NATIONAL MARINE FISHERIES SERVICE

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PUBLIC WORKSHOP)
)
Re: Proposed Critical Habitat)
Designation for the Threatened)
Southern Distinct Population)
Segment of North American)
Green Sturgeon)
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Thursday, October 16, 2008

9:00 A.M. - 3:30 P.M.

JOHN E. MOSS FEDERAL BUILDING
650 Capitol Mall
Sacramento, California

REPORTED BY: SANDRA L. HOPPER, CSR No. 7110

A P P E A R A N C E S

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NOAA FISHERIES

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THURSDAY, OCTOBER 16, 2008, SACRAMENTO, CALIFORNIA

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MS. NEUMAN: Okay. So the purpose of today's workshop is to get some input from you all about our proposed critical habitat designation, but also to explain the process that we went through to arrive at our proposed critical habitat designation and to highlight some of the uncertainty that still exists and hopefully to come up with a list of priorities of what can be done between now and the time of our final critical habitat designation that will, first and foremost, conserve and protect the southern distinct population of green sturgeon and also not put undue economic stress on the areas where critical habitat designation has been proposed.

We said in our Federal Register Notice that we would hold a public hearing if anyone so requested. We did not receive any requests for a public hearing until Ellen sent a letter yesterday to our regional -- our assistant regional administrator requesting a public hearing. I'm pretty sure we will be able to do that. I'm not sure when it will be. And so we'll -- we'll have to figure that out, but let's view today as an opportunity to also have this discussion. We're calling it a workshop because we

didn't have a request for a public hearing. If we do this again, instead of "public workshop," I'll probably have "public hearing" slides. You know, we want that to be a fairly informal discussion.

I'm going to give a presentation that talks about how we got to this point in time, and then we'll open it up to a question-and-answer period. We have a relatively small group, so we'll probably all stay together. And we'll form a little NMFS panel up here with me, David, and Doug sitting up here and trying to field some of the questions that you all have for us. Then we'll have an official public comment period where we'll ask you to come up and state your name, and you'll be speaking to Sandy directly at that point, and you can sort of give your formal public comment, although, everything that's being said today will be recorded. So even our question-and-answer period, especially if we stay together in one group, will be a part of the public record.

So today I'll give some background on green sturgeon. Many of you may not need it, but some of you may. So we'll go through that briefly. I'll give some -- mostly definitions of what critical habitat is according to the Endangered Species Act.

I'm talking about the process that we use for developing the proposed critical habitat designation. I'll give a summary of what we ended up with and talk about some of our additional data needs and uncertainties.

MR. KLIMLEY: Melissa, would you like to use a pointer?

MS. NEUMAN: Sure. I think that will be better since I'm walking up to the screen, anyway.

MR. KLIMLEY: Sure.

MS. NEUMAN: Do you just carry that around with you?

MR. KLIMLEY: I do.

MS. NEUMAN: Wow. Cool.

(Multiple speakers.)

MS. NEUMAN: They didn't stop you at the scanner?

MR. KLIMLEY: They didn't. They didn't.

(Multiple speakers.)

MS. NEUMAN: Okay. So let's start with adult southern DPS green sturgeon entering the -- through the Golden Gate Bridge and moving up the back Sacramento River to spawn. This typically happens between March and about June, but the peak is May to June. And we're not sure what the annual success

rate of spawning is; it likely varies depending on the environmental conditions.

The adults move up the river. At this point in time -- I'm sure Peter and his group knows a lot more about this -- but we suspect that southern DPS green sturgeon are spawning somewhere above the Red Bluff Diversion Dam, but perhaps more recent data suggests they could be spawning below the Red Bluff Diversion Dam as well. But no doubt it's the upper Sacramento River. And -- and that -- you know, it would extend up to the point that they can't move any farther up river along the Sacramento, and that would be at the Keswick Dam.

We know that the eggs are spawned amid rocky bottom. There are a couple of papers out that suggest that spawning may occur amid different rocky bottoms than what the larvae that hatch out actually prefer. And so this is an interesting point. It's a nuance of the exact type of substrate that the different life-history stages require. The egg stage may require a slightly different type of substrate than the larvae and the juveniles. And this is a nuance that we haven't quite figured out yet, but it would be great to try to work on that a little bit more and get some very specific habitat

maps of what the Sacramento River, what the lower Feather River, what the lower Yuba River actually look like in terms of the micro-scale substrate.

We know that there's no pelagic dispersal stage of the larvae and, from laboratory experiments largely conducted at 20 degrees C, can be lethal to the larvae.

Leaving that stage, there is another stage of life that obviously is critical to overall population viability but we know very little about where juvenile, during the one to four years that they spend in freshwater before they exit out the Golden Gate -- Jeff McClain, who used to work for the National Marine Fisheries Service, put together a table for us a couple years back that -- that attempted to look at the temporal and spatial distribution of juvenile green sturgeon when they're in the San Francisco, Suisun and the delta. And the major point was that juveniles are everywhere at all times of the year. And this is -- this is kind of tough for us because we're, again, not able to pinpoint any specific areas in the bays and delta that the juveniles may be using or not using. This could be an area where, again, some feedback from you would be helpful.

Juveniles exit out through the Golden Gate, again, anywhere between one to four years after they hatch out as larvae, and they move out into the coastal ocean. And green sturgeon live to be, we think, approximately 70 years old. And so most of an individual's life is spent out in the coastal ocean. This makes them unique among other sturgeon species that any one individual's life is primarily spent out in the ocean. It takes anywhere between 10 to 15 years for those -- what we call the sub-adult stage to mature. So they're out here in the coastal ocean before they will return to their -- to their estuary and river that they were spawned in. And they -- I believe that the latest evidence suggests that any individual may spawn every two to four years. So there's some range. We don't think that individuals are -- adult individuals, once they mature, are returning every year to spawn. It's somewhere between every two to four years to spawn. Now, when green sturgeon are out in the coastal ocean, we have figured out based on bycatch information from fisheries and also hydroacoustic tagging studies that green sturgeon do not seem to travel beyond the 110-meter-depth contour. So they truly are staying coastal. They don't seem to have this depth barrier

according to what we know. And, also, according to the hydroacoustic data, we know that once sub-adults leave through the Golden Gate that they undergo a very extensive and directed migration to the north. Now, I should probably couch that with this one little tidbit, and that is that most of our detection arrays are set up to the north of the Golden Gate Bridge. We only have one array that's set up to the south -- or a couple of arrays that are set up to the south. I think the southernmost array is in Carmel. And so when we say that a directed northward migration is occurring, we certainly know that a large component of the population is doing that, but there may be some component of the population that we don't know about that actually is moving south, maybe a smaller proportion of the individuals.

But they undergo this extensive migration that takes them up to estuaries in northern California, Oregon, and Washington where they form large concentrations during the summer first, and then they appear to exit those estuaries and continue to move north, as far north as southeastern Alaska's northernmost array in Grays Harbor, Alaska, which is just off of Glacier Bay National Park. And even though that particular array is not designed for

detecting green sturgeon, we have a couple of detections there. The last bit of data that was transmitted to us was through 2006. So we have not received any data from that array since 2006. Steve Linley in our Santa Cruz office is working diligently to try to retrieve some of that additional post-data to see whether there are any other southern DPS green sturgeon detections that have occurred along the Alaskan coast.

MR. KLIMLEY: The fish were tagged in 2002 and 2003, and so the tags are pretty much --

MS. NEUMAN: Spent?

MR. KLIMLEY: -- spent.

MS. NEUMAN: Okay.

MR. KLIMLEY: Yeah.

MS. NEUMAN: And we do, again, based on bycatch information along the British Columbian coast, know that green sturgeon do occur along the British Columbian coast after the summer months, so through the fall. So it lends greater support to the fact that, yes, once they leave these estuaries where they appear to be aggregating and feeding during the summer months, they move north, perhaps as far north as Alaska. And then they engage in a reverse migration after the winter months. So they're

spending the winter in the north -- somebody's got to straighten them out. Don't you go south in the winter? But southern DPS green sturgeon seem to go north in the winter. And why they're doing that, we're not exactly sure of at this point in time. It would be great to try and pinpoint some of those habitat parameters, some of those -- some of those things that -- you know, basically behaviors they're engaging in while they're in those areas. We're just uncertain what they're doing.

They start their southward migration in the spring, and then some of them will move back into the estuary to spawn. Some of them, especially if they're immature, perhaps hang out off the coast. So that's just a little bit about the life history.

MR. WOODBURY: If I could just add one thought.

MS. NEUMAN: Sure, David.

MR. WOODBURY: Primarily a sturgeon is a benthic-oriented species. When they're foraging, they're foraging on the benthic. But we've got evidence that when they're migrating, they come right up at the surface and migrate at the surface. Whether that's true in the ocean or not, I don't know. But --

MR. KLIMLEY: But that's true of most animals when they're migrating.

MR. WOODBURY: They'll come right up. So there is evidence that when they migrate, they're up at the surface, and this is in the upper few meters of the surface.

MS. NEUMAN: Pete, did you want to add something?

MR. KLIMLEY: Which is true of most ocean migrators. They do swim -- but they may also do this yo-yo swimming, going up and down in the water column.

MS. NEUMAN: Okay. Thanks.

And for those of you who are familiar with our 2006 listing and the "not warranted" decision that came before that, you'll know that based on genetic information largely collected by the folks at UC Davis and information about spawning site fidelity, we know -- or we think we know that there are at least two distinct population segments from northern DPS that spawns in two rivers from north of the Eel River. Those would be the Rogue River in Oregon and the Klamath River in California; and a southern distinct population segment that currently spawns only, as far as we know, in the Sacramento

River.

Our 2006 listing decision listed the southern DPS as threatened, and we issued a "not warranted" decision for the northern distinct population segment, although that distinct population segment remains on our Species of Concern list. It's important to note that although this segregation north and south is -- it only applies to the spawning rivers. Once green sturgeon leave through the Golden Gate Bridge and enter the coastal ocean, they are intermingling with their northern DPS counterparts in a number of different places, not only out in the ocean but also in some of the estuaries that they visit as they move north. So just an important point to remember, and it's something that's difficult for us to deal with because morphologically, there's no distinction between these two DPS. It's a little issue that we're still trying to grapple with in terms of enforcing all of these regulations. And I think I already covered distribution.

I already mentioned in April 2006 we listed the southern DPS as threatened and made the Endangered species Act.

September 8th of this year, we issued a proposed critical habitat designation for only the

southern DPS.

November 7th of this year is when the public comment period officially closes. But, again, we're getting some requests for extensions on public comments. But this is our limitation right here: As of June 30th, 2009, we must, because of a court order and our statutory deadline, issue a final critical habitat designation in the Federal Register. What this means is, the bottom line for us is, if we don't do it, we'll get sued. And nobody at NMFS wants a lawsuit. And, you know, I'm not sure how we will deal with this because it sounds like a lot of you will need much more time to gather your thoughts and information. And so we're going to have to continue our discussions about this deadline. Because if we don't meet it, we will have a court case on our hands.

What is the definition of critical habitat as defined by the Endangered Species Act? Critical habitat are specific areas within the geographical area occupied by the species on which are found physical or biological features that are essential to the conservation of the species and may require special management considerations or protections.

For those of you who have heard NMFS folks

throw around the term "essential fish habitat" or "essential habitat," this is a completely different thing. Essential fish habitat is something that's issued under the Magnuson-Stevens Act; critical habitat is specific to the Endangered Species Act. Okay? Two different things.

You can see here that the standards for defining critical habitat are pretty low, actually. You need to show that there is some element of the habitat that green sturgeon need in a particular area. And then please, you know, cue into the word "may." We as a Critical Habitat Evaluation Team need to decide whether that particular characteristic of the habitat may require special management for protection -- "may." Okay? So the standard is not very high. So that's why you'll see as we move forward that it's been very easy for us to work with uncertainty and really use the best available data that we had in order to come up with this rule. We don't have a higher standard.

The Endangered Species Act also says something about unoccupied areas with regard to critical habitat. And it says, "Specific areas outside the geographical area currently occupied by the species" -- the Act doesn't say that, but that's

what it means -- currently occupied by the species -- "upon a determination that such areas are essential for the conservation of the species may also be designated."

So now I'll take you through our process for coming up with our proposal. The first was to identify critical habitat, which areas -- which specific areas within the general geographic area occupied by the species contained some habitat feature that we felt was important for the conservation of the species and which may require special management or protection.

So the first thing we needed to do was determine the geographical area occupied by the species. At this first cut, all we did as a group was determine where green sturgeon occur, not just southern DPS. We combined the information for both the DPSs and determined where do green sturgeon occur. We had varying levels of information, varying quality of information. But for things like anecdotal newspaper reports where a -- you know, we had information from a newspaper back in 1920 that a sturgeon was caught in the San Joaquin River, but it didn't say which species, we did not include that kind of -- that level of information in our -- in

defining our geographic area occupied by the species. So you'll see in a couple of iterations of our maps, the San Joaquin system is not included as an area that is -- that was ever occupied by the species. And so we put this information together --

MR. KLIMLEY: By the way, we are trying to get an array of monitors up there to find out in the future. So maybe we can answer that question better.

MS. NEUMAN: Great. Great.

Okay. And our geographic area occupied by the species was based on the fishery-independent surveys, fisheries' records, sightings, and literature primarily.

Then what we did was we took a look at this large area, and we divided them up into specific areas, first making a cut between freshwater estuaries and the coastal ocean, and then making smaller units even within those areas depending on a couple of different criteria that we used that I really can't get into right now, but we can certainly field questions on that. And, again, what we needed to show was that those areas contained at least one primary constituent element, one feature of the habitat that we considered to be essential to the conservation of the species and at least some

indication that those PCEs may require special management for protection.

This is a map showing the geographical area occupied by the species. So you'll see it includes all of coastal Alaska out to the 110-meter-depth contour and the coastal ocean all the way down to the California/Mexico border, again, out to the 110-meter-depth contour. It includes a variety of estuaries from Washington, Oregon, and California, and a few rivers in those same three states.

MS. JOHNCK: By the way, Melissa, you're skipping some slides on purpose?

MS. NEUMAN: Yes. You know, the presentation that I'm handing out to you is a much longer version than what I can talk about today. This version has something like 36 slides. It's for you to take home and get some more information from if you need it. This is an abbreviated version --

MS. JOHNCK: Okay.

(Multiple speakers.)

MS. NEUMAN: -- just because I'd be talking for two hours --

MS. JOHNCK: I understand. Some of these are also important considerations, of course, that are missing discussion -- the economic impacts for the

critical habitat designation.

MS. NEUMAN: We're definitely going to get to that in just a minute.

MS. JOHNCK: I just want to make sure -- okay.

MS. NEUMAN: Yeah. And we can answer questions, too, about that in just a minute. We're just talking about the biological considerations --

MS. JOHNCK: Yeah.

MS. NEUMAN: -- right now.

MS. JOHNCK: Okay.

MS. NEUMAN: We'll get into the economic stuff in a minute.

This slide shows you what we consider to be our primary constituent element in each of the three different types of water habitats: Freshwater, coastal bay estuaries, and coastal marine waters. You'll note that there's repetition, and that as you move out into the coastal ocean, the list sort of dwindles down. You'll also note that this primary constituent element might seem vague to you. But I should point out that we have -- it's a small record so far at NMFS for critical habitat designations, and that the primary constituent elements identified for other species including large whales are even less

specific in some cases. I would say for green sturgeon we're right on par with what other critical habitat designations have identified. If we could have gotten more specific and said for food resources, ghost shrimp, we would have done that. But the reality of it is, based on a study that we just received, I guess, about six months ago from a group who looked at food habits of green sturgeon in Willapa Bay, we know that they eat quite an array of different food types, not just benthic invertebrates but also fish species. And so food resources, in our rule you'll see we string out a list of those that were identified in that food habit study. But it's not just one food resource that we think that green sturgeon are eating.

I don't think I'm going to spend a whole lot more time on this. You can see what they are, things like food resources, substrate type, water flow, water quality, migratory corridors, water depth, and sediment quality. Again, the list sort of dwindles down a bit. When we get out to the coastal ocean, we've highlighted food resources, water quality, and migratory corridors as the important elements of the habitat that are essential to conserving the species.

So step two was to come up with our proposed

designation. We used the best available science to do this. And we had to consider, as Ellen pointed out just few minutes ago, economic, national security, and other impacts of the designation. This is unlike anything else we have to do at NMFS when we are working with the Endangered Species Act. Critical habitat designation is one of the only times where we actually have to look at the economic impacts of what we're doing and balance it against the benefits -- the conservation benefits to the species. So this was an interesting process that involved a whole team of economists -- not at NMFS, I should mention.

So I just went over what the next part of the designation process is. We have to balance the benefits of inclusion against the benefits of excluding a particular area from our designation. And then, of course, ultimately the Secretary of Commerce has the designation to exclude particular areas beyond what our team came up with.

So when considering the benefits of designation, really there are two primary benefits to a critical habitat designation. First of all, a critical habitat designation provides protections that are outlined under the Endangered Species Act,

Section 7. Also, it provides an opportunity for outreach and education; it gives notice to people of the areas that are important to the species.

Now, I just want to come back to this point. What this is really saying is that a critical habitat designation is really only going to affect activities that are conducted by or funded by or permitted by a federal agency. It's really important to get that point across. Because if you are a private landowner and you are doing something that may modify one of the PCEs that we've identified in our rule, there's really no regulatory power that the critical habitat designation has in that particular case. Now, with regard to take, which is harm, shoot, harass -- the definition of "take" under the Endangered Species Act is basically anything that manipulates that -- that species in any way. That is a separate issue. So I want to drive this home: Critical habitat designation really only affects action -- activities that have a federal nexus and -- and, also, another important thing to consider is that if the activity is causing take of the species, then that federal agency is already consulting under the "take" definition and prohibition of the ESA, Section 7. The critical habitat designation is an incremental

look at what over and above that activity is going to do to the habitat feature: To the food resources, to the water quality, to the migratory corridor, to all of those things you saw on our list. Now, it's very hard to tease these two things apart. We have lots of criticisms. There are all kinds of people out there who are trying to restructure the Endangered Species Act so that, you know, critical habitat and its role and its purpose is better defined, more well defined. Right now what I can tell you based on our consultation record is that we've never issued a jeopardy opinion without also claiming that that particular activity is going to adversely modify critical habitat. So I think I'll leave it at that, and we can talk about it a little bit more after I give the presentation. But first point, activities that have a federal nexus are really the only ones affected by a critical habitat designation, and, number two, critical habitat is viewed as being different and distinct from taking the species itself.

Okay. What are conservation -- sorry. We had a Critical Habitat Review Team who looked at the primary constituent elements in each of the specific areas and then rated the conservation value of those

areas. They assigned, based on a whole list of criteria -- again, that we can't get into here, but if you're interested in the details, look at the Biological Report that's listed on our web site for more information. But ultimately, this group of ten or so people assigned a high, medium, low, or ultra low conservation value to each of our specific areas. And these ratings represent the estimated relative benefit of the designation.

Ideally, I guess what you would do is try to monetize those conservation benefits because, remember, the next step in the process is to balance the benefits of the designation against the benefits of exclusion, and the benefits exclusion are all based on economic reasons. And so when you're doing this balancing, you would ideally have your units of conservation value and economic cost the same. But unfortunately, and as far as I know, none of us have ever been able to figure out how to monetize the biological benefit of a critical habitat designation. So we stick with these relative and qualitative values.

By specific area, the CHR Team looked at the life stages present in each of the specific areas, the quality of the primary constituent element from

those areas, the historical and current use of the southern DPS in those areas, and came up with an overall conservation value.

Some additional considerations were connectivity of the migratory corridor and confirmed presence of southern DPS fish. And ultimately, again, they arrived at a high, medium, low, and ultra low conservation value for each of the areas. And I show a map here of how that played out. I know you can't see it, but we'll look at this map again in more detail a bit later.

So now on to Ellen's point about the benefits of exclusion. Again, during the critical habitat designation, we have to identify what the benefits of excluding a particular area from a critical habitat designation might be. And very often the biggest benefit of excluding an area comes with regard to economic impacts. But there are also impacts on national security. Currently we're requesting comments from the Department of Defense. We don't think that there are any major Department of Defense lands within our proposed critical habitat designation, but typically we wind up excluding Department of Defense lands from our designations.

And other relevant impacts, for example, we

have just requested some information from the tribes on whether or not there are any tribal lands that overlap with our critical habitat designation. And, again, typically, depending on the extent of those tribal lands, we may exclude any of those tribal lands from the critical habitat designation. And for this proposed rule, we consider the economic benefits of exclusion as being the primary cost of the critical habitat designation.

And we had a team of economists who identified the types of federal actions that could be affected by a critical habitat designation, the modifications that might be required as a result of the designation. They averaged the incremental cost of the modifications -- and this word "incremental," I think I used it previously, but let me define it a little bit for you. There are costs that are associated with taking a listed species. In a critical habitat designation what the economists try to do is tease out the costs of just the critical habitat designation, just the cost of what an activity is going to do to a particular habitat characteristic. So it's a tough thing to do, but a lot of people who have commented so far that it seems like the economic costs of this designation are low

or on the low side. Keep in mind that our economists were directed to just look at what the costs over and above the listing a critical habitat designation would mean. Okay?

MR. HAUSSNER: I guess that's now a word that you've stuck in. It's not in this slide here.

MS. NEUMAN: Yeah.

MR. HAUSSNER: So that's something your attorneys probably told you to do.

MS. NEUMAN: Well, actually, it's in one of the other slides. It's in one of the other slides that I decided to cut out. So you'll see some explanation of incremental costs. So it is there. It's in the version I gave to you. I just -- I needed to shorten this up. It was 36 slides initially. I'm already talking too long.

Okay. And then -- so they looked at the expected number of actions in a specific area and to come up with the estimated annualized incremental cost of the designation in a specific area, they multiplied the costs by specific area by the number of actions occurring in that area.

MR. WOODBURY: Did they also take into account that we have designated critical habitat for other species already in these areas as part of that

incremental -- overall --

MS. NEUMAN: I believe that they certainly looked at the salmon and steelhead critical habitat designations and included them in their -- in their cost estimates. Because we have -- you know, we only have a consultation history for green sturgeon beginning in 2006. And so it's kind of tough to figure out what's going on with a species that was so recently listed. Some of you might ask, "Well, why didn't you wait more? Why didn't you take some more time for this critical habitat designation?" And one of the things that I didn't point out earlier is that the Endangered Species Act, again, requires that we designate critical habitat at the same time that we list the species. It offers a one-year grace period, which we took. But it -- again, the timing of things as far as the ESA dictates is sometimes a bit of a mystery because we don't have a recovery plan for our species yet; yet we're trying to protect habitats that we think are essential to the conservation of the species. It's a tough thing to deal with. But, again, critical habitat, we're under a statutory deadline to do it. And so we have to meet the requirements of the Endangered Species Act.

MR. WOODBURY: Actually, my question was, did

they take into account the fact that a lot of these areas, especially like San Francisco Bay, we already have designated critical habitat for salmonids? So, therefore --

MS. NEUMAN: Oh.

MR. WOODBURY: -- since the -- since the -- the area's already --

MS. NEUMAN: Yes.

MR. WOODBURY: -- designated, how much more incremental cost is there going to be since we're already --

MS. NEUMAN: Exactly

MR. WOODBURY: -- doing critical habitat for salmonids that may have been a part of that factored in as well. I just --

MS. NEUMAN: It is. It is.

MR. WOODBURY: -- wanted to maybe clarify that.

MS. NEUMAN: And thank you for clarifying that. So that, again, is another meaning of the term "incremental cost." It means that what does this designation for southern DPS green sturgeon mean in terms of economic cost over and above everything else that exists out there: The listing for this species, the listing for our salmonids, Fish & Wildlife

Service, Delta smelt. You know, these are all things that our economists tried to take into account. And so the costs you are seeing are just associated with the costs of the critical habitat designation for green sturgeon. If the costs have already been accounted for elsewhere for other listed species, they're not included here.

So now is the time that we try to do our balancing. We need to consider for exclusion areas that have a relatively high economic impact and a relatively low conservation value. And our issue is how to decide what is relatively high economic impact -- and you'll see our definitions on the next slide. And this is largely a policy consideration. When I say "policy," it means that our agency determines what our thresholds are for the economic impacts. What are we going to consider a high economic impact, a medium economic impact, a low economic impact, and how are we going to balance that against our benefits -- our conservation benefits.

We come up with a list of rules that will allow us to not exclude areas -- oh, I'm sorry, I need to back up. We came up with an overall rule that said we will not exclude an area if it will significantly impede the conservation of the species.

And this is the same policy consideration that was used for the Pacific salmon. So what does this really mean? It means that any of our specific areas that have a high conservation value that were rated as a high were not excluded from the designation no matter what the economic cost associated for that specific area was. And you'll see that on the map in just a minute. However, for those areas -- okay. So -- let's see here. Okay. I think I glossed over this already. This is probably the most important thing for you to focus on here, the decision rules, where -- again, as I just stated, anything with a high conservation value was not eligible for exclusion, but conservation values of medium, low, and ultra low were areas that were on the table for exclusion based on what the economic costs associated with the designation would be.

And so what we said in the case of an area that had a medium conservation value, if the economic costs for that particular area exceeded $100,000, we considered that area for exclusion. If the area had a low conservation value and the economic costs were greater than $10,000, we considered that area for exclusion. And if an area had an ultra low conservation value, we considered it for exclusion if

the economic impacts were greater than zero. Believe it or not, we did have one case where we had a tie. We had an ultra low conservation value, and we had a cost of zero associated with our critical habitat designation. We actually left that area in the designation. Our rule was that if there was a tie, you know, between the threshold for economic cost and the conservation value, we -- we gave it to the species. We erred on the side of conserving the species in that case.

Was there a question out there?

MR. KEEGAN: Yeah. I just wanted clarification. The economic exclusions, they don't have anything to do with, though, the -- in terms of national security potential exclusions; is that correct? I mean --

MS. NEUMAN: It is true, at this point we -- we went out to the Department of Defense -- well, we considered national security to really be related to Department of Defense lands. If there is another issue that involves national security, then we probably should talk about that. But when we talked about national security, we really considered that to be linked entirely to Department of Defense lands and, you know, considered that we would exclude those

Department of Defense lands in order to preserve the national security of the country.

MR. KEEGAN: Well, we tried, I mean, the same thing. Those considerations are -- if they were high -- high conservation value, then the tribal lands, for example --

MS. NEUMAN: Oh. Oh, oh, oh.

MR. KEEGAN: -- you would not -- this would not apply in that case; is that correct? You would exclude --

MS. NEUMAN: Well, we're still in the process of getting feedback from the tribes. We know that there are some very small pieces of some of our specific areas where there are tribal lands. I think what we need is to get feedback from the Department of Defense and the tribes on whether or not they want those areas to be excluded from the designation. It looks like the Department of Defense doesn't have anything in the area we're proposing to designate, but I think that's still being looked into a little bit.

MS. LAMB: Mary Lamb with the Air Force.

The -- the national security exemption is actually part of our authorization a couple of years ago where there was a ruling that that had to be

considered if the Secretary of Defense wanted to say that they absolutely could not have a listing on our site. I don't believe that's ever been used, the actual going back to the resource agency and saying for national security reasons we cannot have a designation. But what the Department of Defense does do and is required to do by the Seitz Act is have natural resource management plans for all our lands and properties. And within those plans, if we have a management plan for the species, which we should have if we actually have the species and it's been listed, then the resource agency will look at the plan and come to some agreement if it's adequate management. If we're already providing adequate management for that species, then we can use that plan in lieu of a critical habitat designation. So it's not that we aren't providing for the species; it's just that the critical habitat designation is not required because our plans are done in lieu of. So that -- for us -- and I suspect with the tribes, too, you would be looking at how they're managing the species, also.

MS. NEUMAN: Right.

MR. HAUSSNER: I had not planned on talking until a little bit later, but, as an example, the Maritime Administration designates strategic ports in

order to support DOD's mission. And they also operate the Ready Reserve Fleet, again, to support DOD's position. And we got Army Reserve facilities that also will be impacted by these designations. So I think in -- if you're going to truly do that, you need to go a little bit further than just going to DOD and look at other federal agencies because there are specific -- other examples of national security implications to this document from agencies other than DOD.

MS. NEUMAN: Okay. It would be good to get a list of, you know, those agencies and who the appropriate contact person within those agencies are.

MS. LAMB: I would again like to say that as part of the law, it was written into one of the DOD's authorizations, and it really is specific to --

MS. NEUMAN: The DOD.

MS. LAMB: -- lands owned by DOD. What you're describing is something that would not be captured by the site that you're using to come and talk to us about that exemption. So I don't know that there's been any legislation. So that consideration would be, you know, outside of what she's been referring to.

MS. NEUMAN: Question?

MR. BERGE: Yeah, Berge with PMSA.

I'm just curious on the thresholds for exclusion, are those gross numbers, or are they weighted in some fashion?

MS. NEUMAN: They are weighted. They are annualized cost estimates. And there are a couple of -- there's one economic analysis document that supports our final rule, and it is available on line. Unfortunately, we don't have any of the economists who worked on this designation here at the meeting. And so I am not able to, you know, specifically describe to you exactly how those costs were arrived at. What I can tell you is that they were weighted, and that they were annualized, and they came up with some high, medium, and low cost estimates, and that's all in the Economic Report and Analysis. And I'm also happy to share with you the lead for Industrial Economics who conducted this economic analysis for us so that you can contact them directly with some specific questions.

MR. BERGE: Okay. Thank you. I'm just a little curious because as you start to designate areas, especially areas that are fairly interconnected, let's say, within the San Francisco Bay, the lower bay, the upper reaches, if you start

designating them as individual areas and yet there's actual economic relationships between them, I'm curious whether or not there's a potential to kind of downplay some of the economic impacts of certain areas.

MS. NEUMAN: Yeah. There could potentially be a bias there. You know, that bias also carries through to the rest of our specific areas in our designation because our specific areas are not all of equal size.

MR. BERGE: Right.

MS. NEUMAN: So you'll note that when it -- when we -- some of the areas that we excluded were among the larger specific areas, for example, from Monterey to the California/Mexico border. That was one specific area and it was excluded. The important thing to note is that it also had a low conservation value. And for the bays that you're talking about, they all had a high conservation value. So ultimately the costs, while, you know, important to consider, according to our decision rules, anything with a high conservation value was not eligible for exclusion because we believe that area to be essential for the conservation of the species. And we, you know, used our own discretion there and said

no matter what the economic cost here, we are not going to exclude the area. So...

Okay. Well, I said that this was going to be a lot bigger so that you can see it, but I doubt you can. So this map, what it shows you are specific areas along the coast of the continental U.S. and Alaska here, the rivers -- sorry, the estuaries and rivers in California, Oregon, and Washington, and then more specifically in California, the bay/delta area and the rivers -- the inland rivers.

The green shading shows you areas that were deemed of high conservation value to the species. The yellow areas are those of medium conservation value. The red areas are those of low conservation value. And the blue areas are those of ultra low conservation value. So if you can cue into those colors, what you'll see is that this stretch of the coast from Monterey all the way up to Cape Flattery, Washington, out to 110 meters depth was considered to be of high conservation value to the species. From Monterey to the Cal/Mex border, ultra low conservation value. Along the Alaska coast, southeastern Alaska was considered to be of medium conservation value. And northwestern Alaska, all ultra low conservation value.

You'll notice a smattering of lows, ultra lows and mediums when it comes to the estuaries and -- you know, from California up the -- up the coast to Oregon and -- and Washington. And I'll highlight for you the three Washington estuaries that were considered to be of high conservation value: Grays Harbor, Willapa Bay, and the lower Columbia. Then we have a number of estuaries in Oregon that were considered to be of ultra low conservation value. Then we have two medium bay -- conservation value bays in Oregon: Winchester Bay and Coos Bay. Moving down here into California, we've got the Klamath as ultra low, again, because it's not important for the southern distinct population segment; Humboldt Bay, a medium; Eel River, an ultra low. And I don't know that I have to name all of these, but, you know, that will give you a little bit of a sense here. And then this is the bays and the delta here, all of high conservation value. We've got the bypasses here, Yolo -- oh, wait -- okay. The lower Yuba here of medium conservation value, the lower Feather of medium conservation value, and then the Sacramento River, high conservation value. So all of the Sacramento River -- not just the upper portion of the Sacramento, but the entire Sacramento.

Okay. Now, these places where you see the black stars, those are areas that were eligible for exclusion based on the balancing of the conservation benefit against the economic cost of the designation. So what I'll point out is, is that -- one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen -- 15 areas of our 39, I believe is what we had, were flagged as being eligible for exclusion, and we excluded most of them, except for the lower Feather River and Coos Bay. And the reasons for that, you know, we can discuss perhaps a little bit later, but these were areas where upon second glance and after going back to the Critical Habitat Review Team, they said, "Yeah, you know, the economic costs in those areas may be -- may make that area eligible for exclusion, but we really truly believe that those areas are important for the conservation of the species, and here's why." And so we talked about that, and we wound up including two of those -- two of the 15 that were actually eligible for exclusion. We also requested a lot more information, I believe, on Coos Bay in particular.

Okay. So the final exclusions, just in terms of square miles or square kilometers, we excluded 2,738 square kilometers of estuarine habitat. In

California, those areas were the Elkhorn Slough, Tomales Bay, Noyo Harbor, Eel River, and Klamath. In Oregon it was the Tillamook, estuaries at the mouths of the Rogue, the Siuslaw, and the Alsea Rivers. And in Washington State, Puget Sound. With regard to the coastal marine habitat area that was excluded, it was 1,000,000 -- approximately 1,000,000 square kilometers from the Cal/Mex border to Monterey Bay and from the Alaska/Canada border to the Bering Sea.

MR. BERGE: Question.

MS. NEUMAN: Sure.

MR. BERGE: The Monterey exclusion, is that up to Monterey or including Monterey?

MS. NEUMAN: Monterey Bay is included in the designation. So Monterey Bay is not considered to be a bay-specific area; it's included in the -- in the coastal ocean section because it -- nobody really -- it doesn't meet the definition of an estuary, really.

Okay. So here are some maps that show the proposed critical habitat designation for the southern DPS. I also have maps posted up there on the wall. These same two maps are to the far right. You can see some blow-ups of maps of California on the left. Please note that Map 1 and Map 2 on the left there, the blow-ups of California show you the

areas occupied by the species. So this is going -- this is not the critical habitat designation over here. When you come over and you take a look at California maps, this is not the designation. This is just everything in a blow-up fashion that was considered to be occupied. Okay? So this got pared down quite a bit in order to arrive at these. Okay?

And I think I already -- well, this is the text version of our final proposed designation. In California we have the Sacramento River, the lower Feather River up to the dam, the lower Yuba River up to the dam, San Pablo Bay, Suisun Bay, San Francisco Bay, Humboldt Bay and the delta -- it's the legal definition of the delta, by the way. In Oregon we have Coos Bay, Winchester Bay, and the Yaquina. In Washington, Willapa Bay and Grays Harbor, the lower Columbia River estuary to the Bonneville Dam, and coastal marine waters within 110-meters depth from Monterey Bay including Monterey Bay to Cape Flattery including the Strait of Juan de Fuca. The total area proposed you can see down here.

We spent quite a bit of time in our final rule highlighting some of our data needs and uncertainties and soliciting all of you and beyond for more information on a variety of areas and

topics. In the coastal marine areas, one of the things that we were acutely aware of was that more specific information on green sturgeon distribution in marine areas would be very helpful. It would help us focus our critical habitat designation quite a bit more. We wound up looking to our own observer program -- our own NMFS Observer Program to help us better define what was going on with green sturgeon out in the ocean. And we were told, "We can't" -- "We can't give you that information." They did work with us a little bit. But what they supplied us with was a catch-per-unit effort by the specific areas we defined. They used our unit -- our spatial unit to calculate their catch-per-unit effort. And low and behold, there was a positive catch-per-unit effort in every specific area along the coast, according to our Ground Fish Observer Program. It didn't help us focus our designation. And we got a lot of -- I think we finally have worked out something where the observers are now comfortable releasing the latitude and the longitude information for green sturgeon collected in our Ground Fish fisheries, and so this might be helpful. But, again, it is fisheries' data. The whole reasoning behind this is that there is a law out there that protects fishing locations, spots

where fishing is occurring, and you cannot reveal, I guess, to just anyone without signing your life away that you're going to reveal a fisherman's fishing location, you know, where they go. And so it's understandable, but we're working through it. I've signed my life away, and apparently the data is going to be released to me. Samples that have been collected by our Ground Fish Observer Program have been sent to Josh at UC Davis. He's currently, I think, using just bar-coded information to identify those green sturgeon to their distinct population segment of origin. This will be really helpful for us. We know that that coastal ocean we have proposed for designation is a huge area. And if we can focus it a little bit more, that would be helpful. But we are also quite aware of the fact that these fish undergo an extensive migration in the ocean and that we need to provide connectivity for them. So even if our fisheries' data shows us that there's a large collection of green sturgeon right outside the Golden Gate Bridge, we're still going to be very cognizant of the fact that the green -- the southern DPS fish need to get to Alaska, they need to get there somehow. And they use these northwestern estuaries quite extensively. And so we're cognizant of the

fact that we also have this migratory corridor as a primary constituent element of habitat, and we need to preserve that and keep it in tact. So I'll leave it at that.

And then activities that may affect our primary constituent elements in the coastal area. This really applies to all of our areas, but specifically the coastal marine areas because there's been a lot of talk, mostly with the Department of Energy and FERC about alternative energy projects, LNG -- what else -- hydroelectric power-generating stations, and how these things are going to affect our primary constituent elements. How are those things going to affect the food resources that green sturgeon rely on? How will those things affect migratory corridor and safe passage for green sturgeon.

Right now, again, in our proposed rule and even in a final critical habitat designation, we just need to show that -- that one of these activities may require special management in order to protect the PCE. So remember, the standard's low, but, of course, we're always looking for information that's going to give us a better connection between what's going on and the impact it might have on the habitat

characteristic.

MR. KLIMLEY: Melissa, one emerging issue is power generation on waves -- and they do have ampilary organs and are sensitive to electric fields. And I know there's a call for proposals to cover kind of that field. But so little is known about it, it's really difficult --

MS. NEUMAN: I was just asking somebody the other day whether green sturgeon had electroreceptors like sharks do on their faces and snouts.

MR. KLIMLEY: I don't -- hammerhead sharks use magnetic (unintelligible) valleys and ridges and use them to find their food resources and such. So it's my understanding that would be a subtle issue.

MS. NEUMAN: Okay. And then unoccupied areas, we really need to talk about this a little bit. The Critical Habitat Review Team flagged seven unoccupied areas that they felt needed a closer examination for the presence of PCEs and special management that they may require -- or protection that they may require. Three areas in particular were highlighted as being particularly important unoccupied areas: The upper Feather River, the upper Yuba River, and a portion of the San Joaquin River that is south of the -- south of the delta -- and I

can't remember exactly what our southern point -- definition point --

Jeff, do you remember?

MR. STUART: I believe it was up to the Stanislaus.

MS. NEUMAN: Okay. That was Jeff Stuart, and he said the Stanislaus -- up to the Stanislaus. So from south of the delta to the Stanislaus.

And you might remember me talking about the fact that we have to do this critical habitat designation before we have a recovery plan for the species in place. And it puts us in this conundrum because our responsibility is to protect this habitat that's essential for the conservation of the species. And as the CHRT Team had their discussions, a lot of people sitting around the table felt that opening up the Feather River and the Yuba River and the San Joaquin River were going to be important for the conservation of the species and the recovery of the species. Because unless you establish another spawning population in another river somewhere, and ideally a river that's in a different watershed from the Sacramento, they felt that conservation and recovery was not possible, that you could not achieve that. And at the same time, we felt like we needed

to get some more input from the public on historic use of these areas, information on the habitat parameters that we've outlined in our rivers, food resources, water quality, water flow, the list, you know, you might recall, substrate type. That until we got more information on what those parameters looked like in these current -- currently unoccupied areas, that it would be very difficult to make that connection between designating that unoccupied habitat now, especially without a Recovery Plan. So really are looking for more information on unoccupied areas, especially historical distribution in and use of the unoccupied areas in the Central Valley, primarily the Feather and the Yuba Rivers. And then in addition I would add to that information about the particular habitat parameters that may have existed there historically or that exist there now.

MR. HAUSSNER: You talk about the San Joaquin River, and I guess the northern end of where you're concerned about is south of the delta, whatever -- is that the legal definition of the delta? And then the southerly end you're concerned about is where the San Joaquin and Stanislaus meet? Is that what I understand to be where you're interested in?

MR. STUART: Right. The legal delta ends at

Vernalis, and then there's, oh, about 20 miles of that stretch from Vernalis and Vernalis and Stanislaus. Stanislaus is a tributary right now that we have the highest quality water on, so the federal nexus there, controlled water flowing. And we felt that out of the current tributaries that are down there, the Stanislaus provides us with the greatest picture for potentially creating another spawning area for green sturgeon. The other tributaries, the Merced, the quality does not have currently the federal nexus to do controlled flow on those rivers.

MR. HAUSSNER: Okay. Thank you.

MS. NEUMAN: You're welcome.

Yes, Alicia.

MS. SEESHOLTZ: I guess I'm confused by your definition of unoccupied because we know that there are sturgeon in -- green sturgeon both the Yuba and the Feather. So I'm wondering why those rivers are ending up in this category.

MS. NEUMAN: It's just the upper Feather and the upper Yuba beyond where the dams are.

MS. SEESHOLTZ: Okay. Okay.

MS. NEUMAN: I already alluded to this just a little bit, but we need to get some better estimates of what the economic impacts of this critical habitat

designation are going to be. And I know a lot of you have already said that you can provide us with some better information on what you feel the economic cost to this designation will be. Please keep in mind, though, when you're assembling these comments that your economic costs should be restricted to the costs associated only with the green sturgeon critical habitat designation, not associated with what you would already have to do as a result of the listing or what you are already doing because you need to preserve salmon critical habitat or steelhead critical habitat.

MR. HAUSSNER: Let's take an example. Through Biological Opinions, there are windows for dredging. And by designating certain of those areas critical habitat, currently you may have a window that says you've got two or three months in order to dredge. This could reduce that even further down to a two-week period or not at all and, as a result, would have a massive economic impact. Because currently you're restricted to this one little window, and that has some impact upon equipment availability. But if you further restrict that window, then you may have a massive -- so -- so there is no way around that because you can't say in the

abstract, "Well, yeah, if it wasn't for this habitat, I could dredge over here in December. But reality, I can't dredge in December because of another opinion going on by your own agency." So you're going to have to come up with a better decision-making process for that.

MR. STUART: Clarify that, the windows right now are not likely to adversely affect our designation. We do do formal consultations that extend the dredging outside of those windows down in the Stockton and Sacramento channels. So it's how much pain the applicant's willing to endure. If you want it to not likely adversely affect and not have to go through the formal biological opinion process, you're going to have to stick within the windows. If you decide that you're willing to go through the formal biological opinion process, then you can go outside of those windows. But we have to address the impacts of those projects on our species and the critical habitat. So that's just a clarification of the windows for dredging or other activities where we consider it not being the first step versus having to go to the formal opinion and address all of the adverse impacts of that project.

MR. HAUSSNER: And I don't deny that. On the

other hand, now that you got into the formal consultation process, you've increased the costs. And can you apply it to the green sturgeon or do you apply it to the salmon? What Melissa is saying is you can't apply it to the green sturgeon. But in reality, that's what's driving you to have to pay that cost. And once you got to the 50,000 or $100,000 level, depending on where you are, that may get you out of this thing. So there are costs associated with doing a formal consultation.

MS. NEUMAN: I think a lot will depend on whether those windows are adequate for protecting green sturgeon critical habitat. If we decided that those windows are appropriate -- and, really, it's going to be on a per-project sort of basis that our biologists are going to have to, I think, establish that -- or it could be through, you know, a global type of analysis that addresses all dredging projects that are going on. But we certainly are cognizant of the fact that if those work windows change in order to protect green sturgeon critical habitat, that that is a cost that we should be accounting for over and above what we're using for salmon.

MR. HAMPTON: Melissa?

MS. NEUMAN: Yes, Doug.

MR. HAMPTON: Also, the way I understood it, the changing of windows, especially in -- we're talking about the delta -- the delta and the San Francisco Bay, that wouldn't be incremental above what you're already doing for the species listing. The critical habitat designation doesn't change. I mean we're -- we're -- I know when I'm doing consultations down there, we're assuming that those fish -- the juvenile fish, the sub adults -- are there year round. So the critical habitat designation is not anything incremental above and beyond what the species listing is purportedly doing already.

MS. NEUMAN: What the biologists at NMFS needs to do is have a separate section in that Biological Opinion that talks specifically about critical habitat. But very often that analysis, at least as far as I understand it, will be a very -- it will be -- it will be -- you know, it will be parallel to what's done in terms of the analysis under the jeopardy standard. We might be using different language, and we'll certainly be looking at the habitat characteristics. The focus would be on them. So -- but the consultation, you're correct, Doug, it still happens. Because if the project is

something that may -- correct me if I'm wrong with the language -- likely to adversely affect or may adversely affect, if that's the determination of the action agency, you're doing a consultation no matter what. It's just that the biologist who's conducting the consultation and perhaps the -- the application materials that are -- are submitted will have to specifically say something about how those activities may affect the habitat characteristics.

MR. HAMPTON: Right. Right. I was just trying to address like in terms of additional costs --

MS. NEUMAN: Right.

MR. HAMPTON: -- that would be incurred on dredging.

MS. NEUMAN: The consultation still happens.

MR. HAMPTON: It's not going to be -- you're not going to incur any additional costs from the critical habitat designation that you haven't already incurred just from the species being listed.

MR. WOODBURY: Well, that may not be true. If the activity is not harming the species themselves but is harming the habitat, then you would incur extra costs to protect the habitat, not the species. But since the species in the bay is year round, we're

going to be doing formal consultations on dredging projects. So the question is, for a dredging project, what's the impact to the species. What's the impact to the habitat. And then what's the difference in cost between those two. So that's what we're asking for is just looking at the habitat and those PCE food resources. So you may not be harming the fish, but if you take all their food, what's the cost of mitigating for that loss of food? So that's what we're asking you for is that. Not so much how you're affecting the species, but just on those PCEs. And dredging is a good example of that.

MS. NEUMAN: Right.

MR. HAMPTON: That's correct.

MS. NEUMAN: And another good example is in Willapa Bay where carbaryl was used to -- in oyster beds in order to clean them out of -- or to get rid of the ghost shrimp in these areas that were going to be seeded with oysters. Well, it turns out that this particular pesticide also killed ghost shrimp. And we know now, based on the diet preferences of green sturgeon when they enter Willapa Bay, at least, that ghost shrimp make up a large percentage of their diet. And so that's sort of an interesting case because the pesticide removed a food source which was

considered to be, you know, a primary constituent element of the habitat. Of course it's connected to the species itself, too. And I'm sure in a part of that consultation, if and when it happens, the adverse affect on the green sturgeon itself will also be taken into account. But it's the teasing apart of these two things that gets a little -- it certainly gets a little hard to define at some level. And then to try and figure out what the costs associated with modifying a project -- it does get a little tough to do. But we'll have to figure it out. And unfortunately we don't have much of a history that allows us to say how it's going to go yet. We just listed these guys.

MS. JOHNCK: I have a point of order. Are you -- have you completed the presentation, or are you still going? Because I would like to get a sense of -- I have a lot of things --

MS. NEUMAN: A lot of questions?

MS. JOHNCK: Yeah, a lot of questions, a lot of points --

MS. NEUMAN: Okay.

MS. JOHNCK: -- a lot of information that will help you and help all of us figure out what we're going to do between now and June 30th --

MS. NEUMAN: Sure.

MS. JOHNCK: -- or between now -- you know, we have the 7th, I mean --

MS. NEUMAN: Okay. I think I'm almost done.

MS. JOHNCK: So -- and I -- I -- so if you would finish, because I --

MS. NEUMAN: Sure.

MS. JOHNCK: -- I'm holding back and we're getting into substantial discussion, which is very important --

MS. NEUMAN: We are.

MS. JOHNCK: -- but I just want to get a sense, too -- and, also, how -- did I miss something you said about today? We're not going to be here until 5:00, are we?

MS. NEUMAN: We -- I am going to be here until 5:00 because I'm not sure -- of course, if I'm sitting here from noon until 5:00 and nobody is coming into the room, you know, I might end early. But officially we're here until 5:00, yeah.

MS. JOHNCK: Okay. But we can figure out how much time we need to get --

MS. NEUMAN: Absolutely.

MS. JOHNCK: -- to the questions --

MS. NEUMAN: You can come and go as you

please. We'll probably --

MS. JOHNCK: Okay. So if you would finish --

MS. NEUMAN: -- take -- even -- even if we are all here at noon, we'll probably take a break for lunch.

MS. JOHNCK: All right.

MS. NEUMAN: I think I'm done. Here we are. Okay? So if you would also like to submit public comments via the internet, fax, mail, here is the important contact information for submitting your comments. Again, you can also view today as being your -- your chance to submit a public comment.

So I think with that, I am done. I think what we'll do, instead of breaking out into discussion groups, we'll just get some of the NMFS folks up here at the front of the room, and we'll start a question-and-answer period, and that will become a part of the public record. And then if people feel the need to make a more formal public comment to Sandy, we can also do that once our question-and-answer period wraps up.

MR. WOODBURY: Melissa?

MS. NEUMAN: Yes, David.

MR. WOODBURY: Introduce us.

MS. NEUMAN: Oh, sure.

Russ Strach, the Assistant Regional Administrator for the Protective Resources Division, who's based here in Sacramento, walked into the room a bit ago. And he might like to address you all.

MR. STRACH: Well, I was just going to join you up front.

MS. NEUMAN: Okay. And does everybody know Jeff Stuart?

Jeff, why don't you give a brief introduction.

MR. STUART: My name's Jeff Stuart. I've been with NMFS for about eight years now. And my area of influence is pretty much the delta from -- well, it used to be all the way from the Carquinez Straits, but now my colleague here, Dave Woodbury, has taken Carquinez, Benicia --

MR. WOODBURY: You're welcome.

MR. STUART: -- and Antioch.

MR. WOODBURY: You're welcome.

MR. STUART: But anyways, I've done -- I did my graduate work with white sturgeon way back at UC Davis when Serge Doroshov was first starting with white sturgeon and a few green sturgeon. And what I'd like to recommend is don't pick them up with bare hands because you won't have any fingers left. Their

scutes are really sharp.

So, anyways, sturgeon are kind of near and dear to my heart. And I've been working now with Melissa for about a year and a half now, two years on the critical habitat designation.

MS. NEUMAN: Yeah.

MR. STUART: And eventually we'll be rolling out our Recovery Plan, which I'll be heading up in this office. I'll be the Recovery person spearheading that. And I live down in Modesto, so that's why I know the Stanislaus so well. And we do get sturgeon of unknown species down there. But we do frequently get sturgeon all the way up to Knights Ferry on the Stanislaus. So that's my little two-cent worth.

Any questions?

MS. NEUMAN: Did anybody want to take a short break to go to the bathroom?

MS. JOHNCK: Yes.

MS. NEUMAN: Should we take a short break? Okay. And, also, feel free to glance more closely at those maps up on the wall while you're going to the bathroom or returning from the bathroom. So, yeah, five minutes. Okay?

(Brief recess.)

MS. NEUMAN: Okay. So I'd like to remind everyone before we start our question-and-answer, please state your name for Sandy and spell your last name for Sandy so that she gets the record correct. And I don't know -- and one at a time please speak. So if we get into some back and forth, you know, curb that, please. Let one person speak, and then, you know, we'll go around and let people respond. Okay? If you want to direct your question to one of us specifically, Doug, Jeff, David, or me, that's fine, too, or just ask your question, and we'll decide who will answer.

MR. HAUSSNER: And maybe a general question, you could tell us because Jeff already asked the question about getting the slides. Maybe you can tell us exactly what's on the web site that's available, like the Economic Team you talked about, and you have the Habitat Critical Team, and the Biological guys. How much stuff is available on the web site that is referenced? Then we don't have to bother you as much today.

MS. NEUMAN: Okay. Everything, all of the supporting documents and the rules are available here. They're also available on our web site, which is --

MR. HAUSSNER: It's nmfs.gov?

MS. NEUMAN: I think it's -- is it www.swr.noaa.nmfs.gov?

MR. STUART: Oh, Lordy.

MS. NEUMAN: You know what, go here. Everything is here.

MR. HAUSSNER: But that actually lists the entire Economic Team as well as the Habitat Team and all the biologists that were involved in listing --

MS. NEUMAN: No, no, no. No, we don't reveal the names of the people who have helped us.

MR. HAUSSNER: Okay. We're going to ask for that specifically because we need to know who they are in order to know what their background is to determine whether or not they were --

MS. NEUMAN: I understand. I'm only kidding. I just saw an announcement yesterday that --

MR. HAUSSNER: Well, DOD does give us names --

MS. NEUMAN: -- came out --

MR. HAUSSNER: -- as an example.

MS. NEUMAN: Right. Well --

MR. STUART: No basis.

MS. NEUMAN: -- there's a former commercial fisherman who's very mad at California Department of

Fish & Game and NMFS right now and has put out some death threats -- some serious death threats. This happened yesterday before I came up here for this meeting. My husband is on eggshells, "Call me. Let me know you're okay." Anyway -- no, but we're happy to -- I can just tell you right now who was on our Critical Habitat Review Team: David, Jeff. I was actually not on the team. I was not a voting member of the team. Susan Wang, again, not a voting member of the team. We had Bill Poitras from the U.S. Fish & Wildlife Service. We had Rich Corwin from Bureau of Reclamation. We had Steve Lindley from our Southwest Fishery Science Center in Santa Cruz. We had Mary Moser from our Northwest Fishery Science Center in Montlake, Washington. We had Steve Stone from our Northwest Regional Office in Portland, Oregon. We had Julie Weeder --

Thanks guys.

Julie Weeder from our Southwest Regional Office in Arcada.

Okay. And we are required to have only federal biologists on our Critical Habitat Evaluation Team, just so some of you out there aren't asking, "Well, you know, why couldn't I be on the team?"

MR. KLIMLEY: They have good people on it.

MS. NEUMAN: And then Industrial Economics is is the group who conducted the economic analysis. They're based out of Cambridge, Mass. And Leslie Genova was the senior analyst -- G-e-n-o-v-a -- on the project.

MR. HAUSSNER: I got it right the first time.

MS. NEUMAN: She's going on maternity leave tomorrow. So Ann LaRue -- L-a-R-u-e -- will be taking over for her. And I believe she's actually based in the San Francisco area. Mark Ewen is also a contact at Industrial Economics. E-w-e-n.

Okay. But all of the -- biological report, the economic analysis, our reference list, the Federal Register Notice -- probably missing a couple other things -- are all available at the www.regulations.gov web site. And they're also available on the Southwest Regional Office of NMFS' web site.

MR. HAUSSNER: And all the reference documents are publicly accessible somewhere? Because one of the things about reference documents is that if you're not part of an academic system, they're not necessarily available to the general public.

MS. NEUMAN: We -- that's very true. We've gotten a comment, actually, on that, and we're

currently compiling a list of our economic electronic references on a CD. And so what we will likely do is make that available at the www.regulations.gov web site.

MR. HAUSSNER: In time to make comments by November 7th?

MS. NEUMAN: Perhaps. I mean the reference list is there.

MR. WOODBURY: Yeah, I have reference lists.

MR. HAUSSNER: So I can go to Santa Rosa, and I can read everything?

(Multiple speakers.)

MR. WOODBURY: I have PDFs of probably most of the references that were used. And so if you contact me -- and, Jim, you have my contact information, and I'll send you those PDFs.

MR. HAUSSNER: Thanks.

MR. KLIMLEY: Josh Isreel is also creating a database. I don't know if he has PDFs or whether you can get them or not. I don't know what the --

MR. HAUSSNER: I'm done.

MR. STUART: What Dave doesn't have, I probably do have. We've got a pretty extensive green sturgeon library between the two of us.

MS. NEUMAN: I was just thinking of -- David,

you have a card --

MR. WOODBURY: I do.

MS. NEUMAN: -- with you with your e-mail address.

Jeff, do you have any cards?

MR. STUART: Up at my desk.

MS. NEUMAN: Okay. Hopefully --

MS. JOHNCK: Melissa, one of our public comments -- and this sort of begins my questioning -- I'll cover some things, and other people can chime in if they have some more. But here again, this is procedural -- procedural mostly and -- on the public comments. So my task force has asked for an extension beyond November 7th. We've asked for six months. And the reason we've asked for six months is because we believe that what's been developed so far, there is a lot of uncertainty, and some of the information is really limited. And what our task force would like to do is assemble a significant compendium of information, biological as well as economic, that we think will produce a superb critical habitat designation. Our organization has a track record of 25 years of a very collaborative approach to working with the protection of the species as well as keeping the economic aspects --

the San Francisco Bay resource support. So -- and we've been successful in collecting funds -- federal funds for scientific studies. David knows we've worked quite significantly over the years to instigate and initiate programs for that. So we have quite a substantial amount of expertise. And so that's why we think it's going to take six months to do that.

Now, given that, I realize that if that was granted, it would put you over the -- your ability to develop a critical habitat designation in time for the court order. That's not going to happen. So I would like to have some more discussion about understanding that. Number one, what's the likelihood of some kind of extension. Six months, you know, may -- I understand may not be feasible. And so -- but I do think we do need something beyond November 7th. I mean I think that -- I think this is in all of our interest, yourself as well. So maybe just some more comments of what you think. And do I need to send something more in about this? I've already sent a letter, you know, requesting that. If I need to do -- or what more do I need to do on this specific request, and what's the likelihood of some granting of that? Can you speak to that now?

MS. NEUMAN: I think we can. Six months is just not going to be possible. Typically when we granted extensions on public comment periods, they've been about 30 days. We've gotten a couple of requests from different agencies for an extension on the public comment period here, and I would think that we could probably extend it by at least 30 days, perhaps 45. I think if we start pushing it to 60 days, what happens then is it brings us to the end of the year. And quite honestly, when I look back at what it took to generate the proposed critical habitat designation, how much time it took, and just trying to gauge the amount of interest we've gotten so far in the proposed critical habitat designation, I think we're going to have a lot of the things -- a lot of things to address. And I think we're going to have to allow ourselves December, January, February, and March to start addressing these comments and finalizing the rule because we'll have to submit this final rule to our headquarter's office probably at the end of March, believe it not, in order for it to get published by the end of June. So I'm thinking a 30- or 45-day extension is definitely doable. I would prefer -- I think that we can just talk about that. You know, you and Jeff and Doug and David and

I can just e-mail back and forth with you. And, you know, you can go back to your constituents and say "Hey, you know, 35, 45 -- 30 to 45 days" --

MS. JOHNCK: Okay. That is possible. Yeah.

MS. NEUMAN: -- "is a possibility, and what can we get together in that amount of time," and then just get back to us and let us know. And I think we can probably have another face-to-face meeting with you in the San Francisco area if you'd like to do that so we can sit down again and hammer some things out. But we probably should keep that meeting just between us and the coalition. If we started inviting lots of other people in -- I mean not to say that other people wouldn't have some important contributions -- and you can invite whoever you'd like to. But we'd like to keep the conversation focused and concentrated.

MS. JOHNCK: I understand. Okay. That's great. That's helpful.

MS. NEUMAN: Okay?

MS. JOHNCK: Now -- okay. Now, on that, so June 30th, let's say this goes forward exactly as it is -- or -- well, let's just say this was published today without any public comment from the geographic scope. What happens? And I'll tell you what I sort

of suspect will happen, but I'm not going to say exactly sure. I did go through the decision-making and comments on the salmon critical habitat, and I'm actually kind of looking at that. And, of course, the designation of salmon critical habitat, we are dredging the channels. Of course, that's where the federal activity and federal agency comes in. Of course, the Army Corps of Engineers has a certain amount of mileage of navigation channels, and, of course, this will affect the Army Corps of Engineers' activity, but also affects us because we have channels, too, that we get permitted from the Army Corps of Engineers, approval from DPA as well.

So what -- and I'd like to hear more of what I anticipate will happen as of June 30th is that all permits for dredging are up for re-negotiations. The entire bay and delta would be up for re-negotiations. There effectively would not be any permit, unless something was done obviously between -- here again, we don't know exactly how this is going to end up. But I'm just looking at the broadest possible scope here as happening. So that every permit must be re-negotiated. And there actually would be a cessation of navigation channel operability without any permit. Is that the case as of June 30th that we

would have to go through getting all new permits for dredging, and you would have to go through a determination of whether we are adversely affecting any of the PCEs?

MR. WOODBURY: That's correct.

MS. JOHNCK: Is that true?

MR. WOODBURY: Yeah. For those that don't know, in the San Francisco Bay Region, we currently have a Programmatic Biological Opinion in place for all dredging activities that fall under the long-term management strategy for the placement of dredging materials in San Francisco Bay. It was written back in 1998. And I'm currently in the process of updating that opinion to address both the listing of green sturgeon and now the proposed critical habitat. So when that is -- is concluded, then we'll have a new Biological Opinion that will include an assessment on both the critical habitat and on the fish themselves. And so dredging will not stop on June 30th, 2008. All dredging activities will be covered.

It's an interesting question for activities that are ongoing. What are we going to be doing for those. And we work with our federal agencies to address -- probably prioritize the activities that

are currently ongoing. Dredging, of course, being very high in the Bay area at least, but for other activities as well, to prioritize where we're going to put our effort into addressing this -- but I don't see activities such as dredging halting on June 30th, 2008, or whenever this rule is published. We'll anticipate that date, and we'll be proactive in getting coverage to those activities that would be occurring then.

MR. SUDA: June 1st is the opening of many windows in the Bay. And my group of people are involved in running EAs and working with you. We're going to have to talk a great deal about what you think is going to happen so that we can have things ready to go because I have a lot of project managers and a lot of sponsors that want things started by the 1st of June in other places. So that's going to be -- you know, if we have to do formal consultations, that takes a little bit more time than we would like to all admit to. I'm not saying anything out of school. You and I have worked together in the past. We would have a lot of concerns about that. So...

MR. WOODBURY: Yes, because of the life history of this fish, it's unlike salmonids that use

the lower bays and estuaries and portions of the delta as migration corridors where there are periods of time when those species -- the salmonid species are not there. So we can have activities being conducted at that time. So you don't have to go through this formal consultation process oftentimes. Because green sturgeon are a year-round species, bethnic species, it's very difficult for NOAA Fisheries to conclude a "not likely to adversely affect" call for this. And so most of our consultations I envision as being unfortunately formal consultations. And that's why we're going to try to look at programmatic opinions, such as dredging and do them programmatically as often as we can.

MR. STUART: For the last two large opinions I did for the Sacramento Ship Channel and Stockton Ship Channel, I did address green sturgeon in those opinions actually for -- and the Port of Stockton requested that we re-negotiate -- or re-initiate -- there we go -- it's been a long day already -- re-initiate the consultations in light of the sturgeon listing in 2006. So these were the major ship channels. We've already addressed the take of the species. The critical habitat will be just

another add-on to the end of that. And I will be working with the Corps -- different biologists with the Corps that I worked with the last two or three years on those two ship channels. Smaller projects usually come up, you know, not as regularly as these major projects that have a five- or ten-year life span to them. So we try to address those on a case-by-case basis. But as Dave said, if we can get a programmatic that works for the whole delta, then that's the route that we'll go. And it will probably be much easier if everybody knows what's on the table and what they have to do in order to abide by our needs. I think that will be much more...

MS. NEUMAN: Doug.

Sorry, Pete.

Doug, did you have something you wanted to add in response to that comment?

MR. HAMPTON: Yeah. To the Corps, also -- and this is not so much -- I mean it applies throughout the range of the species. But speaking specifically to the Sacramento River, consultations, things that -- you know, they have windows up there as well that they're pretty accustomed to. But we're already considering, just like Jeff was saying, the species -- the fish themselves in the consultations

that are going on now, and any consultations that have been initiated since the rule -- the proposed rule came out are conferenced opinions. So things that are looking towards that June 1st construction -- in-water construction are already taking into account that the critical -- the proposed critical habitat listing and conference opinion. And then it's pretty easy after the final rule is published to just send out a letter that says these are already slated.

MR. SUDA: When are we going to see the programmatic, you know, coming out?

MR. WOODBURY: The -- we're going to be assembling a team. And right now we have a list of questions developed and that my team coordinator, Gary Stern, and I will be meeting with both you and Fari with the Corps to go over those lists and to develop that opinion. So we are -- we are actively working on it. And I always say I hope that it doesn't take too long, but, again, this is a -- it's a large opinion --

MR. SUDA: I understand.

MR. WOODBURY: -- that covers all the dredging. So I'm not prepared to say a date because once you put a date on, then you're really locked in.

But certainly before this goes final, we're going to want something out there.

MR. SUDA: I understand.

MR. WOODBURY: So --

MR. SUDA: I'm just trying to look at doing the EAs and incorporating anything we know ahead of time because we're getting -- starting to do those things now.

MR. WOODBURY: Right. As far as the EA goes, where you're doing assessment on potential affects on either the fish or the critical habitat, those should be being done now. So I don't know how the biological opinion might affect that other than potential mitigation measures that might be our minimization measures that might be incorporated into the project themselves, which we're still -- we still haven't developed yet. So we still have a little bit of a ways to go with the LTMS Program to look at this fish, look at the habitat, look at dredging, and to see where we're going to go with PMPs. You know, there's a -- again, getting back to windows, because this fish is there year round, there may not be an opportunity to use windows like we've done for salmonids. So we're going to have to be a little bit more creative on how we do our minimization measures

because we won't be able to avoid them completely. There are times when the adults come in to spawn or during the summertime they come in -- I've been looking at that data the last week, so I'm coming up to speed on exactly when these fish are coming into the system and what they're doing in the system. So we're going to have to be creative on how we address dredging in green sturgeon and their habitat.

MR. KLIMLEY: One of the problems --

MS. NEUMAN: Let's get back to Pete Klimley.

MR. KLIMLEY: One of the problems is getting enough -- well, in your case, we tagged 100 fish, and we have distribution monitors. So that's really a godsend for you. We -- we hope that -- we're a subcontractor to the Army Corps. We'll be doing telemetric studies of the salmon smolts. We'll release lots of them and look at them and see what we see. But green sturgeon are much more difficult because we haven't been able -- for instance, we would like to do some shipboard tracking of them and provide you with information. It was removed from the first year of the contract. But there's a lot of interest from you and from Tom. We hoped to do that. And maybe it's possible to do some of that before your opinion. But I will say that the Army Corps has

been gracious enough to fund some of it, which will be good science.

MS. NEUMAN: I just wanted to get back to Ellen's original comment and ask Ellen, the coalition, the primary spatial area of concern for the coalition is inside the bays and the delta, but not outside the Golden Gate, or is that untrue? Does some of your dredge spoil out into the coastal environment?

MS. JOHNCK: Out. Yeah.

MS. NEUMAN: Because that's --

MS. JOHNCK: I mean we're -- you know, I'll go out -- I mean my -- the geographical scope of our membership, per se, and the activities that we cover are outside into the ocean, yep, into the Gate and through the Central Bay, South Bay, delta. And, of course, we're greatly allied with California Marine Affairs and Navigation Conference and other entities up and down the coast. And just like the sturgeon is connected, we're very connected --

MS. NEUMAN: Right.

MS. JOHNCK: -- because we support each other. And the Pacific Merchant Fishing Association goes up and down the entire West Coast and on around the world. So -- but, really -- yeah, outside the

Gate, yeah.

MR. HAUSSNER: But just to further up, CMAC is a part of the coalition to signators to her letter, and we represent every port between the City of Monterey and Cresent City in California. So every last one of them is a member of ours, and our board of directors voted this past week to be part of the coalition.

MS. NEUMAN: Okay. One important difference between this proposed designation and what is in place for our listed salmonids is that this designation does extend out into the coastal environment. So in case I didn't say that during the presentation, one important difference here is that we are considering this coastal area -- and it's a large swath of coastal environment from Monterey to the Strait of Juan de Fuca, and I think we explained why. It's because of the biology of the species and of the time that an individual actually spends out in the coastal environment is very high, especially compared to other sturgeon species. And maintaining that migratory corridor for them is very important because they are going somewhere -- they're going north for a reason, and we think we know why they enter estuaries. We're not sure why they go to

southeastern Alaska and up to the British Columbian coast yet, but we're trying to get to that.

So anyway, that is an important difference. And it's an area of economic concern, I would think, as well because those economic costs were taken into account, and they are over and above what exists for any other critical habitat designation that might be currently in place.

MR. KLIMLEY: Let me also inject a little caution in terms of the tracking that's been done has been done with pop-up tags and using light measurements for position that is really inaccurate. They're plus or minus 1 degree of latitude. We're talking plus or minus 60 nautical miles. So we know that the green sturgeon are moving along the shelf. We don't know exactly where they are. And the only really way to do that is to follow -- put tags on them and follow the fish if we want to find out if they're right in that place, you know, where you're dumping dredging disposal, you know, off South Beach so many nautical miles in that one latitude. You would need to do some tracking in the future to find that out.

MR. WOODBURY: Just to clarify, Pete, we did use fixed arrays up and down the coast to determine

the extent and pop-ups. So we had fixed arrays --

MR. KLIMLEY: Well, you have both.

MR. WOODBURY: We had fixed arrays --

MR. KLIMLEY: But the problem with the fixed arrays is they're a gauge. So you find out they go right to there, but you don't know if they were at this one site where they're disposing of things and so forth.

MS. NEUMAN: That's very true.

MR. KLIMLEY: You know. And thank God there are fixed arrays because they give us a lot of information. The fixed arrays also are plotting north and right outside San Francisco because he was talking about San Francisco Bay. That's just why I'm raising this question, for his concern. Now there's an array off of Point Reyes just recently installed. And there may be another installed a little farther up the coast. So...

MS. NEUMAN: For those of you who don't know, we have about -- I think it's about two -- a few hundred fish that were -- that have hydroacoustic tags surgically implanted into them. And they were tagged all around 2002 and 2003. And there are these arrays -- these sensing arrays that are set up along the coast in a variety of different areas that will

detect when a tagged fish passes by it. So unfortunately it gives us this little point-in-time piece of information about where a fish was, but it doesn't tell us how much time it spent in that area. Certainly it doesn't tell us where it came from or where it's going to. So that information is limited. It gives us a sense of how far north they go. It can give us a little bit of a sense of how much time a fish might spend in that area because -- for example, there's an array off of the northwestern corner of Vancouver Island, and Steve Lindley has detected, you know, the same individual passing by that particular array over an extended period of time. And so he knows, for example, that northwestern Vancouver Island is an important hang-out place for green sturgeon. But I just wanted to give a little bit more information about that tagging and how the information is limited.

MR. KLIMLEY: As part of the ERP Grant, we expanded the array in the Sacramento River and in the delta. Like to tell you there's 120 monitors going up the river in the delta and through the Army Corps of Engineers. There will be another 80 or so of them -- we're going to have close to 200 of them throughout the system to provide information.

MR. HAUSSNER: I'm familiar. I also operated Vallejo Marina where the boats used to tie up when you were doing the tagging. So I talked to your skippers and deck hands.

MS. JOHNCK: You know, you mentioned the salmon critical habitat areas designation. And we've been able to dredge and carry on our maritime operations within that -- not that it's been easy, but we've been doing that. And you noted the difference between the habitat designation for green sturgeon compared to the salmon regarding the Gate or the ocean area. And, also, there's some other, I know, differences between the fish. There's more of the bottom-dwelling activity of the sturgeon compared to salmon. But could you say what are some of the other differences? Because I'm looking at -- here again, what can we work out in terms of, here again, both protection as well as, you know, ensuring our maritime activities can keep going? I'm just looking again at what's the difference between the two habitat designations.

MR. WOODBURY: I think the main one for me, at least in the lower bays is the food resources component of the PCEs, the difference between the salmon and the sturgeon; sturgeon being a bethnic

dweller. So when we're looking at dredging activities, they're going to have more of a direct impact on the sturgeon's food resources than you'd have for a salmonid food resource, which is a pelagic -- more of a mid-water species.

MR. STUART: The other major difference that you'll have is that as far as we know, the juveniles spend one to three years within the delta estuaries just in rearing, whereas salmonids, they're usually spending maybe a month to four months rearing in the delta. They have a much more extended period of time where they could be vulnerable to dredging, they could be vulnerable to a loss of foraging base in the different types of substrates. When I use the -- look at white sturgeon, they're fed mostly on clams and shrimp, small amphipods, isopods. The few green sturgeon that we did get in that single port had similar diets; although that data now is 30-some-odd years old and it was before the pambula larvae in the mid-eighties. From what I've heard from UC Davis, who, as I've said, still have contact with the larger sturgeon, adolescent sturgeons, adult sturgeons are feeding predominantly on the Asian clams and aqueducts and what's on the bottom. We don't have a good handle on it. And that's one of the research

corrections that I've asked the different resource agencies to look into is what are the food resources for the juveniles, for the rearing fish that are here in our delta and out in Suisun and San Pablo Bay? We don't have a good handle on that.

The other thing you have to realize, too, unlike the salmonids, these fish can live 70, 80, maybe 100 years old. They're very long-lived, will come back multiple times into the estuaries to spawn. They make their way up river.

The other problem that you have to look at is the contaminant burdens that the older fish can incorporate into their body over several decades of coming through the delta and foraging in the delta. That's one of the issues -- I have a background in toxicology contaminants, so I'm always very leery of exposing new areas through dredging or through other actions that may have been in tune previously by sediments, and if you go open up a new area, you know, you may be uncovering contaminants that were laid down decades ago. That's one of the issues that I look at in the delta here.

But, you know, the predominant difference is you have a long-lived species that makes use of the delta and the bay for extended periods of time, which

salmon don't. Salmon go off shore and move through in comparison relatively quickly compared to the sturgeon. So when we look at the impact of the sturgeon, we have to remember that they are in these estuary environments for an extended period of time. And I think that's probably the biggest take-home message, that they have a resident species versus a transitory species.

MS. NEUMAN: Another --

MR. WINGFIELD: And I just had a follow-up question of what Ellen was talking about if this doesn't meet (unintelligible) --

THE REPORTER: You're going to have to speak up.

MR. WINGFIELD: You know, our window opens, I think, in August. Whatever practices need to be put in place, are we going to have enough time? I mean we only have, I think, three months to dredge. So our big concern is obviously for more next dredging season. Should we be, you know, prepared or panicking at this point?

MR. STUART: Well, we've already -- when I wrote the opinion for the Stockton Ship Channel, the green surgeon as a species was already addressed. So the critical habitat, I don't see really a big hurdle

to overcome because we're already addressing steelhead critical habitat along the San Joaquin ship channels. And within that opinion, I looked at the dredging contaminant issues, turbidity issues. So, especially, it will be a loss of a forage base. As we get more information -- and this part -- you know, as we work with the different applicants -- you know, right now, as I just said, we don't know exactly where and what the green sturgeon are eating. I have data that, you know, I looked at and data from the literature that's several decades old. When I analyze the impact of continued dredging on the green sturgeon critical habitat that's been proposed, the ship channel has already been a fairly well disturbed area for the last several decades, and you have a cycle of anywhere from 4 to 10 years depending on the different region. It's sort of already established kind of a repeating disturbance cycle. And when we re-enter into the re-initiation with the Corps, you know, those are the things that I'm going to be looking at. We've already established the cycle. I mean I wouldn't -- I wouldn't get, you know, bent over the axle on that. For that particular ongoing action, I don't see it as a huge hurdle if we continue on, you know, the operation that it's in.

MR. WOODBURY: Just to reiterate because there's a -- we use windows a lot, not in dredging but in pile driving. But if the fish is there year round, like delta smelt is there year round, and activities are still ongoing even though you've got a fish that's year round, so I -- I'm not going to -- don't concern yourself so much with the windows with the species. I mean I'm looking at the data. Yes, there's times -- there's certain times of the year where adults come through, but I think from the Golden Gate to Rio Vista they move through -- I think their range was from 4 to 19 days, and the average was 6.5 days. They're moving through pretty quick. So I -- you know, I don't think -- yeah, for adults. Now, juveniles, they're there year round. So you're not going to have a window on juveniles, but they're there year round. So we're going to have to look at something other than windows to minimize potential affects. So if you've got a four-month window for salmonids, I think you can consider that's probably going to be your four-month window for sturgeon. And we'll have to look at what are your affects on sturgeon and what are we going to do about it. But I don't think that you're going to look at it will be a three-month window because it's sturgeon or a

one-month window or two-week window. It's a twelve-month window probably, and it's going to be open. We're going to have to look at other things other than a window to minimize on the potential affects.

MS. NEUMAN: One thing I wanted to add was that, you know, initially when we were looking at the overlap in our geographic area of occupation and prey resources, we generated some maps of some of the more common prey resources that we thought -- we didn't generate the maps. We actually went looking for maps of prey resources in the area that we knew green sturgeon were. We were hoping that this would be an opportunity for us to narrow the focus of our -- our critical habitat designation. But, in fact, didn't do that at all because the prey that we -- we have evidence that what green sturgeon eat are very broadly distributed, and they eat a broad -- you know, a broad group of organisms. They eat small schooling fish. They eat benthic invertebrates. Yes, there are about six that we can key in on, but those six benthic invertebrates pretty much occur throughout the geographic focus of this designation. So it didn't help us to narrow the focus. If we can get better maps of where the prey inside the bays and

delta are occurring or perhaps a bit of surrogate information, for example, if most of the prey that green sturgeon consume are in muddy habitat, maybe we can use habitat type as a surrogate for helping us understand what prey resources might be there. I think we lack some of that detailed information that will help us focus not only, you know, on the mitigation measures that we include in our opinions, but perhaps if we can get it in time, this designation. So...

MR. BERGE: I have a question actually outside of dredging, but I don't want to interrupt the flow here. But I'm just curious about the implications for EPA-generated NPDES permits either in place come the time of this critical designation or EPA permits that are pursued after that. Specifically I know vessels -- commercial vessels over 79 feet in length come December 20th will be operating about 20 different discharges under NPDES permits. And I'm just curious. I know you have pollution and NPDES listed as one of the activities. So I'm just kind of curious if that permit is in place, would we have to suddenly go through an additional consultation procedure, or what might happen in that regard?

MR. WOODBURY: The EPA has approached NOAA Fisheries at our national level Headquarters and requested a consultation for the new administration of the Clean Water Act for the NPDES permit. And so we are going through that now. I think invasive species was one of our central threats, I believe, initially -- invasive species and -- so a lot of those species come into this system through our mouth-water exchange or discharge in the ports. And so we now have a system in the delta and the bays where we have 99 percent of the population of the community is made up of these non-native invasive species. So it is definitely a concern to us, and we're looking at the national level to reach a conclusion on that. I know the State of California has very strict guidelines that deals with discharge -- vessel discharge. So we're going to have to look at -- at the benefit of those regulations on the species and see if that is adequate -- if it adequately addresses them.

Does that answer your question, John, or --

MR. BERGE: Yeah. It's worth noting if you're going to be going down that road that invasive species is obviously one of the mouth water, one of the 20 discharges listed through the 401 -- Section

401 State Certification process. The state can add additional requirements above and beyond the floor established under the EPA permit. And I understand from the State Water Board that -- that they will be adding the California Invasive Species provisions on top of that.

But I'm just curious if a vessel is operating under a Vessel General Permit by the EPA, would there have to be additional procedures taken by each permit holder at the period of this designation, or would that be incorporated within the general permit itself?

MR. STUART: That sounds like that will be -- or addressed at our national -- I'm sure it's just not, you know, California --

MR. BERGE: Oh, yeah. No --

MR. STUART: It would be nationwide.

MR. BERGE: -- nationwide, exactly.

MR. STUART: And what I typically -- I -- I know like copper and pesticides up in the Northwest, our national-level managers have taken on that task and -- which makes more sense because we want a consistent policy throughout the whole country rather than just region by region.

I would have to assume -- and I hate to even

assume -- that a programmatic would probably stem down from that that we would then incorporate into a region-by-region basis for our use.

MR. WOODBURY: I'll give you a specific example here is that I'm currently updating the LPMS Biological Opinion, which an indirect affect of dredging is, you know, allowing these large vessels to come in, and the affect of that has been invasive species. Now, I've been told that the Biological Opinion will not have terms and conditions to minimize invasive species; that we're going to let the national level take care of that. For that specific issue, maybe that helps answer your question that we're looking for national guidance on that. That activity will be covered under the national guidance versus the local level.

MR. BERGE: Okay.

MR. KEITH: I have a question from kind of a different perspective. I'm wondering if you can elaborate a bit on the spatial extent of the proposed critical habitat, and in particular for rivers and delta waterways, whether it extends at all beyond the waterway itself laterally, for example, like in particular the banks, floodplains, riparian vegetation.

MS. NEUMAN: The extent of the designation in rivers is higher high water.

MR. KEITH: Can you repeat that? High or high water?

MS. NEUMAN: Higher high water. Higher high water.

MR. KEITH: Higher high water. Higher than what?

MS. NEUMAN: Higher than what? But --

Jeff, do you want to --

MR. STUART: When you look at NOAA charts, and typically in a tidal-influence area, NOAA uses -- you have a mean sea level, and then you have the highest high tide, and you have a mean -- or higher -- so basically it's like, you know, probably -- I want to say like the 95th percentile of your higher tide range. I mean you're always going to have spring tides and certain storm-surge tides that are going to go above that. When you look at the charts and use that for navigation purposes, it's the higher high tide of your spring tide. It's not the average --

MS. NEUMAN: So it does include --

MR. STUART: -- highest level, but --

MS. NEUMAN: -- some severance of the bank.

MR. WOODBURY: So -- yeah, it's different. What did we use for the rivers -- because I think your question was rivers.

MR. KEITH: Yeah, like in the --

MR. WOODBURY: Where you have tides, you have the higher high water that were used. And the ocean, I think along the coast we used something else, Coast Guard something or something along the --

(Multiple speakers.)

MR. WOODBURY: And then for the rivers -- is it ordinary?

MS. NEUMAN: Ordinary.

(Multiple speakers.)

MR. WOODBURY: So we used COLREGS for the ocean, higher high water for the estuaries, ordinary high water for the rivers.

MR. HAUSSNER: And, actually, it's -- the technical term would be mean higher high water because the mean of the 19-year average --

MR. STUART: Right.

MR. HAUSSNER: -- of the higher -- the 19-year datum for that. And then COLREGS would provide the demarcation between inland waters and international waters.

MR. STUART: That's all in the footnotes of

the charts.

MR. KEITH: And then I'll follow up and ask if that -- if you have bank substrate, for example, or riparian vegetation that falls within -- in a river, for example, that falls within that ordinary high water mark, would that be considered a PCE that is also part of the critical habitat designation?

MR. STUART: We've kind of -- we've run into this kind of quagmire before with the steelhead designation, also the spring run. And previously we used riparian habitat, which is in the winter run critical habitat. My understanding is in a two-and-a-half repeating cycle, that's the normal floodplain. Typically in a levee you don't have a floodplain, unfortunately. But say the Yolo Bypass, which is one of the reasons why we did include that, that we do get sturgeon moving through there, it does flood up at a fairly frequent basis. And I can't remember all -- off the top of my head what the actual -- but it is like every two and a half, three years, you get an overtopping of the weir and it wets up for 20 to 30 days every winter season which is about a six-season. As you go farther up, like the Cosumnes River floodplain will flood up on a fairly frequent basis.

So when you look at the two-and-a-half-year repeating, the average bankful, that's what we're trying to get at. We've run into trouble before when we've included riparian habitat beyond that two-and-a-half-year elevation. So we're trying to maintain consistency with the steelhead and the spring run critical habitat that came out which kept it at that ordinary high level, two-and-a-half-year repeating level.

MR. KEEGAN: Again, with the salmonids, the essential fish habitat, they do a lot of permitting, of course, especially up in the rivers. You've got -- you've got to be concerned about upland activities as well and use the correct BMPs. That's where we run into -- essentially at the (unintelligible), we've always told NMFS (unintelligible) up in the river, or where there's steelhead or salmon listed, and we've got some in the jurisdiction, you know. Is that going to be the same case here with green sturgeon? And is it under the essential fish habitat? And then one more question: Are sturgeon going to be considered under essential fish habitat?

MR. WOODBURY: Yeah, essential fish habitat only covers fish that are federally managed. So this

is not a federally managed species, as far as I know. So there won't be -- yes, the FH. And the FH is under the Magnuson-Stevens Act not under the Invasive Species Act. So as Melissa mentioned earlier today, we're looking at just the ESA designation of the critical habitat. We're not the Magnuson-Stevens Act for essential fish habitat.

We did talk about how it affects the critical habitat, and I thought the resolution was that we were going to contain it to the ordinary high water because of life history of the species themselves. I know in the area that I work, you know, if you've got a project that's, you know, a bank stabilization project, even though that area might be officially designated, you know, we always have that discretion to discount that bank stabilization because the sturgeon are probably not on the bank; they're probably feeding in the mud a few feet off the bank. So it's -- just because it's designated, it doesn't mean you can't do anything there. I mean we're going to take a look at how that species is using that area. So if a wetlands is now wetted and is part of the designated critical habitat, and you go, "Well, we can't do anything," well, if they're not using that area -- if there's no PCE there, even though

it's designated -- I guess there would be if it's designated, but, you know, it's going to be -- there's going to be some discretion of how we apply a designated critical habitat during our consultations. So for the bay, if you've got a bank stabilization project, it may not raise any red flags with us.

MS. NEUMAN: But that area is included in the designation. And so if you take a look at the PCEs here, you know, in years when the water goes up to its highest level, you know, and includes part of the bank, these PCEs are protected there. I shouldn't say that. Even in years when the water doesn't go there, those PCEs, if they are there, they are things that we are concerned about. And so if -- you know, even if that area of the bank is dry in most years, I mean I can't imagine that, you know -- well, I don't think sturgeon are jumping up out of the water to feed on things that are embedded within the bank of the river. But during years when it is submerged, maybe sturgeon are feeding on things that are embedded within that portion of the bank.

But anyway, the things that are going on adjacent to the river or ten miles from the river, if something happens ten miles from the river and the footprint of that project extends into the water, it

is something that should be considered in terms of it's affect on critical habitat.

MR. KEITH: Sure.

MS. NEUMAN: So it depends on what the footprint of the project is. That's why we always stress when we get an application from the action agency, we always stress that that footprint of the project be very well defined. Because if we don't understand what the spatial extent of the project is, it's impossible for us to do our job. So it's really important that -- that the action agency define how -- you know, what the extent of that project is. And very often, you know, it -- the action agency doesn't do that adequately.

MR. HAMPTON: I'd just like to add, too, to the gentleman's comment down here. I think you'll find that with the proposed critical habitat listing for green sturgeon it's going to be a lower bar than with like steelhead and salmonids like in the upper Sacramento River primarily because we're only talking about the mainstream Sacramento River. We're not talking about all the little tributaries where steelhead might go to spawn. And they're also -- like Dave was saying, their life history, they're going to be much more tolerant to sediment and things

like that. So in terms of bank stabilization projects in the upper watersheds that contribute to the Sacramento River, I think it's going to be a lower bar. But all these consultations will be combined into one consultation. So all the considerations for all the different species that are potentially affected, I don't think you're going to see anything from the proposed critical habitat for sturgeon that's going to add to the burden that you already have to consider for steelhead and salmonids.

MR. WOODBURY: We also have designated critical habitat for the tributaries to these lower bays as well. So like the Headland River and Napa River up to the tidally influent portion, they are also there.

MS. JOHNCK: Yeah. Another area of interest that I have is whether if a bar here -- not the sand bar -- the bar of harm and effect -- and this is in comparison, I'm interested in your comments, Melissa, about the effects that are identified to any of the PCEs -- let's say they're identified and they -- the review goes to known activities may have an affect on -- as contrasted, let's say, to the Endangered Species consultation where you have to look at, okay, take, which the "may" could come into a take as well,

but -- and I'm just interested in the nuances on -- I've thought that the critical habitat was a higher bar or incremental to what we already have to address under the Endangered Species Listing, which is take, harm, kill. But it seems to me that you're saying that that level of review under Endangered Species take or harm is higher, and what we're coming to here is another step that concerns it but it's not necessarily a higher bar. Is that true, or a higher threshold?

MS. NEUMAN: I would say that it's a parallel bar. I mean what the biologist is looking at is -- you know, when critical habitat is designated, under the ESA it's not only take of an individual fish, but it's also analyzing the effect of that project on the things that that individual needs in terms of its habitat requirements. Now, very often we do that in our -- in our regular consultations --

MS. JOHNCK: Yeah.

MS. NEUMAN: -- because, again, take encompasses so many things, including altering the behavior of the individual.

MS. JOHNCK: Right.

MS. NEUMAN: But it's another -- I would say a parallel look at how that project is specifically

affecting parameters of the habitat. I don't think it's a lower or a higher standard.

MR. WOODBURY: It's a different bar.

MS. NEUMAN: It's just a different bar. And so how do you get to a project will adversely modify critical habitat? I'm not sure. The same way you get to a project will jeopardize the continued existence of the species. I would think that it's the same process that the biologist is going through.

MS. JOHNCK: Here again, I'm looking at what would be the proof or the --

MS. NEUMAN: Oh.

MS. JOHNCK: Our demonstration that either -- you know, we're not -- and I guess you focused on the food resources. Because I'm looking at some of the other PCEs here, and I -- of course, I'm going to go to dredging and say, well, I think under our LTMS -- and we worked very hard, the industry in the bay, to ensure we're compliant and do -- be good stewards of water quality. Spent a lot of time on that. I think we could cover that, migratory corridors with -- well, with windows, but -- well, okay, water depth -- I don't know. But I guess the food resources is, I guess, what we haven't really addressed. And we have to come up with mitigations or something. We may

have. We may have. I'm just looking at food. Here again, I think of what would be, you know, very instrumental -- insurmountable, very difficult and saying, well, maybe there's some things that we've already demonstrated we're not adversely affecting except maybe the food. Any comments on -- or feedback on how I'm looking at -- or what we need to do more of in order to --

MR. WOODBURY: Yeah, I agree, Ellen. I think the number-one factor at least for dredging in the Bay Area is going to be on food, and how are we going to mitigate for that, you know, yearly, every other year, degradation of that -- of their food base. You know, we're working with Port Sonoma right now. We're looking at how long it takes to recover that food base. And so we've just finished that project, and we're looking toward another one. So maybe we can work with the coalition and the dredging community to find another spot in the bay where it's a little bit different from that and maybe in a federal channel or something where it's a deeper and faster -- faster flowing and different sediment and just see how fast the food recovers so we get an idea of the actual impact on the habitat. Because we really don't know that now. The citation we're using

now is *Oliver, et al.*, 1977. It was off of Moss Landing. So we really -- you know, there's -- also, this is outreach -- we need data. I mean we've said this many times, but we really need data to make good decisions. And, Ellen, you've been a real big proponent of that going back to Washington --

MS. JOHNCK: Right. Uh-huh. Absolutely.

MR. WOODBURY: -- and getting funds. And we've got Ethan here that is a --

MS. JOHNCK: Yeah. Which brings me to --

MR. WOODBURY: -- recipient of that.

MS. JOHNCK: It appears that as I read through the Federal Register narrative that even in the discussion of -- there's another nuance that I picked up. Tell me if I'm right. It was in the intersection between the high conservation identity and the economic exclusions printed in there -- somewhere in there it appeared to me that there was recognition that there were areas in the total geographic scope where due to efforts of industry agencies, there was a lot going on in stewardship, conservation, activities that we're already managing the species and -- or managing habitat, we'll say that, due to efforts -- and those efforts were recognized somehow in the ultimate identification of

high conservation zones and economic -- I mean in the areas that were excluded, there was some recognition that there were ongoing activities that were taking care of the habitat. That's what I picked up. And I mean I thought that was important, and that is, of course, the point that I want to make, that we're doing a lot already and how that can be recognized in the biological point of view. Was that a consideration or was I reading between the lines and not --

MS. NEUMAN: You know, we took a lot of things into account. And one of the things that we did look at was what's going on to improve, for example, this particular habitat in the future or currently. And, actually, in some cases, it moved the group to keep a particular area in the designation or even give it a higher value, because if the potential -- because, for example, there's a plan in place to remove the Vaqueros Dam, if the potential is there, sometimes, in the case of the Yuba River, it's a great example, between the Yuba and the Feather River, the Yuba River actually got a higher conservation value because of this possibility of that habitat improving in the future, water flows being restored and things like that. And the Feather

River got a little bit of a lower score. It didn't hinge on this exactly, but it was one of the things that was discussed and may have been -- or may have resulted in this lower score, but the Feather River, even though we know that green sturgeon -- southern DPS green sturgeon still enter the Feather River and, in fact, move right up to the place where they can't go any farther and sort of exhibit some strange behavior that suggest to some that, boy, it looks like they want to spawn, but they can't, or, you know, maybe they do and we just haven't figured that out yet. So -- but it might have worked the other way as well. If, for example, in an area we knew that there was -- although I don't think so. I don't think it ever led to us excluding an area --

MR. WOODBURY: No, I don't think so.

MS. NEUMAN: -- because we knew something good was going on in that particular area.

MS. JOHNCK: How about Puget Sound, actually which is another --

MS. NEUMAN: Puget Sound was excluded because it's -- there's nothing good going on there. It's so degraded and the use of green sturgeon of that habitat is pretty limited in terms of the detection data we have that I think -- and there were lots of

Department of Defense lands there as well.

MS. LAMB: Right.

MS. NEUMAN: So there were definitely some things going on. But one of the things that I remember Steve Stone bringing up about Puget Sound is it's pretty degraded with no plan for it improving in the future.

MR. WOODBURY: I think both Tomales Bay and Elkhorn Slough, we did consider the fact that there wasn't a lot of activities going on there, and it was -- you know --

MS. NEUMAN: Okay.

MR. WOODBURY: -- it was a -- it was being conserved. So -- so I think we -- I think that led into our downgrading of that because there was -- green sturgeon do occupy those two areas.

MS. NEUMAN: We had confirmed southern DPS presence, though, there?

MR. WOODBURY: Well, we have green sturgeon presence, but not confirmed southern DPS. So I think it was, Ellen -- I think we did look at some areas that did look like they were --

MR. STUART: Elkhorn Slough in particular, there were two accounts of green sturgeon: One on the water intake cooling racks for the Moss Landing

Power Plant, and another was a green sturgeon carcass that was found right at the mouth of Moss Landing, Elkhorn Slough. And Elkhorn Slough is an affected area now. So nothing's going to happen there, knock on wood. So, you know, more bang for the buck if we put our efforts elsewhere.

MS. NEUMAN: National parks -- not in this particular designation, but national parks have actually been excluded from critical habitat designations for similar reasoning: It's already being managed in order to protect the species that -- you know, whoever was concerned about -- I guess mostly Fish & Wildlife Service. And so Fish & Wildlife Service does have a record of excluding national parks from their designations because they feel that it's already being managed well and that the habitat is being conserved and protected adequately.

MR. KEEGAN: Does that apply to the local marine sanctuaries as well? Those places aren't -- I mean they're currently on your designation list. Should they be?

MR. WOODBURY: So that would be like the National Marine Sanctuaries?

MR. KEEGAN: Right. Like the Golden --

MR. WOODBURY: Like Cordell and Monterey Bay --

MS. NEUMAN: Right, Monterey Sanctuary, Channel Islands --

(Multiple speakers.)

MS. NEUMAN: We did not exclude any national parks from our designation.

MR. KEEGAN: But is that under consideration?

MS. NEUMAN: For sanctuaries? I don't know that we totally considered it. You know, in a sanctuary, what's mostly limited is fishing. And this species is not fished. So it may have come off the table -- I think we did think about this a little bit, and I'm not sure that the Park Service or the sanctuary actually offers protection to green sturgeon because their regulations, again, limit -- might limit fishing in and around the park or the sanctuary. But in terms of discharge, LNG terminals, these kinds of things, NMFS holds the regulatory power for those kinds of actions. I shouldn't say we hold it; we share in the responsibility of regulating in those realms. But the sanctuary does not -- sanctuaries actually have very little regulatory power.

MR. BERGE: Just further on that thought, I

know the California National Marine Sanctuaries are adopting regulations to mimic the -- or align with the California Clean Coastal Act which does limit discharge.

MS. NEUMAN: Discharge.

MR. BERGE: So in that regard I think they are trying to manage the discharge. I can't speak in terms of sediment (unintelligible), but certainly (unintelligible).

MR. WOODBURY: Uh-huh.

MR. KLIMLEY: Not just in terms of the PCEs, I noticed (unintelligible) they interpreted it in terms of feeding sources. But an animal has to get from point A to point B. And we did some tracking of green sturgeon in the bay, and we found that the green sturgeon that was raised on tiburon (phoneti) that it moved out of the bay very rapidly -- the current was going out, but it was moving with the current. And how does it do that? It doesn't see the bottom; it doesn't see the surface. And so -- and we created this flow chamber where we're tying to find out how they actually determine flow. But I think that flow is very important in terms of their moving around the bay. And so they may be foraging in front of Vallejo, but then they get in that

channel -- or how do they get out of Suisun Bay, which is just -- you can't see. Well, once the water starts flowing, they can follow that. So it seems to me that where you put channels -- channels may not be bad. They might be good, dredged channels where you have flow, and essentially you're making a road for the animal to follow. Unfortunately, you know, some of this work is yet to be published by myself.

MS. NEUMAN: We did highlight, I believe, in the rule that --

MR. KLIMLEY: It's No. 3. So it's up there, you know.

MS. NEUMAN: Right. I think that some folks during the various stages of review of this notice were asking about depth, and we highlighted water depth as --

MR. KLIMLEY: They're all related, depth and flow.

MS. NEUMAN: Right. But somebody was pushing us to say, well, which depths? Is it 0 to 5 meters? Is it 0 to 10 meters? Is it 10 to 15 meters? And when we started getting into the literature a little bit more, from what we could gather, what we determined was it's really a variety of depths. Based on some of the information that's been shared

today with them up and down in the water column, we weren't able to say that it is these depths. We know that deep holes in some areas are -- in some areas of the system may be important for green sturgeon in terms of holding and perhaps feeding. But we couldn't say that this particular set of depths is important for green sturgeon. Again, this would have helped us narrow our designation a bit. And what we learned was it was this variety of depths depending on the life stage --

MR. KLIMLEY: When I think of depth, you know, it's important. But you're in the middle of Suisun Bay, you can't see your hand, and you take a person and put them there. Yet the -- and just go around and around. But a sturgeon will go out and then up the channel and up the river. How does it do that? And it may be something that simple. One simple rule, that you can detect flow. Well, you need to know whether it's going out or going in. But it's really important. So any work that we do in tracking and developing a random model we probably would modulate by depth, channels.

MR. HAMPTON: Water flow, I would think that depth -- and I'm thinking about the rivers again -- up river, not just, you know, feeding and movement,

migratory behavior, but I mean obviously spawning behavior is something that's very important in the life cycle of the species, and depth to the extent that it affects water temperature. I mean those things are very closely related. So, you know, that's -- that's got to be in it. It's not so much about how deep the water is, but the depth to the extent it affects what the temperature and --

MS. NEUMAN: Uh-huh.

MR. HAMPTON: -- and -- and it's obviously lethal above a certain point.

MS. NEUMAN: And so a lot of these PCEs are interrelated. Water quality, water flow, water depth, sediment quality, I mean --

MR. KLIMLEY: You've got them all up there.

MS. NEUMAN: We recognize that they're all related. And unfortunately it's not one level of each that says to us green sturgeon will be here at this time. In some of our critical habitat designations for large whales, they are completely defined by where krill aggregate. And they have really -- you know, for some whale species, there's some really good data that show exactly where in the ocean and at what time krill will aggregate in large numbers. And so I'm not saying that they had an

easier job with large whales, but I think they did with some of their critical habitat designations in -- in defining their critical habitat because they had one PCE, and it was one prey resource, and they had good maps showing exactly where that prey resource aggregated. It's much more complex -- fish are more complex.

Okay. It is getting to be close to 12:30. I said we were going to take a break for lunch. How does everybody feel about breaking for about a half an hour for lunch, or do you want to go for --

MR. WOODBURY: We're not going to get there in half an hour.

MS. NEUMAN: Okay. An hour? I'm not sure what your schedules will allow. We can take as long as you'd like for lunch, actually. If you'd prefer to have 45 minutes to an hour, that's fine. Does anybody --

MR. BERGE: Just a question. What's the rest of the agenda? Is it a continual discussion like this, or is there a specific presentation -- a different presentation?

MS. NEUMAN: Do we have more questions from the audience, more general back-and-forth questions?

MS. JOHNCK: Well, I have a couple -- I

mean -- you know, my comments are more -- I wanted to provide you more information on the economic situation, how it's tied into national security, our conditions more having to meet Department of Homeland Security, how it relates to -- that kind of thing.

MS. NEUMAN: Okay.

MS. JOHNCK: So that's -- I just -- here again, this is providing you more information. Another topic would be what can we do between now and June? I mean -- that's what -- we will utilize the extent of the comment period, no question, and develop recommendations. But the other topic would be what can we do in terms of programmatic between now and June, these kinds of things. Those are my primary areas. Maybe we can take 15 or 20 minutes on that. I don't know.

MS. NEUMAN: Does anybody else have other back and forth that they would like to engage in, or would anybody like to give a formal public comment to Sandy?

MS. JOHNCK: You mean -- this is the record. I mean --

MS. NEUMAN: This is part of the record. But if there's something that --

MS. JOHNCK: I've sent a letter already. I

will be delivering official public comment in the form of an compendium.

MS. NEUMAN: Right. But if there's anything that you'd like to speak to Sandy directly on, now is your time. It's a chance for you to perhaps be, I don't know -- because we won't be listening. So you can tell her whatever you want to about us and it becomes a part of the public record.

MS. JOHNCK: I don't have anything officially.

MS. NEUMAN: This is your opportunity to tell Sandy whatever you'd like to that perhaps you don't want all ears to hear, and it becomes a part of the record.

MR. KEEGAN: Can we talk about the presidential election?

MS. NEUMAN: Okay. Well --

(Multiple speakers.)

MS. JOHNCK: So am I the only reason people would be staying over? Does anyone have anything more? Because -- I mean if you want to handle my things now and go for another 20 minutes --

MR. WOODBURY: That's what I'm thinking, too. Let's just do it.

MS. JOHNCK: Okay.

MS. NEUMAN: We could do that, and then we could break. And if we would like to continue -- you know, if people are hungry, we can go have some lunch or something like that, or we can just say farewell until next time.

Okay. So, Ellen, go ahead.

MS. JOHNCK: Okay. It's pertaining to the navigation and commercial interests in the bay. Where I see the economic information limited and -- by the way, I am taking into consideration your -- you have a standard that I wasn't quite -- I want to say fully understanding between the -- I guess you're looking at the incremental economic costs after you've already gone -- what you've already spent on complying with the Endangered Species Act. I understand you have that standard there. But beyond that, notwithstanding that, I felt that the economic -- the economic evaluation was still limited.

And on the question of exclusion of DOD lands, what -- and the reasons thereof, it would be important for the designation to consider the relationship of the security restrictions which are being applied to industry in the bay that say you must dredge your channel, you must keep the flow and

the channel open in a safe and reliable depth for all manner of vessels. In fact, we've even had to come under even more rigorous scrutiny, more mandates from the Department of Homeland Security for this both in our major ship channels as well as in our berthing -- in our harbor area. So we've got to dredge the channels to comply with some security, military considerations. So I think there's a -- depending on how this ends up and what our costs would be on that, that -- those are the type of considerations that we should be, you know --

MS. NEUMAN: Right.

MS. JOHNCK: -- including. And then the whole -- the -- how we organize regarding how dredging is done. Right now we have -- are still dealing with a federal budgetary system that is a very complex procedure, and we've done the best we can to get the money and the time -- and the expenditure of the money timed from the federal government -- and also from the state -- to get our dredging done and to complete the dredging that we're doing for restoration, which are providing additional conservation areas for habitat. We're getting a time with the windows slowly, and it's still a very difficult process. So if we were having to move

around the whole thing -- we can't change the federal budget. You're not going to have a budget now. It's even worse than ever this year and next year. So I'm just sort of painting a picture for you depending on how this sort of comes around a full 360 degrees back to where we were five years ago.

And what we well do in developing our economic considerations, economic impact considerations, develop more of an understanding of that so that could be dealt with in the critical habitat designation, which will be significant, let me just say that. And it's just -- not just a matter of a little bit more that we have to spend to deal with critical habitat; it could actually set what we've got going on its heels. So we're very worried about that.

MS. NEUMAN: I think what would be very important and informative to have a discussion with you and our economists at Industrial Economics so that they can --

(Multiple speakers.)

MS. JOHNCK: And the Corps, too.

MS. NEUMAN: -- and the Corps --

(Multiple speakers.)

MS. NEUMAN: -- so they can explain exactly

what they did --

(Multiple speakers.)

THE REPORTER: Okay. Wait a minute.

MS. NEUMAN: -- and how they arrived at their estimate annualized --

MS. JOHNCK: Right.

MS. NEUMAN: -- incremental costs. And I think that's going to be very important to this process. Because, unfortunately, I don't think we can speak to that eloquently, but I know that they can. And so that's where we can determine is there something that they missed. Is there something big that they missed. I know that the Department of Energy and FERC want to engage us and Industrial Economics in the same kinds of discussions because they feel that we -- that we way underestimated the costs of some of these alternative energy LNG and hydroelectric power projects and what kinds of changes we would make to those projects to protect critical habitat. So I think that might be the --

MS. JOHNCK: Yeah. And I --

MS. NEUMAN: -- best next step.

MS. JOHNCK: -- mean with the fact -- I mean very big fact that I represent refineries -- the five major refineries on the West Coast for Northern

California, that is, the bay -- they produce all the fuel for all the airports for -- you know. So if -- if we had to turn this entirely around and that was -- and the only way they could get the fuel to the airports is through -- some of them are by plane, but by tankers coming into the bay and delivering the fuel to the refinery -- well, Chevron is a large one, but they -- I mean, of course, as I said, for -- all the airports supply the energy for all the western states. So they have to dredge. And that's as simple as that. So depending on how -- and right now we're -- I mean we're -- we have a system of managing for the protection of the species through our windows. It's tough. And there are times when we can't do it, moving 5 -- you know, 4 million cubic yards about in a year. It's tough, but we're doing it. And we're very dedicated to, you know, taking care of the species and keeping, you know, commerce going. And we will continue to do that.

I guess I would say, too, that even though we will be adding what the significant costs will be some -- this whole present system of management that we've got going now, whether that would be totally turned on its heels or what that would be. But I do want to dive in hopeful that through a programmatic

permit we will be able to keep this system in balance. But at the moment, there is uncertainty on that because of what we've got before us. So -- but we've had a very good success with the Fish & Wildlife Service and Fish & Game. I think our whole program here for managing the bay in a lot of areas -- we still have a lot of work to do, and we need to be looking at other types of innovations for the food resources. We're perfectly willing to look at that.

And I guess my final comment, too, is what can we do between now -- notwithstanding how this final designation looks like, it appears that in some way, shape, or form we will have to have a programmatic permit. So I guess what would we need to do to support you, David, to get that done with all your activities? You don't have to answer that, you know, right away. But it appears that for the delta, though, the Biological Opinion -- we already have -- it appears that you think you can just -- I don't mean to minimize the current sturgeon issue, but to tack on the critical habitat onto the Biological Opinion for the Sacramento River, that it would be somewhat simple. I mean if I could --

MR. STUART: No, I think that's an accurate

representation. The Opinions for the -- I think it's for the Sacramento Ship Channel and the Stockton Ship Channel are relatively recent Opinions, 2006, I think, and 2007 when we re-initiated because the port was concerned, as was the Army Corps of Engineers. So we -- we had to put on our thinking cap and start thinking down the road to this eventuality. I mean we knew -- we knew critical habitat was coming and by law we had to have it. So we also -- when we looked at spring run and Central Valley steelhead critical habitat, we anticipated that the affects that we were analyzing for spring run and steelhead within the delta would have a similar carry-over affect for green sturgeon. And, essentially, it's moving out the sand. And when we look at the contaminant issues basically -- particularly in the lower reaches of the ship channels, it was sand. So contaminant issues kind of went by the wayside. The dredging cycles, it looked like we had enough time in between dredging cycles that we could get recolinization of bethnic invertebrates. So, you know, I put on my thinking hat and thought about it as I wrote those Opinions. When we come out with the final critical habitat designation, the Corps will have to, you know, say we want to re-initiate for critical habitat. And then

since I've already done most of the groundwork already, I don't anticipate that it's going to take me very much longer to turn that around and come out with an updated opinion.

So I've been fortunate. I've already thought about that. I've already grown more gray hairs two years ago writing those opinions. Knock on wood, you know, the Corps -- if the Corps addresses it quickly, gives me documents that are useful, up front, you know, maybe there will be updated dredging cycles. And, you know, I know there's news out there that they might want to go a little bit deeper --

MR. SUDA: There's two projects in San Francisco deepening both of those channels, and that would be -- we'd have to talk about that, I guess.

MR. STUART: That's a bigger trigger.

MR. SUDA: That's a bigger a trigger, and I understand that. But, you know, we'd have to re-visit that again, you know, but...

MR. STUART: Yeah. I see that behind the curtain.

(Multiple speakers.)

MR. KLIMLEY: Our goal is getting deeper channels?

MR. SUDA: Well, there are two projects that are --

MR. KLIMLEY: That's good for sturgeon.

MR. SUDA: -- coming out of San Francisco that -- we have two Project Delivery Teams that are working on deepening both of those channels. And people in my section and Barry's section are working on those so that we -- and I know that the big problem is the salinity and toxicology and O2 levels. So we all understand that that's a big hurdle to get over. If we could solve that, I think maybe writing the part about critical habitat might not be the highest priority.

MR. WOODBURY: No.

(Multiple speakers.)

MR. STUART: That's a little speed bump --

MR. SUDA: At least we're all smiling. Okay.

MR. KLIMLEY: I'll just say we had a seminar about a month ago by Duane Foxmore working in the Chesapeake, and there they have mortality in sturgeon because the channels are too shallow. So a deep channel in some respects is good.

MR. SUDA: Well, the problem here is, I guess, we're going to take some of that overburden and put some other contaminants out and salinity and

then we have oxygen problems. So -- but those are minor issues. And I say that very facetiously with a big smile on my face.

MR. STUART: The facetious laugh from the biologist.

MR. SUDA: A little bit of humor gets you a long way.

MR. STUART: Job security.

MR. SUDA: Yeah.

MS. JOHNCK: Okay. I think -- yeah.

MS. NEUMAN: Okay.

MS. JOHNCK: I'm done.

MS. NEUMAN: Well, remember our Federal Register Notice requests additional information on a variety of different topics. I think I outlined a couple of those to you today. But for those of you who are dredging or, you know, engaging in shipping activities, I think one of the things that might be helpful for you to think about, and perhaps, Ellen, you to bring back to the coalition is how can we move forward with what it is we want to do and help NMFS address some of these important data gaps that exist. Because in the future --

MS. JOHNCK: Yes.

MS. NEUMAN: -- at approximately four years

from now, we'll be updating our Status Review of the species and, in conjunction with that, comes updating our listing determination, our 4D Rule, our critical habitat designation. We've got Recovery Planning down the road. So our request to you for information is also a request for help in allowing us to learn --

MS. JOHNCK: Yeah, I am here in that spirit.

MS. NEUMAN: -- more. And you work with a lot of folks who can potentially help either by subcontracting out to, you know, scientists, researchers, who -- you know, whoever it is to gather that information at relatively little costs to them. If you're already taking the dredge spoils somewhere, maybe you take a look at the dredge spoil and figure out what's in it. I mean you probably do already. You're probably required to do that.

MS. JOHNCK: Oh, yeah.

MS. NEUMAN: But, you know --

(Multiple speakers.)

MS. JOHNCK: Golden California soil.

(Multiple speakers.)

MS. NEUMAN: Okay. So I'll just leave you with that is that we're -- you know, we're always updating these documents and hoping to improve what we've worked with. And a lot of times what we put

out is because we have to meet a deadline in order to do it. We always recognize the fact that it can improve over time as we learn more.

MS. JOHNCK: The Recovery Plan is important. I mean I'm thinking about that because we work with Fish & Wildlife Service in action (unintelligible) Recovery Plans. Thank you very much.

MR. WOODBURY: I'd like to get a sense of how many people would like to return after our one-hour lunch break. Anybody coming back?

(Discussion held off the written record.)

(Lunch recess.)

MR. IVESTER: Well, I'm mostly -- I'm just more interested in the process in timing. And I know there's a court settlement with a deadline.

MR. STUART: June 30th we're supposed to have our final.

MR. IVESTER: Right. Which obviously sets some constraints. But I just wondered what you saw as the process.

MR. STUART: Well, the process -- well, Ellen asked if we could have a -- or she could have an extension. She wanted six months, which I don't think is realistic for pushing our June 30th deadline probably outside of the Court's tolerance level. But

it's -- there is a potential to have a 45-, maybe 60-day extension. You know, that's not for everybody, but we can work with Ellen and her consortium --

MR. IVESTER: Coalition.

MR. STUART: -- coalition. You know, and -- because Ellen and the coalition have already worked with David Woodbury. So there's already a pretty good working relationship that we can, you know, settle everything up by the end of the year and get moving towards the final critical habitat. That's -- that's the process we're looking at. So it's still -- you know, it's kind of a tight time line.

MR. IVESTER: It sure is. And you would know better what the judge's tolerance is pushing that deadline back.

MR. STUART: You know, that would be more Melissa's -- I'm -- she's more attuned to what the actual scheduling deadline is for the different Court decisions as to when we need our critical habitat issued. My impression of what Melissa has said is that June is pretty hard. We're already over where we should have been with the critical habitat designation, which was listed in 2006. Normally it's about a year, and we're two years out now, almost

going on three. So I'm not sure there's a whole lot of slippage left in the system of getting it pushed out farther.

MR. IVESTER: Okay. Well, I don't know if she explained what we had in mind at the coalition, but, you know, taking a look particularly at areas around the bay and the delta, and looking at both the biology and the economics of specific areas and trying to do some sort of a balancing.

MR. STUART: Right.

MR. IVESTER: And, you know, it just takes a certain amount of time to collect the data and analyze it and present it. And we'll just have to do it as quickly as we can. But that really puts a time crunch on it.

MR. STUART: I believe Melissa had offered up to Ellen meeting with the economic analyst, who -- I believe there's one representative in San Francisco, a woman we have been working with back in Massachusetts is probably, as we speak, going on maternity leave. So that may not be a fruitful avenue to follow.

So, you know, some of Ellen's discussion centered around Homeland Security issues and how the economic analysis was completed, particularly the

trigger monetary levels. So Melissa had offered up meeting with the analyst that we used to try to answer those questions. And as far as the biological issues, we're going to make available all of our references that we used, as many as we can get online. Between David Woodbury and myself, we have several hundred reference articles, both scientific literature and the gray literature, and those hard-to-find tidbits of wisdom from UC Davis and such. So we'll do our best to get those all PDF'd and put on the web. Most of them, I think, are there already. But some of the other more obscure ones that we'll have to work to clean up and put on there -- some of them I just haven't -- I'll have to go scan those.

MR. IVESTER: Do some scanning.

MR. STUART: Yeah. Hopefully while not violating copyright laws.

MR. IVESTER: I don't know anything about copyright laws.

MR. STUART: Yeah, that's one of the things I don't know.

MR. IVESTER: Okay. Well --

MR. STUART: It sounded -- between -- the conversation that we had with Ellen before lunch and

Melissa and the biologist and kind of around the table, it sounded like there was a lot of agreement between all the different stakeholders as to where we needed to go and kind of better defining what the critical habitat is. For myself, I do Sacramento and Stockton Ship Channels. And the Biological Opinions that I have already written came in right about the time the green sturgeon was listed. So we knew it was proposed. We didn't know exactly when it would be listed. The Port of Stockton actually came back and asked us to re-initiate. So I incorporated green sturgeon into that Opinion and made assumptions on the critical habitat back in 2007, you know, based on what we had already done for steelhead and spring run. So it shouldn't be much of a hurdle. And I think Dave is -- Dave Woodbury is of the same opinion, that they're working to get a program added for the Bay area, and that work is already being negotiated and talked about between all the parties. So knock on wood, it shouldn't be that big of a hurdle to overcome.

I guess the major concern was that come June 30th or July 1st, all of a sudden everything stops because the critical habitat -- we'd all have to re-initiate our consultations. We're hoping to

avoid that sort of scenario. We already have the gears going and programmatics being developed so that we don't have much of a speed bump in the road.

MR. IVESTER: That one sounds good, yeah.

To shift gears just a little bit -- this is more just a point of curiosity at this point, I notice that on the biological side there's some extrapolation basically from salmonid data.

MR. STUART: Yeah.

MR. IVESTER: And then the critical habitat, at least in the Bay area for salmon doesn't include the South Bay and other portions, but yet the proposal for the sturgeon does. And I just wondered what thought went into that.

MR. STUART: Well, sturgeon actually occur throughout the whole Bay area. They catch white sturgeon south of the Dumbarton Bridge all the time. And biologically speaking, there's no barrier in the movement of sturgeon within the bay. And sturgeon, both species, are known to use the Bay area for rearing, typically in the first three years. So adults do come in and congregate -- you know, part of the mystery of sturgeon, we're not exactly sure what some of these congregations really are; although, we do see congregations of fish. We have one in the

winter up off British Columbia for green sturgeon. Our recent acoustic telemetry data has shown us -- we have listening posts up off of Vancouver that listen to acoustic tags, and we've had several dozen fish show up there a couple years in a row. So we're not sure what they're doing. We know they're there. It's part of the mystery of sturgeon.

MR. IVESTER: That's interesting. Okay.

MR. STUART: So -- and Dr. Klimley was here from UC Davis, along with Josh Isreel, and some of his technicians. And they're, you know, working hard and fast to get us more data on movement and timing of green sturgeon within the delta and Sacramento River. And then particularly we're interested in trying to get juvenile sturgeon data because there's been a big void in our modeling. If we could get much better knowledge of what adult sturgeon are doing -- we know that juveniles of one to three years and adults in the estuaries before they go off shore -- we don't really know where they are and how they're using the delta. We see them in troll nets. We see them at the south facilities and federal and state pumping. So we know kind of timing when they show up in greater numbers than others, but we don't know how they're actually physically using the delta,

how they're moving in the delta, you know, congregating in any given area, which would help set up ways to protect certain areas and maybe let other areas be used. This is all solid data that we're asking all the stakeholders if they have anything, if they can work as a coalition, a consortium to gather this data. There's still a lot of information out there where we have to make assumptions and extrapolate from what we hear.

MR. IVESTER: Well, I think what we'll do is -- got a number of things we need to do. Apart from talking with our members and gauging the level of interest and what areas they would like to focus on, we also need to talk with the biological and economic consultants and see what they think they can accomplish in the limited time available.

MR. STUART: Right.

MR. IVESTER: And we'll go ahead and do that. And if it turns out that -- if push comes to shove and we just think that we need more time to do this, Melissa's the person we should talk to?

MR. STUART: Melissa is the point of contact in Long Beach.

MR. IVESTER: Okay.

MR. STUART: This office is a point of

contact. I'm trying to coordinate with the Recovery Plan group, you know, which is just in its initial fledgling stages of trying to, you know, find people's interest and availability and such.

MR. IVESTER: Right.

MR. STUART: So -- but that's got to happen in a short time, too.

MR. IVESTER: No, I understand. And, frankly, I don't know if it's going to take all these folks more time than we have available. But if that's the way it turns out, I suppose I want to talk with her about, you know, not just trying to delay the process by a few months -- that doesn't profit anybody.

MR. STUART: Right.

MR. IVESTER: But if there's a case to be made to the judge that a lot of good things can happen if we just have, you know, three to six more --

MR. IVESTER: Right.

MR. IVESTER: -- to analyze this --

MR. STUART: Yeah, that's out of my realm of knowledge.

MR. IVESTER: Okay. Well, unless there's something else, I guess that does it for me.

MR. STUART: Okay.

(The public hearing was concluded at 3:30 p.m.)

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R E P O R T E R' S C E R T I F I C A T E

STATE OF CALIFORNIA)
) SS.
COUNTY OF SACRAMENTO)

I, SANDRA L. HOPPER, a certified shorthand reporter, do hereby certify that the foregoing 138 pages comprise a transcription of the proceedings had and the testimony taken at the hearing in the hereinbefore-entitled matter.

Dated this 5th day of November, 2008, at Sacramento, California.

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SANDRA L. HOPPER, CSR NO. 7110