, particularly the one on the habitat. Something has got to be wrong somewhere. We do everything and we just don't see the larger ones going on.

CHAIRMAN PIERCE: All right, I see no further desire on the part of the board to follow up on any further way regarding the reports that have been given. There were no specific recommendations made by the technical committee.

Some concerns were expressed, some warnings given, but no specific recommendations for board action. And, since I see no desire on the part of the board to move forward in any way with regard to that particular report and peer

review, let's go on to the next item on the agenda.

ANNUAL REPORTS

That would be the annual reports. Action is required on these reports. The first one to be provided is by Lydia, and in particular it's the 2005 Plan Review Team report on state compliance.

MS. LYDIA MUNGER: Thank you, Mr. Chairman. I'm actually going to present one slide that summarizes both the PRT Review of State Compliance and the Fishery Management Plan Review for 2005.

Both of these reports cover the 2004 fishing year. It's of note that no compliance issues were pointed out the Plan Review Team in the review of state compliance.

And as far as de minimis status, according to Addendum I, a state has to prove that its commercial landings in the most recent year for which data are available did not exceed the greater of 10,000 pounds or 1 percent of the coast-wide commercial landings to qualify for de minimis status. And as you know, states must request de minimis status annually.

The Plan Review Team reviewed requests from the states of Delaware and North Carolina and found that both these states meet the criteria for the calendar year 2004. Both states have formally requested de minimis status for the 2005 fishing year.

It should be pointed out that these calculations had to be based on the 2003 commercial landings because at the time these reports were prepared, that was the most recent year for which coast-wide total landings data were available.

Those are the conclusions of the Plan Review Team, so no compliance issues and Delaware and North Carolina qualify for de minimis status. At this time, I'll take any questions.

CHAIRMAN PIERCE: Any questions for Lydia? All right, there is no action needed except, as she indicated, Delaware and North Carolina did have de minimis status last year. This needs to be renewed for this year. Does anyone care to make a motion regarding that de minimis status for those two states?

All right, we have a motion by Bill Adler; seconded by Pat Augustine. Is there any objection to this de minimis status for Delaware and North Carolina?

The motion would be provide Delaware and North Carolina with de minimis status for 2005. A little after the fact, but, okay. It's been a long time since we've had a board meeting. So, that is the motion, and it was seconded. Any discussion on the motion? Any opposition to the motion? I see none; therefore, the motion passes. Bill Adler.

MR. ADLER: Okay, that's fine, 2005. Are they requesting it for 2006, and are they supposed to do it now or at the end of the year; or, when are they supposed to do that if they're requesting 2006?

MS. MUNGER: The annual compliance reports are submitted, so the 2005 compliance reports covered the 2004 fishery, and the board did not have the opportunity to meet in 2005 to review this. So, when the reports are submitted in 2006, they will cover the 2005 fishery and request de minimis for the 2006 fishery. So, there's sort of a year lag.

CHAIRMAN PIERCE: All right if there is no further action required on state

compliance, and it doesn't seem that there is, let's go on to the next item of business, which is the 2005 review of the fishery management plan.

MS. MUNGER: I covered it all.

CHAIRMAN PIERCE: You covered it all, all right. Therefore, we have to just approve this particular review. **I will entertain a motion to approve the review of the 2005 FMP. Any motion? Pat, thank you very much; second from Harry Mears. Any opposition? I see no opposition; therefore, the report is approved.**

MR. SMITH: Mr. Chairman, since you just picked up a little bit of time in the agenda, I'd like to ask Lydia to explain her last point for me. It seems to me that de minimis requests come in anticipation of the fishing year?

If what Lydia said was right and the report for the 2005 year, the plan compliance report is due momentarily, and that would include the request for de minimis in 2006; that would keep us on track with it. So I think the question about 2006 is a good one, or else I'm missing a beat on how we do this.

MS. MUNGER: The states are required to submit their annual compliance reports by May 1st of each year. On May 1st, 2006, each state will submit a report that covers the 2005 fishery, but request de minimis for the 2006 year.

MR. SMITH: Okay, that's in anticipation of the season?

MS. MUNGER: Yes, the only thing here is the board didn't meet in 2005.

CHAIRMAN PIERCE: All right, thank you, Lydia. I'll take this time to take the

opportunity to make a couple of points regarding state action. Clearly, at this point in time, the board is not going to move forward with any specific action regarding additional management measures for tautog.

I think it's obvious that there will be a need for all of us to reflect on the nature of the review that's been provided, the assessment itself, and maybe there will be some proposed action at our next board meeting, whenever that may be established.

However, for the benefit of the board, I should make it clear that the Commonwealth of Massachusetts, working with our Marine Fisheries Advisory Commission – Vita Calomo, by the way, is chairman of that commission. Bill Adler is a member of that commission as well – that we will be exploring some options for 2007 regarding management measures for the commercial fishery and the recreational fishery.

We will be reflecting on the specific advice provided to us by Paul Caruso. Obviously, Paul is a member of my staff. After further discussions with him, we may appear before the board at our next meeting with some indication as to how we intend to proceed in 2007.

It's not board mandate, certainly, but as already indicated by the peer review panel, and as noted by a few members of the board here today, that, indeed, we are dealing with a fish that does not move too far afield; that the tautog that are in Massachusetts' backyard are essentially in Rhode Island's backyard, and it would behoove us to work very closely with Rhode Island to address these specific issues that have been raised through the assessment and the peer review itself.

All right, with that said, we now have elect a vice-chair. I would entertain a nomination. Eric.

ELECTION OF VICE-CHAIR

MR. SMITH: Mr. Chairman, I nominate Professor Pat Augustine for vice-chairman of this group. I do have one reservation in offering that nomination, and if there is a second, I will offer that –

MR. CALOMO: Second.

MR. SMITH: My reservation is if Mr. Augustine gets – Pat, I just nominated you to be vice-chairman, but I am now speaking against my own nomination of you, though. My only concern, Mr. Chairman, is if Mr. Augustine is elected, who will we get to offer motions?

CHAIRMAN PIERCE: All right, we will have to deal with that thorny issue as events unfold. Are there any other nominations for vice-chairman? If there are no further nominations, I would declare, on behalf of the board, that Pat Augustine has been elected vice-chair by acclamation.

ADVISORY PANEL NOMINATIONS

All right, there is one other item of business at least. There is one item that I am aware of, and as I indicated at the beginning of our board meeting, there are advisory panel nominations to consider. Lydia, would you review what those nominations happen to be?

MR. MUNGER: Thank you, Mr. Chairman. A packet just came around to each of you detailing the current advisory panel nomination. The new nominee is Michael Geary, a recreational fisherman from Rhode Island, and I submit that for board consideration.

CHAIRMAN PIERCE: All right, we have one nomination for the advisory panel – you have the document before you – Michael Geary from Rhode Island. I'll entertain a motion to nominate Mr. Geary for the advisory panel. Bill Adler.

MR. ADLER: I move.

CHAIRMAN PIERCE: Okay, there has been a motion to approve the nomination for Michael Geary to be on the Tautog Advisory Panel. The motion has been made and seconded.

MR. SMITH: I have no intention of speaking against someone that I don't know, but I will note for our process that, normally speaking, the form is submitted by one of the commissioners, I believe, and is always signed off on by at least with the other two acknowledging by a phone ballot, and none of that has been done, which raises the possibility that we have a fellow who really wants to be involved in this madness, but the process wasn't followed.

I just kind of wonder about that. On the other hand, I don't want to hold up a good guy, if he's a good guy, from being involved. I would be happier if one of the Rhode Island commissioners had signed off on the nomination form.

CHAIRMAN PIERCE: Okay, Tina.

MS. TINA BERGER: Well, since no one from Rhode Island is here to speak for themselves, the nomination form was submitted to me by Mark Gibson, so I'm assuming that it had the consensus of the commissioners from Rhode Island.

CHAIRMAN PIERCE: Okay, thank you. Is Mr. Geary a non-traditional stakeholder: I don't think he's non-

traditional, right, he will be a traditional stakeholder. Therefore, the signature is required; however, Tina, has clarified that Mark Gibson, our beloved brother from Rhode Island, has supported Mr. Geary.

Therefore, it would seem logical for us to move forward. Yes, Bill.

MR. ADLER: I'll say provided the Rhode Island contingent signs off on it.

CHAIRMAN PIERCE: The staff will endeavor to get the signature from Mark Gibson, which I assume will be easily obtained. I am not sure if we had a second, but Pat is offering a second, if there was none, so, okay, Pat Augustine would second.

All right, we have a motion and it has been seconded. Any further discussion regarding this nomination? I see none. Any objections to this nomination? I see none; therefore, this will be an action of this board that Mr. Geary is now a member of the Tautog Advisory Panel.

All right, is there any other business to come before the board? Yes, Bob.

OTHER BUSINESS

MR. BEAL: No other business, just a question. Earlier we had a brief discussion on whether an addendum or an amendment was appropriate. I don't there was resolution on that issue. Is the board anticipating another meeting in May to fully discuss that issue; or is there a request for additional technical analysis or staff work prior to that occurring?

CHAIRMAN PIERCE: I turn to the board and look to you for any direction. Eric.

MR. SMITH: I hesitated to get involved in that only because it may just have been – I'm getting hung up on process here twice in a row – the question was should we do an addendum; and if so, why?

And to me the question is what is the need? And if we identify a need, then we figure out what kind of vehicle is right for us. I mean, Lance made a great point. I mean, I don't know anybody who has watched fish behavior in the wild more than he has.

Whether or not that observation is actually what the fish are doing, that would suggest that you would want to do a slot limit of some kind to be able to have a certain guaranteed portion of large fish out there.

Obviously, that kind of observation needs the research to prove that is actually necessary. Those are the kind of things that were running through my mind. Bruno had a good point, and it just didn't elevate up to get going in terms of endorsing the shell habitat thing.

So I heard a couple of ideas, but I didn't hear any concrete proposal that we would say, yes, it's something we really have to pursue right now. The only other thing I heard in the stock assessment and the peer review is we seem to be bumping a little bit over some of the places we want to be.

The three-year mean of the fishing mortality rate is like 0.38 and the target is 0.29, so we are up a little. And, whether that is ominous or not; well, it probably isn't. And whether we've had enough time for the good recruitment in 2002 to actually manifest itself in a slow-growing fish; well, probably not.

But to me that's watch and wait and don't lose sight of it, you know, pay attention to it, but it doesn't mean we have to act

between now and May. That was my take-home message on all of it. There are some things there that we ought to be watching, but I didn't think that we needed to start a management action.

MR. TINSMAN: I think we all heard the same uncertain message delivered today, but I think failing any recommendations from the technical committee or the plan review team, I'm inclined to continue the status quo rather than kind of wandering in the wilderness.

I think the function of those committees is to provide their best judgment on guidance and any changes that need to be made; and lacking that, I am not quite clear what the board is supposed to do essentially on a stock assessment issue when we're not stock assessment specialists.

CHAIRMAN PIERCE: All right, for the benefit of the board, I was just reminded the plan review team's responsibility is not to provide recommendations for specific management actions. I must admit that sometimes I get my plan team review team charges mixed up since through the council the plan development teams have quite bit of say regarding recommended actions for further management, but in this particular case, that is not the role of the PRT.

It really is up to this particular board to make those sorts of decisions, again, to react to the assessment information that has been provided and to be guided by any recommendations the technical committee may make, and at this point in time there are no recommendations from the technical committee. Pat.

MR. AUGUSTINE: Thank you, Mr. Chairman. However, in the September 2005 document, it did indicate in here under Section 4, Page 4, status of assessment advice, is stock status was last

reviewed by the technical committee through an updated coast-wide VPA run performed in the summer of 2001.

After reviewing all results, the technical committee recommended that fishing mortality rates be reduced by 29 percent or exploitation rates by 25 percent to meet the final plan target and to begin rebuilding the stocks.

The next stock assessment will be available in 2006. So, can we assume, then, that what Paul and Tom presented today, Paul in his report and Tom in his follow up with the peer review, that that is no longer a valid assessment?

CHAIRMAN PIERCE: Paul is nodding yes in the affirmative. Yes, so, Paul, I turn to you and I ask you a simple question. Have I correctly characterized the nature of the technical team's discussion and the fact that there is no specific recommendation for board action? There are some warnings and that's the extent of the advice that is being provided; correct?

MR. CARUSO: David, I could be wrong, but in my ten years as a technical committee membership for various species, I don't ever recall a technical committee recommending a management action. I mean, we certainly could dwell on it and give you one, but I don't think we've ever been asked nor have we proposed a management action.

CHAIRMAN PIERCE: I meant are you citing some specific assessment information – are you providing any specific assessment advice that would warrant the board considering some specific action to address that advice?

MR. CARUSO: On that count, I would say, yes, we have, that you're overfished. You have an overfishing definition and

you're above it, and you've been above it for several years.

CHAIRMAN PIERCE: Clarification. Are we overfished or are we overfishing?

MR. CARUSO: Overfishing.

CHAIRMAN PIERCE: So we're not overfished, but we are overfishing, and the overfishing is – again, to make sure we understand, the overfishing is based on a fishing mortality rate that was estimated from the VPA for 2005?

MR. CARUSO: You can either use the terminal rate, or you can use the three-year average that the peer review panel has accepted. You are overfishing. And as Tom pointed out, there is no overfished definition.

CHAIRMAN PIERCE: Again, in the interest of clarity, would you provide the numbers that – Paul, you provide your number of fishing mortality, and, Tom, would you provide your estimate of fishing mortality as currently assessed and reviewed, so we can, once again, compare that where we're supposed to be.

MR. CARUSO: Terminal year estimate, 0.29, and, Tom, for the three-year estimate.

DR. MILLER: For three years, 0.384, I think.

CHAIRMAN PIERCE: All right, so, it does become a bit confusing, Board, doesn't it? The peer review indicates that right now we appear to be at 0.38 for fishing mortality. Paul is indicating that – did you say 0.30 or – sorry, Paul, 0.38.

Which number should we use; what is the fishing mortality rate that we should be using as a comparison with what the target is now?

MR. CARUSO: Your FMP uses the terminal year estimate and has, but I would suggest that either is appropriate. They both tell you the same answer.

CHAIRMAN PIERCE: Give me a number, Paul. What are the numbers, Paul?

MR. CARUSO: You just got them, 0.3 or 0.38; they both –

CHAIRMAN PIERCE: All right, so we are supposed to be at 0.3; correct?

MR. CARUSO: Point 28; 0.28 is your target.

CHAIRMAN PIERCE: All right, so we are supposed to be at 0.28, and we are now at 0.38; correct?

MR. CARUSO: That's overfishing.

CHAIRMAN PIERCE: All right, we have overfishing. Okay, Board, that is where we are right now, our mortality rates as estimated by the technical people, so is there any desire by the board for further action on this matter? Eric.

MR. SMITH: I have no intention of proposing further action unless I hear more debate in the next 30 seconds until we're done. But in the heat of all of that, coffee breaks at National Marine Fisheries must be a hoot, because Lydia was keeping you guys from each other's throats. I thought that was great.

What I heard was the new target is 0.28. The plan says manage to the terminal year F, which is 0.29. And, between either the stock assessment committee or the peer review panel, I'm not quite certain what they're saying.

Probably a better way of dealing with it is to manage on a three-year average, which is 0.384, but that's not what the plan says.

Now if we want to be a little proactive here, we could say, well, let's do that anyway, and let's each state go home, which, Mr. Chairman, is what you had said earlier, let's go home and look at these numbers and figure out if there is something we can do for our local stock that is going to benefit it, and that would be about a 30 percent reduction in F, if you want to manage to the three-year average.

The plan doesn't say we have to. In fact, somebody would probably shoo us if we just unilaterally were going to do that instead of this, and the plan actually says use the terminal F.

So, I would suggest we don't need a management action, but we need the states to look at their own situation and decide what they want to do. Having said that, is there a retrospective pattern in the tautog – no, okay.

So, then, that means that the terminal year or the three-year average isn't a so-called bias waiting to happen as it often is with flatfish. It just may be the three-year average takes some of the inter-annual uncertainty out of there.

ADJOURN

CHAIRMAN PIERCE: All right, thank you, Eric, you've done a great job characterizing where we stand right now. Thank you very much. All right, we have run out of time, so unless there is an objection, I will adjourn this meeting.

(Whereupon, the meeting was adjourned at 2:00 o'clock p.m., February 20, 2006.)