

NATIONAL MARINE FISHERIES SERVICE
GREEN STURGEON PUBLIC SCOPING WORKSHOP

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Thursday, June 1, 2006

Stanford Room, Federal Building
650 Capitol Mall
Sacramento, California 95814

9:00 A.M.

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

1 MS. NEUMAN: Okay. Good morning, everybody. My
2 name is Melissa Neuman. I work for the National Marine
3 Fisheries Service in Long Beach, California, and I'm going to
4 be leading the workshop today along with Susan Wang, who's
5 also with the Marine Fisheries Service and who is at the back
6 of the room. And please make sure that all of you have
7 signed in. We also have some other NMFS folks participating
8 in today's workshop who you may or may not know. Jeff McLain
9 is with our NMFS Office in Sacramento. Diane Windham is
10 sitting next to him. And is Bruce here yet, Bruce Oppenheim?
11 Okay. Some of you may know Bruce. But we are the NMFS
12 representatives here at the workshop today. Please reach out
13 to any of us if you have questions regarding the logistics.

14 But I'll make a few announcements about logistics.
15 First of all, if you need to use the bathroom, they are out
16 these double doors. You sort of turn to the left, and
17 they're on the left-hand side. And you need a code to enter
18 the bathroom. The code is listed on the sign there at the
19 back of the room, 324. Okay? We also have some ice water at
20 the back of the room, some sodas. Please feel free to help
21 yourself at any point during today's workshop. There's some
22 ice tea back there as well. And if we run out in the back,
23 just go to the back room there and there's a kitchen and open
24 the fridge, and there's some more refreshments in there.

25 The format for today's workshop is going to be a

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1 series of presentations in the morning from those of you who
2 have agreed to give a presentation today. And hopefully
3 these presentations will focus on water resources user
4 issues. And in the afternoon -- we'll take a break at one
5 point. I'm not quite sure what time that break will occur,
6 right around lunchtime. And we'll come back in the afternoon
7 and continue with the discussion of what we heard earlier in
8 the day, but also that discussion is going to be guided by
9 some focal questions that I'll present in my presentation
10 which I'm going to be giving in a few minutes. We're going
11 to be focusing in on five questions that involve identifying
12 activities and programs that may affect green sturgeon,
13 identifying how those affects play out either directly or
14 indirectly on green sturgeon, how those particular activities
15 might be modified to provide some conservation advantage to
16 green sturgeon, and our fifth question focuses in on how
17 these activities might affect other species, other programs,
18 water resource users, et cetera.

19 We did hold a workshop yesterday. Some of you
20 attended that workshop. The workshop was supposed to focus
21 on recreational fishing, the recreational fishing community.
22 Really, there was only one person at the workshop yesterday
23 who represented I think the recreational fishing community.
24 There were folks from Cal Fish & Game as well. And we did a
25 lot of the same things yesterday that we're going to be doing

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1 today. And so to start off our discussion this afternoon,
2 we'll probably show you some of the products that we produced
3 yesterday and kick off our afternoon discussion by taking a
4 look at this list of activities and programs that we
5 identified yesterday, and we'll be asking you to add to that
6 list if you see anything that wasn't included on the list,
7 and then really focus in on water resource user issues and
8 focus our discussion.

9 We will probably do break-out sessions this afternoon
10 because we have a much larger group today than we did
11 yesterday. And we might be breaking out into groups of maybe
12 about ten or so people. We'll have NMFS folks leading some
13 of those break-out sessions, but we'll all be focusing in on
14 the same five questions.

15 At the end of the morning presentations, if we decide
16 that we'd like to stay together as a group instead of
17 breaking into smaller groups, please voice that to us. And
18 if we want to stay together as one large group, we can
19 rearrange the chairs here into a big U, and we can just all
20 participate together. If it is going to enhance our
21 conversations and our discussions to break out into smaller
22 groups, we can do that as well. So we'll sort of wait until
23 the afternoon to make that decision.

24 With regard to lunchtime and where you might be able
25 to go for lunch, many of you are probably more familiar with

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1 Sacramento than I am, but there are some maps at the back of
2 the room, and there's also a cafeteria and a coffee shop
3 upstairs on the second floor. So if at any point you need a
4 snack or coffee, feel free to leave the room, go upstairs to
5 the second floor. And at lunchtime, feel free to use the
6 cafeteria or grab a map and wonder out on your own. I think
7 we can have an hour for lunch.

8 Okay. Did I miss any logistics? That covers it all.

9 Okay. I'm going to kick off the workshop with a
10 presentation. The first part of the presentation will focus
11 in on some of the biological aspects of green sturgeon and
12 talk about the process that we've used at NMFS to list the
13 species and basically talk about what comes next and what
14 the -- what the Endangered Species Act, Section 4(d) rule is
15 and what our process is for establishing the 4(d) rule.

16 I first want to start off with a little bit of
17 background about the Endangered Species Act. It was enacted
18 in 1973. It's administered by the U.S. Fish & Wildlife
19 Service and by the National Marine Fisheries Service
20 depending on the species. Its purpose is to identify
21 threatened and endangered species and then to conserve and
22 protect those endangered species and the ecosystems upon
23 which they depend.

24 The Endangered Species Act offers two ways to
25 conserve and protect threatened and endangered species. In

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1 the first case, it can prohibit the take of threatened and
2 endangered species either by the statute or by rule making.
3 And, secondly, it requires that federal agencies not
4 jeopardize threatened or endangered species or adversely
5 modify their habitat.

6 Some definitions here: "Endangered species" are
7 species that are in danger of extinction throughout all or a
8 significant portion of its range. You'll see the acronym,
9 SPOIR, throughout the presentation -- or I think there's a
10 couple of times in the presentation, and it refers to the
11 "Significant Portion Of Its Range" as part of the definition.

12 "Threatened species" are those that are likely to
13 become endangered within the foreseeable future throughout
14 all or a significant portion of its range -- of their range.

15 And "species of concern" are species for which NMFS
16 has some significant concerns regarding their status and the
17 threats that they face but currently we have insufficient
18 information to indicate the need for a listing.

19 And I mentioned these terms because for green
20 sturgeon we have one population that we've just listed as
21 threatened, the Southern Distinct Population Segment of green
22 sturgeon. And I'll define "Distinct Population Segment" in
23 just a moment or talk about how we -- how we came up with the
24 process for defining a Distinct Population Segment in the
25 case of green sturgeon. And in one Distinct Population

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1 Segment, the Northern Distinct Population Segment was placed
2 on our Species of Concern list. NMFS has no regulatory
3 control over Species of Concern just endangered and
4 threatened species. But when we can, we try to encourage
5 conservation of species that are on our Species of Concern
6 list.

7 This flow chart shows how the listing process
8 progressed for green sturgeon. It's a generalized flow
9 chart, and I'm going to make it more specific to what
10 happened with green sturgeon as I go through this process.
11 You'll see here on the bottom there's a time line. We are
12 under a regulatory time line when it comes to listing species
13 that we are petitioned to list. And so this whole process
14 started in the late 1990s. We were petitioned to list the
15 North American green sturgeon.

16 In '98 we had published a finding -- a 90-day finding
17 which said in the case of green sturgeon that we thought that
18 the petition had merit. At that point, we had one year to
19 publish a proposed rule. And during that year's time, we
20 formed a Biological Review Team. That Biological Review Team
21 was made up of federal biologists primarily NMFS biologists,
22 but we also had biologists from the USGS on the Biological
23 Review Team as well. And they were tasked with generating a
24 Status Review of the species. And we used that in addition
25 to compiling some of the public comments that we received

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1 after our 90-day finding and doing some data compilation of
2 our own to publish our proposed rule.

3 And with that proposed listing, we made some
4 determinations. We determined how to define a species with
5 regard to green sturgeon. We try to make a determination on
6 extinction risk for the species. We identified threats to
7 the species and try to prioritize those threats. We
8 identified conservation efforts that were currently underway
9 and tried to figure out whether they offset extinction risk
10 of the species. And then we issued our proposed rule.

11 During the first go-round, our proposed rule found
12 that neither Distinct Population Segment of green sturgeon
13 warranted listed. And we were sued on that 12-month finding.
14 It was really -- it's called a "12-month finding" when you
15 don't list. It's called a "proposed rule to list" when you
16 do propose a listing.

17 We were sued on that 12-month finding. And the
18 courts remanded the case back to us and told us that NMFS did
19 not consider whether green sturgeon was endangered throughout
20 all or a significant portion of its range. It was that
21 significant portion of its range part of the definition that
22 we failed to consider in our 12-month determination that a
23 listing was not warranted. So back to NMFS it came.

24 Now a couple of years have passed. We decided to
25 re-constitute the Biological Review Team because more

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1 information had been collected during that time. And we
2 published a proposed rule in April of 2005 based on some of
3 this new information we collected and determined that the
4 Southern Distinct Population Segment -- again, I'll get to
5 how we broke the species apart into these two distinct
6 population segments in just a moment. But we determined that
7 the Southern Distinct Population Segment warranted a listing
8 under the Endangered Species Act as threatened, and that the
9 Northern Distinct Population Segment did not warrant a
10 listing.

11 We underwent another public comment period, a Peer
12 Review of that proposed rule, and then finally in April of
13 this year we came out with the final rule that did not
14 deviate from our proposed rule.

15 This listing for green -- for the Southern Distinct
16 Population Segment of green sturgeon becomes effective as of
17 July 6th, I believe -- I think it's the 6th -- of 2006.

18 So I keep on mentioning our determination of what a
19 species was in the case of green sturgeon. And we relied on
20 the work of Josh Israel and Bernie May at UC Davis and the
21 work that they do in their genetic lab there. They had been
22 looking at six -- is it six -- I haven't counted them -- six
23 or seven systems along the West Coast, and they collected
24 genetic samples from individuals that were collected from
25 each of these sites: The Rogue River in Oregon, the Umpqua

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1 in Oregon, the Klamath in Northern California, San Pablo Bay,
2 the Sacramento River, and then the Columbia River estuary.

3 And through their genetic analyses, they generated
4 this dendrogram to look at the degree of genetic similarity
5 among the samples that were collected in each of these
6 locations. And what you can see here is that the Rogue,
7 Umpqua, and Klamath samples clumped together, and the
8 San Pablo Bay, Sacramento, and Columbia samples clumped
9 together. And this formed the basis for our delineation
10 between the Southern Distinct Population Segment and the
11 Northern Distinct Population Segment. --

12 This is the area of concern here. This is a blow-up
13 of this area which shows the system a lot more clearly. So
14 let's focus in over here. The Southern Distinct Population
15 is comprised of the Sacramento River, which is located right
16 here, the Feather River, and the San Joaquin River, and, of
17 course, all of their tributaries, but I'm really focusing in
18 on the main stem rivers and -- in this particular figure.
19 And the Northern Distinct Populations Segment included the
20 Eel River and everything to the north of there: The Eel
21 River, the south fork of the Trinity, the Klamath, the Rogue,
22 the Umpqua, and the Columbia, and really all the way up.
23 But, again, this is all I'm showing on the map here.

24 Josh is here today and is going to talk a little bit
25 more about the genetic population structure of green

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1 sturgeon, so I won't spend much time talking about it
2 anymore.

3 Okay. Now on to some life-history characteristics of
4 green sturgeon. In the Sacramento River we believe that
5 adults migrate into rivers between about March and July with
6 a peak occurring in May through June. The annual spawning
7 success rate likely varies depending -- greatly depending on
8 conditions. The eggs are spawned in the rocky bottom.
9 There's no pelagic dispersal stage of the larvae. We know
10 from laboratory experiments done at UC Davis that
11 temperatures above 20 degrees C are lethal. We believe that
12 those larvae start making their way downstream and that the
13 juveniles may be spending anywhere from one to three or four
14 years in the -- in the lower estuaries, and they're probably
15 leaving the system at some point when they reach the size of
16 about one to two and a half feet.

17 Once they move out to the coastal environment,
18 they're staying fairly close to shore. This we know from
19 some tagging work that biologists at Santa Cruz and up in
20 Seattle are doing. They've got a hydroacoustic array laid
21 out along the coast, and they tag fish. And basically their
22 work shows that green sturgeon are not moving into waters
23 deeper than about 100 meters when they're out along the
24 coast. They're spending most of their immature lives out
25 here in the ocean. They are maturing, the females at about

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1 13 years of age, males about 9 years of age. But they are
2 moving into estuaries during the spring and fall, and they
3 exhibit aggregative behavior presumably to feed but nobody's
4 really sure why they're moving into estuaries.

5 Here's a summary of that biological information I
6 just gave you, but I may have missed a couple of points. So
7 first off, I don't think I mentioned that there are three
8 specific river systems where we know spawning occurs. The
9 Sacramento River is the only system within the boundaries of
10 the Southern Distinct Population Segment, and then the
11 Klamath and the Rogue Rivers are the only rivers where
12 spawning is known to occur within the boundaries of the
13 Northern Distinct Population Segment. I think I mentioned
14 that spawning habitat requirements are uncertain, and
15 obviously these requirements may affect spawning success and
16 recruitment success, but that's what we have not been able to
17 pinpoint, what combination of variables improve recruitment
18 rate, improve spawning success rates. We've got to hear more
19 about that if you have information available.

20 I mentioned that water temperatures -- high water
21 temperatures likely affect recruitment success, and I think
22 it's largely recognized that low flow rates also have affect
23 on recruitment success.

24 Moving on to the adult stage, I think I mentioned
25 these points, but I don't think I mentioned that limitations

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1 on their upstream passage likely affects spawning success
2 rates, and that currently we have no direct estimates of
3 green sturgeon abundance. There's a huge gap in our
4 understanding of the species.

5 This series of tables was generated by Jeff McLain.
6 And it's a nice series of tables because it shows the timing
7 of occurrence of green sturgeon in the Sacramento River and
8 Delta system, the locations, and it breaks apart by life
9 stage. So the top table is the adult stage, and then we work
10 our way down here.

11 The -- the data are divided up by location.
12 Locations are located here in the leftmost column. And
13 you'll see here that the degree of shading in each month of
14 the year gives you some relative understanding of abundance
15 during that month of the year. The darker-shaded boxes show
16 relatively -- or are supposed to represent relatively higher
17 abundance than these lighter-shaded boxes.

18 So here for adults, again, females greater than about
19 13 years of age, males greater than about 9 years of age. In
20 the upper Sacramento, we have evidence of their occurrence
21 from March through July with a peak occurring from April
22 through June. In San Francisco Bay estuaries, we have
23 relatively moderate levels of abundance occurring from April
24 all the way through October. These fish are probably being
25 detected on their way up river but also on their way back

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1 down river after spawning, presumably.

2 For larvae and post larvae, we have information from
3 two locations: The Red Bluff Diversion Dam and the
4 Glenn-Colusa Irrigation District on the Sacramento River.
5 And you'll see here that the peak in occurrence of larvae is
6 June through July at both locations. And the total time
7 period for occurrence is May through October at Glenn-Colusa.

8 Juveniles greater than ten months of age and less
9 than about three years old are basically found throughout the
10 Delta and Suisun Bay throughout the entire year. And coastal
11 migrants, adults between 3 to 13 years of age -- or between 3
12 to 9 years of age are found out along the coast between
13 January and May in moderate abundance and November through
14 December. This absence of occurrence here from June through
15 October may be because samplings didn't occur during that
16 time or it may just be that most of those individuals are in
17 estuaries at that period of time.

18 We made an attempt to identify the threats to the
19 Southern Distinct Population Segment of green sturgeon in the
20 Sacramento and Feather Rivers. We didn't include the
21 San Joaquin River in this analysis because we have no data to
22 suggest that green sturgeon occurred there historically or
23 currently. So we didn't conduct a threat assessment for the
24 San Joaquin.

25 In doing our threat assessment, we considered five

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1 listing factors. These are the factors that NMFS is required
2 to consider when we list a species. The first factor is
3 modification curtailment of destruction of habitat. The
4 second listing factor is over-utilization of the species
5 through fishing research, a variety of different
6 possibilities. Listing factor No. 3 is disease and
7 predation. Listing factor No. 4 is inadequacy of regulatory
8 mechanisms. And listing factor No. 5 is basically all other
9 anthropogenic factors.

10 So the thing I wanted to point out is that in both
11 the Sacramento and Feather Rivers by far the largest number
12 of threats fall into this first category, Habitat
13 Destruction, Modification, Alteration, et cetera. We believe
14 that impassable barriers, other adult migration barriers,
15 insufficient flow, increased temperatures, and water
16 diversion are some of the more important threats to the
17 species in both the Sacramento and in large part in the
18 Feather River as well. But we recognize that there are other
19 threats that the species faces.

20 One of the factors that we honed in on during the
21 listing of this species was lost spawning habitat. We relied
22 on a threat -- on a habitat assessment that was done by Steve
23 Lindley, et al., in 2004, for chinook salmon. And this map
24 highlights the Central Valley of California. You can see the
25 map up in the right-hand corner showing a blow-up of this

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1 blue area, which is just the Central Valley. And all of
2 these red dots here are barriers. This is a blow-up of the
3 area that we're concerned about for the Southern Distinct
4 Population of green sturgeon. And in this Habitat Assessment
5 that was done for chinook, a large amount of habitat to the
6 right of these red dots was considered lost spawning habitat.
7 Given that chinook and green sturgeon share certain
8 life-history characteristics and share certain
9 spawning-habitat requirements, we used this Habitat
10 Assessment for chinook to guide our decisions for green
11 sturgeon as well. We did not quantify the amount of habitat
12 that's actually been lost behind dams, but we are doing the
13 Habitat Assessment for green sturgeon right now. And
14 hopefully at the end of this study, we'll be able to quantify
15 more exactly how much habitat -- spawning habitat specifically
16 has been lost.

17 We also relied on our own source fishery and the data
18 to guide some of our decisions. And these are the salvage
19 data from the state salvage facility and the federal salvage
20 facility located in the Delta. These are very long-term data
21 sets. The state's facility has been in operation since 1965
22 and has been salvaging from that time through the present.
23 And the federal facility, at least as to green sturgeon in
24 their records, from 1980 through the present.

25 And we know that there are many caveats in taking a

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1 look at these data. The methodology involved in salvaging
2 green sturgeon at these facilities has been questioned. And
3 I think what we've decided to do is really take this data at
4 face value. And if you take a look at the actual number of
5 observed green sturgeon at these salvage facilities in the
6 1960s and '70s at the state facility, the numbers on average
7 were higher than they were in the '90s and 2000s -- late
8 '80s, '90s, and 2000s. And so that's where we will end our
9 analysis for now until we can gain more information about the
10 methodologies that were used specifically at the state
11 facility because it is the longer-term data set. And if we
12 can gain more confidence in these data, we may actually try
13 to -- try to quantify and analyze the data a bit better. But
14 right now what we -- what we're pointing out here is that the
15 actual observed numbers of fish in earlier decades -- this is
16 true for the state facility as well, although the type series
17 isn't as long -- were higher than they have been recently.
18 And this is a large scale on these (unintelligible). So
19 we're looking at orders of magnitude there.

20 When we assessed extinction risk for the Southern
21 Distinct Population Segment, we focused in on these bulleted
22 items here. There's only one significant spawning area in
23 the Southern Distinct Population Segment which we feel poses
24 a great risk to the DPS as a whole. We know that there's
25 been some quantity of lost spawning habitat above dams. We

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1 know that the threats due to habitat alterations in the
2 system remain. And our best source of fishery independent
3 data exhibits a negative trend.

4 We definitely considered protective efforts that are
5 currently underway, plan to occur in making our decision, and
6 these are some of those protective efforts that we
7 considered. Our final determination was to list the Southern
8 Distinct Population Segment as threatened.

9 Next steps for threatened species. Threatened
10 species under the Endangered Species Act do not necessarily
11 have all of the Section 9 prohibitions invoked for them. An
12 endangered species automatically have all the Section 9
13 prohibitions invoked to protect them. But for threatened
14 species, we have a bit of flexibility.

15 Yes?

16 MR. SMITH: You might want to mention that it's
17 different for Fish & Wildlife Service.

18 MS. NEUMAN: Okay. I didn't know that it was
19 different.

20 MR. SMITH: It is different.

21 MS. NEUMAN: Okay.

22 MR. SMITH: We -- Fish & Wildlife Service obligated
23 regulations many years ago to apply by regulatory all the
24 protections of endangered species that presently exist. So
25 they're different.

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1 MS. NEUMAN: Okay.

2 THE REPORTER: Could I have your name, please.

3 MR. SMITH: Jim Smith, Fish & Wildlife Service.

4 THE REPORTER: Thank you.

5 MS. NEUMAN: Thank you.

6 So at least for NMFS, we have some flexibility in
7 deciding which of those Section 9 prohibitions we will invoke
8 for the Southern Distinct Population Segment of green
9 sturgeon. And that is the reason why we're here today; we
10 need to figure out which activities are really posing a
11 threat to the conservation needs of the Southern Distinct
12 Population Segment, which activities may be -- we may
13 consider for exemption under our 4(d) rule, and basically
14 talk a little bit about how the 4(d) rule can help streamline
15 certain research programs, certain activities.

16 We also have some other next steps including
17 designation of critical habitat. We are under a regulatory
18 time line for designating critical habitat. Our designation
19 is supposed to be issued by April of next year. And we also
20 have recovery planning to look ahead to and an update of our
21 Status Review in five years.

22 I wanted to mention what the Section 9 prohibitions
23 are. Section 9 of the Endangered Species Act says that it is
24 prohibited to import or export. It's prohibited to take
25 threatened or endangered -- well, prohibited to take

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1 endangered species within the U.S. or the territorial sea of
2 the U.S. It's prohibited to take these individuals upon the
3 high seas. And it's prohibited to possess, sell, deliver,
4 carry, transport, or ship species taken in violation of (B)
5 and (C). It's prohibited to deliver, receive, transport,
6 carry, ship in interstate or foreign commerce. It's
7 prohibited to sell or offer for sale in interstate or foreign
8 commerce any of these species. It's prohibited to violate
9 any regulation pertaining to threatened species pursuant to
10 Section 4 of the Endangered Species Act. And the definition
11 of the word "take" is harass, harm, pursue, hunt, shoot,
12 kill, trap, capture, or collect. So it's basically anything
13 you do other than look at the species.

14 Now, in the ESA section, the 4(d) rule says that
15 threatened species may invoke exemptions, basically, allow
16 certain activities to proceed without applying prohibitions
17 to those activities. And this can be done through NMFS
18 approval either through our permitting process, which is
19 outlined in Section 10 of the Endangered Species Act, or
20 through a 4(d) program.

21 And, Qinqin, are you speaking today?

22 MS. LIU: (No audible response.)

23 MS. NEUMAN: Okay. Qinqin is here from the
24 California Department of Fish & Game and is going to be
25 talking about the 4(d) Research Program that currently exists

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1 for the list of salmonids. And she'll be talking about how
2 that program is organized and basically how certain
3 activities can be incorporated into this program -- research
4 activities can be incorporated into this program,
5 streamlining the process quite a bit, basically avoiding our
6 permitting process -- our Section 10 permitting process.

7 This is another flow chart showing how the 4(d) rule
8 process works. You'll note here that there's no regulatory
9 time line on the bottom of this flow chart. We are
10 anticipating that it will take anywhere from a year and a
11 half to two years to complete our final 4(d) rule.

12 What we are doing right now is drafting an
13 Environmental Assessment, which is required of NMFS under the
14 National Environmental Policy Act. We're using the scoping
15 workshops that we're holding today and perhaps future
16 workshops to form the information that goes into our
17 Environmental Assessment. In this Environmental Assessment,
18 what we're doing is listing a number of alternatives for how
19 we may apply a 4(d) rule to green sturgeon and hopefully at
20 some point, maybe even after our workshop today, we'll
21 determine what our preferred alternative is going to be.
22 Will we invoke all of the Section 9 take prohibitions? Will
23 we invoke none of them? Will we invoke some of them with
24 exemptions? Those are basically some of the alternatives
25 we're looking at. This scoping workshop also will inform the

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1 actual 4(d) rule when it's drafted.

2 After our Environmental Assessment, a Final Draft is
3 developed. It has to go through a NMFS approval process.
4 And what we at NMFS -- the higher-ups at NMFS need to
5 determine is whether or not this particular Environmental
6 Assessment has a significant impact on the environment.
7 Again, this is required under the National Environmental
8 Policy Act. If a Finding Of No Significant Impact, a FONSI,
9 results after review of our Environmental Assessment, we move
10 on. And the next step is to approve the Environmental
11 Assessment and the Finding Of No Significant Impact on the
12 environment, and then we can move on to developing the 4(d)
13 rule.

14 MR. HINDMAN: Just a question. I'm not real --

15 MS. NEUMAN: Can you state your name. Sorry, I
16 forgot to mention, before you speak, we have a court
17 reporter, Sandy, here today, and she's writing down
18 everything that's said. If you could just state your name
19 before you speak. And speak loudly.

20 MR. HINDMAN: Sure. Nick Hindman, Fish & Wildlife
21 Service. And just a process kind of question about the ESA.
22 If the EA -- if you can't get to FONSI, you have to do a full
23 ESA, right?

24 MS. NEUMAN: That is true.

25 MR. HINDMAN: All right.

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1 MS. NEUMAN: Yes.

2 MR. BIRK: Hi. I'm Serge Birk with the Central
3 Valley Project Water Association. Jim Smith noted that
4 there's a difference in interpretation to how they apply
5 Section 9 to this situation. How would you reconcile it
6 since Section 9 will provide -- can provide some exemptions?
7 I'm wondering if the Fish & Wildlife Service applies the
8 other act, are there exemptions -- is there a provision to
9 apply these provisions as well, or --

10 UNIDENTIFIED SPEAKER: 4(d) rule.

11 MR. BIRK: So how do you reconcile your differences
12 on -- on approach over the other if you're automatically
13 providing the endangered species coverage --

14 MS. WINDHAM: I don't know that it's -- this is Diane
15 Windham, NMFS. I mean as an example, Fish & Wildlife --

16 THE REPORTER: I'm sorry, Ms. Windham, can you speak
17 up.

18 MS. WINDHAM: I'm sorry. If I understand Jim Smith
19 correctly, when we add a listing to the Fish & Wildlife
20 Service, the Section 9 prohibitions go into affect at that
21 time. And that's the decision that they have made. NMFS
22 does not always do that, and it's not required. So basically
23 what it means is there's sort of a -- if you want to look at
24 it this way, there's almost like a grace period where before
25 the Section 9 prohibitions would affect you at the Fish &

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1 Wildlife Service, unless it's stated otherwise in the final
2 listing Federal Register notice, those prohibitions would go
3 into affect upon listing. So it's a timing issue more than
4 anything else. And we're -- for example, NMFS is able to
5 utilize that flexibility, I think to everyone's advantage, to
6 try and formulate the 4(d) rule in as timely a process as
7 possible so that to minimize the amount of time that people
8 are subject to Section 9 prohibitions actually being in
9 affect. Does that make sense?

10 MR. BIRK: I need a little more on.

11 MS. NEUMAN: Yeah, if we could just hold off. We're
12 going to have a question-and-answer period. There will be a
13 couple of minutes for that afterwards. If I could just
14 continue on for now, and maybe we can get back to that.

15 I think I was right about here, developing a draft of
16 the 4(d) rule. After that draft is published in the Federal
17 Register, there will be a public comment period. It will
18 probably be about 90 days or so. And then at some point
19 after that we will publish a Final ESA 4(d) Rule. Again, we
20 don't really -- we're not under a regulatory time line here.
21 And so this process is going to be a little bit lengthy, and
22 we want to get a 4(d) rule out as soon as possible to protect
23 the green sturgeon, but we also want to hold these scoping
24 workshops, we have an EA to write, we have an economic
25 analysis to do. And so it is going to take time; we

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1 recognize that.

2 And I should mention that if you are a federal agency
3 and you are conducting a federal activity or if you
4 are not a federal agency but the project you do is funded by
5 a federal agency, if there's any federal nexus for what it is
6 you do in your program, your activities, you are required to
7 consult with us under Section 7 of the Endangered Species
8 Act, and that must occur at the time that the listing becomes
9 effective. So that's in a month.

10 So the 4(d) rule allows a grace period basically for
11 those projects and activities that are not -- that don't have
12 federal nexus, and it does allow, in a sense, I guess, some
13 kind of a grace period for those that we're consulting on as
14 well. But there is something you need to do immediately once
15 that listing becomes effective if you -- if there's a federal
16 nexus to your activity or program, and that is you need to
17 initiate consultation with us.

18 So I think I already mentioned what the purpose of
19 the workshop is today -- the workshop today is. And the
20 goals of this workshop, again, are to list the activities and
21 programs that might directly or indirectly affect the
22 Southern Distinct Population Segment of green sturgeon.
23 We're going to be focusing in on those activities and
24 programs that are administered by water resource users
25 specifically. We'd like to hear from you, how you would

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1 evaluate the potential affects of these activities. We'd
2 like to identify activities and programs that might
3 contribute to the conservation of the species, and, of
4 course, list potential ways to modify activities that do not
5 contribute to the conservation of the species or, said
6 another way, may have a negative impact on green sturgeon.
7 Finally, we'd like to evaluate the potential affects of
8 conservation actions on green sturgeon, other species, other
9 resources, and resource users and managers.

10 I do want to mention that just because you mention
11 activities or programs that may affect green sturgeon here at
12 this workshop today, it doesn't necessarily mean that we will
13 regulate that program. Okay? And we're going to be focusing
14 in on these five questions that basically restate those goals
15 that I just read to you in question form. We'll have this
16 slide projected on the wall during our afternoon discussions,
17 and we're going to be focusing in on each of those --
18 focusing in on each of those five questions.

19 There are some ground rules to our discussions this
20 afternoon and maybe even this morning. This hopefully is
21 not -- this is not the format for debating and arguing. If
22 you have a comment that gets you a little riled up, if you
23 could please write that down, send it to us in an e-mail, put
24 it in a letter format and send it off to us, we'd really
25 appreciate it. We don't want to hinder these discussions

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1 today because one or two people may be particularly concerned
2 about one topic or another.

3 Everyone is encouraged to participate. We really
4 want to hear from everybody. You won't be hearing the NMFS
5 folks talk much more after this presentation -- a little bit,
6 but not much. All participants are equal. Please, one
7 person talk at a time. When you speak, please state your
8 name. Sandy might get to know us by the end of the day, and
9 she may not have to ask your names each time you speak.
10 Also, I encourage you to fill out those little name tags.
11 And we'll be re-organizing into a U shape, and hopefully
12 Sandy will be able to see your name tag sitting on the front
13 of the table. And I also have a microphone that we could
14 pass around so Sandy can hear us.

15 There are no right or wrong answers today. Every
16 idea and comment we're going to write it all down. Try and
17 keep your comments concise. Remember what the focus
18 questions are. We'll have them projected. And please
19 silence your cell phones, okay, during our discussions this
20 afternoon. You can go outside if you need to make a call.

21 And in the future, as we move through this 4(d) rule
22 process, first of all, we may have future workshops. We'll
23 let you all know about future workshops if we do have them.
24 But we are going to be posting information on our web site.
25 Our Final EA will be posted on our web site. Our web site is

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1 under construction right now. Hopefully it will be
2 re-organized in such a way that will be much more user
3 friendly in the future.

4 And I think that's it for now.

5 And, Susan, is there a couple minutes for questions,
6 and then we'll move on to Josh's presentation.

7 MR. MICHNY: Yes, my name is Frank Michny. I'm with
8 the Bureau of Reclamation. And I-- one comment and one
9 procedural question. Okay. There's a presumption that
10 you're going to do an EA FONSI. Okay. FONSI means there's
11 no significant impact on anything. And impacts are positive
12 or negative. So I'm just wondering and I'm asking for an
13 answer here, it seems like you're going to the 4(d) rule is
14 not going to have any significant impact on green sturgeon or
15 anything and that what comes out of that is simply not going
16 to affect anything to any significant extent, otherwise
17 there's not going to be likely a FONSI. So that's just a
18 comment, you know, in terms of NEPA procedures.

19 The second thing is Reclamation is beginning -- we're
20 starting some consultations on green sturgeon now on some
21 major activities. Okay. Right now when we do the
22 consultation, under Section 7, since there's no take
23 prohibition, we're only looking at the jeopardy standard.
24 Okay. So we -- and -- and I'm concerned that the 4(d) rule
25 may not be done for a couple of years. So I'm just wondering

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1 if -- okay, jeopardy is a higher threshold than just take.
2 If you take, you can affect an individual. So if we --
3 presuming we have a project, we get a non-jeopardy opinion
4 and in that -- in that affect analysis on which the jeopardy
5 opinion is -- non-jeopardy is predicated on, you would have
6 to assume a certain level of take with that part of the
7 impact. Okay. So we get this non-jeopardy opinion now, and
8 we continue down our way doing our activities, and then two
9 years later the 4(d) rule comes out -- I'm assuming, because
10 you're assuming you're going to do a FONSI, that what would
11 kick in on the take prohibitions is the minor change rule
12 that there's not going to be any significant changes to the
13 activity when the 4(d) rule comes out because one of the
14 rules for Section 9, the take prohibition, is minor changes.
15 I'm just concerned that we get a non-jeopardy opinion, we're
16 happily and merrily going on our way, and a few years later
17 the 4(d) rule comes out and says, "Oh, you gotta change your
18 activity completely from what we gave" -- so how do you see
19 the interface there, and are you really looking at just this
20 minor change rule that there is no significant affects coming
21 out of this?

22 UNIDENTIFIED SPEAKER: Is that a question?

23 MS. NEUMAN: I'll take a stab at that. I don't know,
24 Jeff, whether you might have something to add to what I'm
25 going to say. But the Finding Of No Significant Impact on

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1 the environment, which is what NEPA is requiring us to do,
2 I'm not sure whether that applies to an activity that you're
3 going to be carrying out. I mean at any point in time when
4 we -- for example, when we revise our Status Report in five
5 years' time, we may find out something about the species that
6 causes us to down list it, to up list it. And I mean with
7 each of these changes, with each bit of information we gather
8 on the species, it may cause us to change what we consider to
9 be harmful take.

10 So your project, it's not only at the whim of what
11 happens with this 4(d) rule two years down the line, but it's
12 at the whim of what happens when we learn more about our
13 habitat assessment for green sturgeon, or we learn how many
14 green sturgeon there are out there in total. I guess what
15 I'm trying to say is that there are many things that may
16 affect what an outcome of a biological opinion today is and
17 what the outcome of a biological opinion in five years might
18 be.

19 MR. MICHNY: What I'm getting at -- and I don't want
20 to belabor it, but when you do a FONSI, you're going to
21 propose your rule in your FONSI 4(d) rule that -- whatever it
22 is, it doesn't matter, you're going to have to do -- you
23 know, you're going to have do X -- the agencies are going to
24 have do X out there on the project. My point is that -- with

25 the FONSI, what is the effect of doing X? If the affect of

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1 doing X is significant, then you can't do a FONSI. So you're
2 going into this, and the way I'm thinking -- I work on NEPA
3 all the time -- is that everything you're going to have in
4 there, you're making a presumption that it's not going to
5 have any significant affect on anything if you -- you know,
6 whatever it is, they're all going to benign things that come
7 out of the 4(d) rule. That's the presumption that you have
8 to make in order to say you're going to do a FONSI now, and
9 that may or may not be true. That's all. Yeah, I don't want
10 to beat this to death, but it's a NEPA procedural question.
11 All right.

12 MS. NEUMAN: Okay. Do you want to add to that?

13 MS. WINDHAM: Well, I'd just like to add that --
14 Diane Windham again with NMFS.

15 Frank, I think maybe you're sort of mixing the apples
16 and the oranges. For federal agencies, the 4(d) rule is not
17 going to apply in the first place because you're going to be
18 required to have an action that's going to affect the species
19 and you have to consult with us.

20 MR. MICHNY: We're doing that. We know that.

21 MS. WINDHAM: Can I finish, please, Frank?

22 MR. MICHNY: Yeah.

23 MS. WINDHAM: Thank you. And so what happens in the
24 4(d) rule, the FONSI is on our action of issuing the 4(d)
25 rule, and we do conduct an internal consultation with

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1 ourselves on our federal action of issuing that
2 4(d) rule that will include an Affects Analysis, just like
3 you have your consultations with us that look at the affects
4 of the action. The 4(d) rule is not going to affect the
5 federal consultation process under Section 7. They're two
6 separate things. Does that make sense? Does that clarify
7 things for the audience at least?

8 (Multiple speakers.)

9 MR. BIRK: I don't think so.

10 MR. MICHNY: I'll talk to you off line. I do have --
11 that's okay. I'm done.

12 MR. BIRK: That's very helpful. One of the suggested
13 topics for future investigation down the Red Bluff Diversion
14 Dam, since it's a CVP facility operated by an authority, what
15 applies to what we do there, the 4(d) rule or a Section 7
16 consultation?

17 MS. WINDHAM: That would be -- that would be with
18 Section 7 with -- you know, for the operations consultations.

19 MR. BIRK: Okay. So whatever we do for the 4(d)
20 really isn't relevant for Red Bluff?

21 MS. WINDHAM: If it's a state-run program that
22 qualifies under one of the exemptions identified in the 4(d)
23 rule, which is yet to be decided, it would go the 4(d) route.
24 But whenever there's a federal nexus, federal rule connection
25 or federal funds, that sort of trumps everything else, and

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1 that takes you down to the Section 7.

2 MR. BIRK: Melissa, can you put that slide back on
3 there -- it went by pretty fast -- of the several actions
4 that you're considering would be under this 4(d) assessment?

5 MS. NEUMAN: Where?

6 MR. BIRK: No, it was actually specific to some
7 sites.

8 MS. WINDHAM: Was it the list --

9 MR. BIRK: Keep going.

10 MS. NEUMAN: Back?

11 MR. BIRK: Back, back, back. There you go.

12 MS. NEUMAN: These are protective efforts that we
13 considered.

14 MR. BIRK: Under the 4(d) rule or under Section 7?

15 MS. NEUMAN: No, no, no. Just in listing. In
16 listing the species, these were the protective efforts that
17 we considered. We're required to do this. These are
18 protective efforts that are currently underway that we have
19 some -- if we have some information that suggests that these
20 activities offset extinction risk, we balance these things
21 when making our listing decisions. So showing this slide was
22 simply to point out that these were the things we recognize
23 when we list it. We recognize these protective efforts --
24 that they weren't enough, but we still listed them. That's
25 the bottom line. They didn't all set extinction risk enough.

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1 We had a question back here.

2 UNIDENTIFIED SPEAKER: Actually, (unintelligible).

3 MS. NEUMAN: Pardon?

4 UNIDENTIFIED SPEAKER: My question's been answered.

5 Thank you.

6 MS. NEUMAN: Okay.

7 MR. SMITH: I have a quick question.

8 MS. NEUMAN: I think we're -- hold on for one second.

9 MR. SMITH: Jim Smith here again. Just a real quick
10 question. You mentioned that if any federal activity
11 requires a Section 7 consultation, that potentially affects
12 green sturgeon; however, in the past, NMFS -- that federal
13 activity associated with monitoring for research, is it
14 still -- do you still go through a Section 7, or is that a
15 Section 10 permitting process?

16 MS. NEUMAN: Diane will take that.

17 MS. WINDHAM: I knew I shouldn't have come here
18 today. I think primarily it gets down to the difference
19 between direct intentional take versus incidental take. And
20 for the Section 7 process, that authorizes incidental take;
21 in other words, take that is sort of a -- not intended --
22 it's unintentional to some (unintelligible) action. So it
23 would depend on the monitoring. If it was -- if it's
24 required in the Biological Opinion to conduct monitoring,
25 then it's possible to process it through the Section 7

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1 depending on who's doing the monitoring -- this permitting --
2 authorized permitting by the individuals engaged in it. If
3 it's just a research activity and it's direct take and
4 intentional take, then that would be a Section 10 research
5 permit process.

6 Does that answer your question?

7 MR. SMITH: Yes, it does. Thank you.

8 (Multiple speakers.)

9 MS. WINDHAM: Please, somebody take the microphone.

10 MR. NEPSTED: My name is Mike Nepsted. I'm with the
11 Bureau of Reclamation. My quick question is, are you going
12 to have the Environmental Assessment on the 4(d) rule
13 available for public comment?

14 MS. NEUMAN: No. The draft is not available for
15 public comment.

16 MS. LIU: I just want to go back to the question
17 about the monitoring and research. My name is Qinqin Liu
18 (unintelligible), as you probably know already. If this
19 research activity apply to Department of Fish & Game,
20 (unintelligible) premise. So you -- from current program --
21 and if there is -- you follow the guideline, all the criteria
22 in the program, it sometimes can be rolling into the
23 San Francisco research from our 4(d) Rule Program. We have
24 done that before, but not all the time. So it depends on
25 each individual situation.

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1 MS. SULLIVAN: My name is (unintelligible), Army
2 Corps of Engineers. And I had a question about -- with the
3 BO. If we have submitted a Request for Consultation from you
4 in the past few months and we're still waiting for review
5 with you, are you going to include any impacts on green
6 sturgeon or is that -- do we have to wait until the June 6th
7 date until --

8 MS. NEUMAN: We're already including green sturgeon
9 in our consultations. So if you initiated consultation in
10 the last couple of months, it's very likely that green
11 sturgeon is being incorporated into that Biological Opinion.

12 MS. SULLIVAN: Okay.

13 MR. VOGEL: Dave Vogel, Natural Resource Scientists.
14 I don't recall this 4(d) process when all the monitoring for
15 the salmonids were listing. Is this something new?

16 MS. NEUMAN: No, it's not new. And, in fact, there
17 is a salmon 4(d) rule that --

18 Diane, do you know the date on --

19 MS. WINDHAM: I don't.

20 MS. NEUMAN: -- the issuance of the salmonids 4(d)
21 rule? I don't know whether they have --

22 MS. WINDHAM: I think it's 2000.

23 (Multiple speakers.)

24 MS. NEUMAN: I don't know that they held a scoping
25 workshop like this.

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1 (Multiple speakers.)

2 MS. NEUMAN: They did? So it's out there. And the
3 way that the salmon 4(d) rule is organized is, all of the
4 prohibitions were invoked for the listed salmon, and then a
5 list of limits -- 13 limits was written into that 4(d) rule
6 that allowed certain activities to move forward either
7 through some kind of an agreement on 4(d) research program,
8 an RMEP, which was the Risk Management -- Evaluation
9 Program? -- Evaluation Program. So anyway, it is out there
10 and it's published in the Federal Register.

11 MS. LIU: That rule was finalized last year, 2005.

12 MS. NEUMAN: Okay. I should mention that we're not
13 sure what form the 4(d) rule for green sturgeon is going to
14 take, whether it will follow the format that was used for
15 salmon or not. So we're still trying to make that decision.

16 Okay. I think we need to move on to our first
17 presentation.

18 Presenters --

19 MS. WANG: We need to take a break.

20 MS. NEUMAN: Oh, we're taking a break. Maybe we
21 should cut the break to five minutes so we can stay on track.

22 (Brief recess.)

23 MS. NEUMAN: Jeff McLain made some copies of the
24 table, the Timing of Occurrence Table that I showed in my
25 presentation. They're at the back of the room. And you can

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1 pick one up at any point in time.

2 MR. MICHNY: And I would like to get some copies on
3 that, too.

4 MR. AMAKER: Is there a chance we can get the
5 presentation materials that you've presented in your talk?

6 MS. NEUMAN: Yeah.

7 MR. AMAKER: Is that going to be posted on line
8 somewhere?

9 MS. NEUMAN: Yes, I'm happy to post my presentation.
10 I think not all of the presentations will be posted. We have
11 some issues there, unless we can figure out a way of offering
12 them so that they cannot be altered in any way or -- I'm not
13 sure whether we can do that.

14 MR. AMAKER: The process diagram would be of interest
15 to me.

16 MS. NEUMAN: Sure. My presentation we can post.
17 We're also going to have a transcript of all of our
18 discussions today, and we can make that available to you once
19 we receive it from Sandy.

20 MR. BIRK: Melissa, I wasn't sure if I heard this,
21 but did you suggest that the southern fork of the Trinity
22 River is part of the range of this --

23 MS. NEUMAN: No.

24 MR. BIRK: It was.

25 MS. NEUMAN: It is within the boundaries of the

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1 Northern Distinct Population Segment.

2 MR. BIRK: Do you know if there's any spawning that
3 occurs there even if it's in the Northern Distinct --

4 MR. ISRAEL: I don't think they know. I don't think
5 anyone's been looking. But it's like, you know -- looking at
6 (unintelligible) information, it seems like it's been
7 extirpated. There certainly is spawning going on in the
8 Trinity River, though; there's juveniles caught there in the
9 screw trap.

10 MR. BIRK: I just want it to be clear.

11 MS. NEUMAN: Next presentation is by Josh Israel and
12 Bernie May of UC Davis, Utilizing Genetics in a Southern
13 Green Sturgeon DPS Stock Assessment.

14 MR. ISRAEL: Okay. Well, thanks, Melissa.

15 This is work I've been working on for my Ph.D. at
16 UC Davis, and I'm going to sort of go through -- I'm not
17 going to really go over methods very much because I'd just
18 like to share information with folks about how some of the
19 genetic work that we're doing can be integrated into stock
20 assessment.

21 So with that, I'll just share with you a little bit
22 on it and talk a little bit about uncertainties surrounding
23 green sturgeon, a little bit about life-history
24 characteristics, types of data that typically are used in
25 stock assessments, and genetic approaches to describing, you

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1 know, looking at life-history characteristics, determining
2 impacts of catch, and potentially ways of looking at spawner
3 abundance and ways to develop indices of that, and then talk
4 a little bit about some directions for stock assessment, and
5 take some questions, hopefully.

6 So there is a lot of uncertainty surrounding green
7 sturgeon Northern Distinct Population Segment and Southern
8 Distinct Population Segment, basic information concerning
9 wild populations in the Sacramento, in particular lacking --
10 we don't have a good sense for the size structure, the age
11 structure or any relationship between age and stage or size
12 and stage. There is no Fisheries Management Enhancement Plan
13 or Evaluation Plan for sturgeon in California, so the catch
14 that does -- the recreational catch that does happen here
15 is -- you know, the way that they're doing it, the goals of
16 it are not clearly established for if you're trying to move
17 more -- you know, obviously, move more individuals into
18 larger age stages or just keep them out of bio mass and the
19 population the same, and then little information exists
20 concerning ecosystem consideration, multiple species
21 interactions, and environmental affects associated with green
22 sturgeon population dynamics.

23 So just to review the life history, there's three
24 known spawning populations: The Klamath and the Rogue are
25 coastal mountains -- located in coastal mountains and are

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1 very distinct from the Sacramento. In this area, China
2 Rapids on the Sacramento is an area where there's suspected
3 green sturgeon spawning. You can see some of the volcanic
4 outcroppings. Can anyone see the red dot?

5 (Multiple speakers.)

6 MR. ISRAEL: Okay. I can't either.

7 So the volcanic outcroppings suggested that, you
8 know, there's probably a very, very distinct substrate in
9 this area, and that would be favorable. And the Klamath and
10 the Rogue are just very different than the Sacramento spawned
11 over the summertime.

12 Thank you, Phil, for the photo of a few juveniles
13 captured up at Red Bluff Diversion Dam.

14 And then they spend one to three years in the
15 estuaries. And they're highly migratory. Then they move out
16 into the marine waters, aggregating in the summertime in
17 San Pablo Bay -- my arrows got kicked down here -- San Pablo
18 Bay, Monterey Bay, Winchester Bay there on the Oregon Coast,
19 and the Columbia River estuary, Willapa and Grays Harbor.
20 And in talking with folks at the Washington Department of
21 Fish & Wildlife, they believe that, you know, Puget Sound to
22 the coast -- some of the bays in the northern area of
23 Vancouver Island might also be areas where green sturgeon are
24 aggregating in the summertime.

25 So some consideration for stock assessment, you know,

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1 what's the real goal. You know, we want to have a sense for
2 the numbers for specific ages, a relationship between the
3 number of spawners and recruitment, and recruitment of
4 spawners in the population, and some estimates on fishing
5 mortality. All those things would really be useful for being
6 able to get a sense for what's going on with the population
7 dynamics. So this an assessment of the size, age, or stage
8 structure and population, some ideas on spatial or seasonal
9 considerations that might be influencing populations and
10 trying to incorporate ecosystem considerations spatially and
11 temporally. So looking at estuary residents and potentially
12 other ecosystem considerations habitatwise that might be
13 limiting factors that would be useful. So we need
14 life-history characteristics, some information on catch and
15 some sense for abundance of different life-history stages.

16 So this is a dendrogram, a gene tree that contains
17 about 1,200 samples from nine locations. There's some
18 locations that are represented multiple times. You can see
19 the Klamath is represented three samples. The Rogue has
20 three samples. There's one sample from the Umpqua. This
21 blue lines indicates all these populations are in the
22 Northern Distinct Population Segment versus the red lines.
23 These three samples from the Sacramento that are from the
24 Southern Distinct Population. And then there's a number of
25 samples from aggregations. There's aggregations that are

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1 located -- whose estuaries are located in the Southern
2 Distinct Population Segment; these two from San Pablo Bay.
3 And then estuaries that are located in the Northern Distinct
4 Population section: Grays Harbor, three samples from the
5 Columbia River, one from Willapa Bay in 2003, and Winchester
6 Bay in 2002. And you can see that the Northern Distinct
7 Population Segment populations all cluster quite tightly;
8 they're all genetically similar, and they're genetically
9 distinct from the Sacramento populations as well. I've
10 actually looked at this statistically, and this -- this area
11 right in here is conserved, and about 93 percent of these
12 trees, if you run it 1,000 times, you come out finding that
13 all these -- all these populations in the Northern Distinct
14 Population Segment are very similar. They don't change
15 position on the tree. And then you see that the Sacramento
16 populations seem to be mixed in with some of these mixed
17 stocks in the different estuaries both in the southern and
18 the northern regions of their distribution.

19 And then we did some mixed-stock analysis, and so
20 we're using this genetic data to describe the Distinct
21 Population Segment proportions and different locations of
22 fisheries. And the red represents what proportion is from
23 the Southern Distinct Population Segment, and the blue
24 represents what proportion's from the Northern Distinct
25 Population Segment. The two lowest lines represent

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1 San Pablo Bay. These are in the Southern Distinct Population
2 Segment distribution. You can see that the vast majority of
3 fish located in San Pablo Bay appear to be from -- of
4 Southern Distinct Population Segment natal origin. And I
5 use the -- this was basically done using a fractional
6 allocation approach and a program called "Structure." So we
7 are able to get a sense for that -- doing some
8 self-allocation, looking at how well the natal populations
9 assign themselves. And we find that -- thanks a lot. We
10 find that -- I'm not going to present that data, but we find
11 that there's about a 10 percent accuracy rate within the
12 self-assignment. So as we move up to the north, you can see
13 that even if we consider some variation and some error, a
14 large portion of the Columbia River is coming from the
15 Southern Distinct Population Segment as well, Willapa Bay.
16 And then Winchester and Grays Harbor we see sort of a more
17 equal proportion from the Northern and the Southern Distinct
18 Population Segments.

19 So -- you know, just to sort of give you some idea of
20 why we might be observing this, so one of the big things
21 that's really interesting is that the Southern Distinct
22 Population Segment fish are much -- are proportionally
23 greater in Northern Distinct Population Segment estuaries,
24 although the Northern Distinct Population Segment is
25 purported to be much more abundant. So why is this? Well,

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1 there could be some environmental conditions that -- within
2 the Columbia River and Willapa Bay that are more similar to
3 San Pablo Bay and the natal -- natal estuaries that the
4 Sacramento fish are in, or it could be that the Klamath's
5 sub-adult abundance has been over-utilized by the tribal
6 fishery and its numbers are reduced and so we're just seeing
7 more southern fish up there, although it shouldn't be that
8 way because of -- because of over-utilization.

9 And then as far as the Grays Harbor and the
10 Winchester Bay population -- or -- or estuaries having sort
11 of an equivalent number of Southern and Northern Distinct
12 Populations, it seems like maybe these are possibly sharing
13 environmental characteristics preferred by the Northern
14 Distinct Population Segment fish or the fact that Winchester
15 Bay is the closest estuary to the natal rivers in the
16 Northern Distinct Population Segment, the Klamath and the
17 Rogue Rivers, and that's just the first estuary that they pop
18 into, or potentially Grays Harbor is beyond the geographical
19 limit of migration for the Southern Distinct Population
20 Segment. So, you know, as we get behavioral work done with
21 some of the passive acoustics work, we'll have to see if we
22 can, you know, sort of figure out some of the hypotheses.

23 So genetic data can describe the relative spawner
24 abundance also in certain locations. And the way we do this
25 is, CalFed has funded an enormous amount of work at UC Davis

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1 surrounding green sturgeon for the past few years. And some
2 of the work that they've been doing is what is reproductive
3 biology oriented. And they've experimentally crossed
4 families there to look at reproductive biology. And what
5 we're able to do is take progenies of the siblings all from a
6 single family that all share brothers and sisters -- or all
7 brothers and sisters sharing a parent and also collect wild
8 cohorts in the rivers and then say that the peak -- there's
9 been a lot of collaborators and cooperators, some of them in
10 this room who have been doing that, and we're able to build
11 these gene trees, these dendrograms and evaluate the
12 relationship between all the individuals, the full
13 siblings -- which I'm calling here "progeny array" -- and the
14 wild fish, the cluster unknown of full-sibling wild sturgeon
15 and then all individuals. And full sibling clusters can be
16 considered equivalent to two breeding green sturgeon.

17 So I'm using a calculation called a "coefficient of
18 relatedness," and you can see that when we look at all of the
19 values of relatedness amongst full siblings -- that's these
20 three curves over here -- they're quite distinct from
21 individuals who are unrelated. So, basically, looking at
22 pairwise relatedness values between individuals that were
23 from different years -- that were produced in different
24 years. So we know that they're not full siblings, they're
25 not brothers and sisters, they're not even in the same

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1 spawning cohort. And there's some overlap here, but for the
2 most part this coefficient of relatedness is able to detect
3 those individuals that are full siblings.

4 And then I take the information on the pairwise
5 values and build a dendrogram. And you can see here, there's
6 three full sibling families: The blue, yellow, and red. And
7 for the most part, they all -- well, they do all cluster
8 actually, in fact, into parts of the trees that through one
9 location one knows all of them are -- are clustered together.
10 So this method allows us to rebuild the kinship that is
11 basically looking at the sibship -- the brother and sister
12 relationships amongst them.

13 And so I'm just going to share with you one year's
14 worth of data from Red Bluff Diversion Dam. In 2005, 273
15 green sturgeon juveniles migrated downstream past Red Bluff
16 Diversion Dam. Well, these are the ones that were caught in
17 screw traps. Okay? So there's more out there, but these
18 ones were actually enumerated, and 103 of them were sampled
19 for a genetic study. And I don't know how well you can see
20 it at the back of the room, but the black lines represent the
21 total daily number of green sturgeon samples. And there's
22 these little white bars, and that's the number that
23 represents the number that were actually sub sampled for the
24 genetic study. And you can see that Bill and his crews
25 (unintelligible) fish harvesters sampled a reasonably

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1 bell-shaped curve where the samples in this first
2 (unintelligible), and, as well, they got a large sub-sampling
3 of this second pulse of the (unintelligible). We didn't
4 really get as much of a sub-sample as a small number of
5 individuals came out, but I'll show you the results when we
6 put them together. You see again these three families that
7 are known full siblings. It's basically -- you basically are
8 using them to say, well, these are full siblings relations --
9 these are related as brothers and sisters. And then I draw
10 this line at the most conservative estimate, so all of the
11 nodes that are to the right, all individuals that go through
12 one node -- like all these individuals that go through this
13 one node represent all brothers and sisters. The same can be
14 said for these individuals up here that all go through this
15 node, for instance. And then we find that there's 21
16 full-sibling clusters basically within that sub-sample.

17 And so I did this for a number of years and described
18 the number of sibling clusters within each year and then
19 said, well, if there's that number of full sibling clusters
20 that each represent two parents, this is the number of
21 spawners above Red Bluff Diversion Dam. And then I looked at
22 the number of samples and the sampling data, and the water
23 year type, and there's not really any close correlation
24 between those things and the spawner numbers, the smallest
25 number of spawners from the largest number of spawners -- you

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1 know, we had the smallest number of spawners -- or -- the
2 smallest number of spawners is not correlated with the
3 smallest number of samples nor sample date, nor type of year
4 as of -- the above-normal year in 2003 and 2005, we had the
5 lowest and the highest number of spawners those years.

6 So literature suggests that if you have a lot less
7 than 50 reproducing individuals, you could be having a
8 problem maintaining the genetic viability of a population.
9 And so it's possible that the Southern Distinct Population
10 Segment might be undergoing fitness reduction, lack of
11 evolutionary potential to adapt to environmental conditions,
12 or potentially encountering difficulty finding mates.

13 And so the news regarding sort of using some of these
14 techniques in a stock specimen is that, the good news is that
15 there doesn't seem to be an indication of recruitment
16 failure. I went to a symposium a couple weeks ago. A lot of
17 sturgeon in North America, they haven't had any natural
18 reproduction in 20 or 30 years. We know that fish are
19 spawning in the wild at Red Bluff Diversion Dam, and it's
20 probably likely that they're spawning downstream of Red Bluff
21 Diversion Dam. So that's good. What we don't know is the
22 spatial and temporal characteristics of some of these
23 juvenile -- the juvenile life-history stage and know if
24 there's enough individuals in that life-history stage to
25 maintain population viability as sub-adults and adults. And

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1 so we need to determine some of the survival rates and
2 transition rates in these early life-history stages. And so
3 using genetic methods to identify individual green sturgeons'
4 origins, we can combine that with age and/or length data and
5 we can begin to provide sample sizes large enough at least
6 for establishing relationships between age and size and stage
7 to develop a population model that's stage based.

8 The last thing is sort of discussing older life
9 history. So genetic methods and rigorous, standardized
10 sampling in rivers can yield estimates of spawner abundance
11 in specific reaches and even potentially productivity indices
12 for reaches. And so what we can do is we can take what I'm
13 calling a jackknife-regression approach where I build
14 iterative gene trees and include one additional individual
15 each round. And then this basically describes the
16 relationship between the total number of samples, which
17 increases by one every time, and the total number of
18 discovered families in those trees. And eventually the
19 asymptote will describe the maximum number of families in a
20 sample. And so I'm planning on -- hoping to do this really
21 quite soon. But I think that this could be really useful.
22 And I was talking with Ray Beaudesderfer earlier in the back,
23 and he mentioned, well, could you do that -- thank you --
24 where you look at, you know, how many individuals were -- or
25 how many individuals are actually responsible for a certain

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1 stage, like if we took all the fish above 150 centimeters and
2 did this technique where we added those and then looked at
3 how many fish actually produced all those fish, and that's
4 something that we've been considering and looking at -- or
5 doing, basically. So, you know, a development of a Southern
6 Distinct Population Segment, age/size versus stage
7 relationship is really critical, standardization of
8 fisheries, independent indices of abundance for critical
9 life-history stages, juveniles -- which I think we can do
10 with genetics and potentially spawners, which I think some of
11 the agencies are moving towards doing, and then trying to
12 relate information concerning the spatial and temporal
13 distribution of critical life-history stages. Again, I think
14 juveniles and the spawners are two of those. So evaluating
15 habitat, associated species, and environmental variability,
16 and how all those things affect population dynamics.

17 And a lot of people have been cooperating on this
18 project, and there's been a lot of funding sources. I don't
19 know how that's going to affect the permitting, but I think
20 that is really critical that research and monitoring is
21 something that's considered in the 4(d) process to make it
22 possible for people to continue doing this. Because I think
23 something that's missing is a lot of basic research. There
24 needs to be a lot more -- you know, obviously there's a lot
25 of unknowns in the stock assessment. We need to assess those

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1 out as soon as possible and really determine what the problem
2 is, if there is one.

3 So with that, I'll take any questions, please.

4 MS. NEUMAN: Questions for Josh?

5 MR. ISRAEL: Yeah.

6 MR. HOLT: Jim Holt, Reclamation. You mentioned that
7 50 fish number -- about that 50 fish number. Obviously in
8 any given year you're well below that level.

9 MR. ISRAEL: Right.

10 MR. HOLT: Not all of your adults are returning. Do
11 you have a guesstimate as to how big the population really
12 is?

13 MR. ISRAEL: I don't. And I don't even know what
14 proportion are, for instance, in the river from one year to
15 the next. Something that would be useful to know is the --
16 you know, the -- how many years in a spawning -- like how
17 many years it takes them to spawn multiple times. So their
18 spawning periodicity, if you had that kind of information and
19 you could combine it with some kind of indices of abundance,
20 over time for some of these segments of the river that you
21 knew that they were spawning in, you could probably put that
22 information together and actually get an estimate of the
23 adult numbers. That's a good question. We don't really know
24 how many adults there are out there.

25 MS. NEUMAN: We have time for one more question.

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1 MR. BEAUESDERFER: Ray Beaudesderfer. Josh, I had a
2 question. You saw in those estuary samples that the majority
3 of those fish were from the Southern DPS, and you had a
4 couple of potential explanations for that. Do you have
5 any -- have you allowed for the possibility that -- the
6 assumption that the Southern DPS is smaller than the Northern
7 DPS to be wrong in that what you're seeing is really
8 indicative of a larger Southern DPS population?

9 MR. ISRAEL: You know, I don't think the sampling's
10 been as -- is rigorous enough to have -- sort of do that.
11 That would be something that you might -- if you had one
12 of these -- sort of an age-stage or a size-stage
13 relationship, then you could look at the different stages a
14 little bit more clearly and use genetic methods to assign
15 individuals and use mixtures to one population or the other
16 and using that information to say, well, these 80 fish out of
17 100 sampled in the Columbia River of the Southern Distinct
18 Population Segment origin and then look at them to see how
19 many fish they came from, that might be one way of looking at
20 that. But that's assuming that all the fish are even in the
21 estuary. And I don't know if we have enough data on the
22 migratory behavior to even know if, you know, the 100 fish
23 that they catch on the Columbia for a sub-sample is
24 representative of that. We need to look at -- you know,
25 within estuary differences potentially, in stock composition,

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1 and -- although annually it seems like the Columbia River
2 annually there's not a lot of variation from year to year.
3 It would be worth looking at potentially within an estuary if
4 there's some aggregation -- aggregating -- difference in
5 aggregation.

6 MS. NEUMAN: Thank you.

7 Our next speaker is Qingin Liu from the California
8 Department of Fish & Game. And she will be giving us an
9 overview of the California 4(d) Anadromous Fish Research
10 Program.

11 MS. LIU: Thank you for you all to come.

12 (Unintelligible)

13 THE REPORTER: Excuse me. Would you like to give her
14 the mike?

15 MS. LIU: This is -- does everybody can hear my
16 words?

17 UNIDENTIFIED SPEAKER: No.

18 UNIDENTIFIED SPEAKER: No.

19 MS. LIU: Oh, I think my teaching function is
20 retarded. I used to teach -- I teach every week. Now I
21 working with -- on the desk for more than six years. I just
22 feel it's (unintelligible). No problem for everybody else.
23 So anyway I hope I can -- I don't use this. I used to not
24 use this at all.

25 Okay. So I want to share some information about

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1 overview of our 4(d) Anadromous Fish Research Program. First
2 I have to say this is a big program involved in about right
3 now 86 projects. So I don't have enough time to speak with
4 specific information, or if I speak too fast, not clear, and
5 I hope I can talk with you after the meeting.

6 Now -- oh, before I start, I should mention I have
7 handout there for the key points of my presentation, also the
8 contact person from NMFS, and also the DFG -- Department of
9 Fish & Game for current program.

10 Here's the key point for my presentation today. And
11 I'd like to give a little background information first, but
12 Melissa presentation set up some important information. So I
13 might just go through quickly for how program was developed
14 with the coordination efforts. And also I like to give you
15 some program overview with project summary and the benefits.
16 And last but not least, requirement of procedure and future
17 perspective.

18 This is steelhead, you know, and we work with many of
19 publishing segment of the steelhead in the program. And
20 chinook salmon, including the coastal and the spring run.
21 This is spring run. Thank you for Paul, our spring run, sent
22 me this photo. It's been used lots of times. And the coho
23 also are also involved in the project, we're going to find
24 out what is next.

25 And this is status of the species involved in the

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1 project. You can see probably I just -- I'll speak loud --
2 as loud as I can. Can you hear me?

3 (Multiple speakers.)

4 MS. LIU: Okay. So we work with the coho. There's
5 right now one (unintelligible) species. This is reclassified
6 as endangered, but 2005, you can still see this species --
7 yes, your unit, you do program. And, also, chinook salmon,
8 we work with two ESA unit. And for steelheads, we have four
9 published in six segments.

10 This is the species now is going to be listed in next
11 month. So we're looking for what's going on for next.

12 And as a background information, you can see from
13 1977 to 2002 there is three distinguished protected
14 regulation for anadromous fish. Of June last year, the final
15 4(d) rule, which protection -- final 4(d) rule which give
16 protection for all the striped salmon and the steelhead in
17 California so main program be more consistent.

18 And especially today I'm talking over for research
19 and monitoring (unintelligible). That is involved with 4(d)
20 rule limited No. 7 for the Endangered Species Act. In this
21 regulation, that basically 4(d) provide us exemption for a
22 Section 9 and also allow take limits. But we -- the program
23 must meet a lot of criteria specified in the limits.

24 This is some basic essential elements in 4(d) rule
25 limited No. 7 regarding our research program. In application

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1 process, reports modification, re-evaluation, general
2 conditions, operational requirements, there's more than four
3 pages requirements. So I can't discuss each individual --
4 with -- with people, you have special interest in.

5 Of course, when you see later in the procedure, I
6 define the report and forms. We have standardized form and
7 report which is covered all the criteria that was the
8 Section -- 4(d) rule and the Section No. 7 limits.

9 Here I want to emphasize a little bit more about how
10 the program was developed. You can see from 2002 we started
11 the program with DFG request. And for NMFS to provide 4(d)
12 research limits for take -- for take -- take exemption. And
13 then 2003, NMFS issued Biological Opinion and approved the
14 4(d) research take limits for project in 2004. So the first
15 project program pilot started in 2004. From here you see
16 this program's relatively new.

17 So from 2004, also, NMFS issued a supplemental
18 Biological Opinion and approved the project in 2005 in the
19 research program. And in 2005, NMFS issued supplement
20 Intra-agency Biological Opinion to approve the modification.
21 And also 2005, they also issued a letter approved request for
22 extension of research take limits in this year. So you can
23 see all of the programs is based upon the annual basis for
24 evaluation and performance, reports, and the application
25 process. So it's continuation of the coordination process.

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1 And here are the contributors in the program. This
2 person you might know, and this is my assistant. And here is
3 (unintelligible) supervisor with other staff, Monicque
4 Harvey, who involved early throughout development of the
5 program. And NMFS and Jeff (unintelligible), the lead
6 program contact. And also Rosalyn (unintelligible) and in
7 Sacramento office involved with lead and contact for early
8 program coordination.

9 Here going to give you some overview about the
10 research program. I want to summarize the objectives and
11 also the project components from DFG and the species in the
12 project. And project distribution we're still working on.
13 And the requirements, procedures, and the benefits of the
14 program.

15 And here, as you can see, in general the objectives
16 are very diversified for more than 80 projects. And there is
17 plenty of research and study involved and research and
18 genetics and more. And also there's a requirement by federal
19 and state environmental laws. And there's project involved
20 with environmental and water quality, restoration,
21 environmental management, and water resources management.

22 When we're talking about water resources management,
23 mostly might be -- like to know more specifics. Here give
24 you a little bit more general information about water
25 resources management project involved in the program. And is

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1 water resource and management information need and also
2 assess of the water quality and the hydrology condition of
3 that fish and entrainment in pumping plants and fish
4 stranding related to flood plane and navigation. And also
5 affect on water transfer operation, study environmental water
6 needs in the region, provide biological indicators for water
7 quality and geomorphic conditions, of course, fish passage
8 impacts.

9 Here is total project in the program. You can see
10 from 2004 is total 78, and June 2006 is 86. And there's a
11 component now different from DFG. Now DFG approximately
12 about half and half. And here you can see that project
13 component. And this part is from private consultant
14 organization and also university and other government
15 agencies. This is all DFG components.

16 And from the species in the program, and I went 2005,
17 as if you can see, basically they're, you know, in similar
18 proportions, but 2005/2006 may have change for this portion
19 because we're lifting of the coho salmon and that situation.

20 You can see the steelhead and -- probably not too
21 clear from this photo. And there's the leading proportion of
22 shrimp and chinook -- chinook, and then that's coho.

23 So the benefits of the research, you can see the
24 collective research information from more than 80 projects

25 allows us to do accumulative analysis and also provide

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1 streamline permit system thinking about these 86 projects all
2 from Section 10 how much effort is involved. And also
3 protect them from collecting information for multi -- multi
4 species and cross-regional conservation and management. And,
5 of course, we have a lot of coordinated efforts between the
6 agency and the project components and the staff.

7 And procedures, as we need to have a position
8 process, project review and coordination, project
9 modification if they need it and project report. Of course,
10 like I said, during this procedure, we design application and
11 a report by requirement of 4(d) rule limited No. 7. So all
12 the applicant have to really follow the guidelines.
13 Sometimes I see people change it. That make us work even
14 much more harder. We have to contact them. They make lots
15 of different changes. So that's -- this is something we need
16 to do more outreach efforts. Do you understand why we have
17 to follow the guideline standards? Because there's
18 section -- 4(d) rule -- 4(d) rule and limited No. 7
19 requirements.

20 So we design a program as a standard for application
21 process. So how does our DFG can allow this state program?
22 We used some collection product as a linkage. So for
23 non-agency, it's important to apply for some collection
24 permit and coordinate with the regional biologist, make sure
25 before you apply everything's lined up in the channel. Okay?

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1 So that's very important. Then after we done that and
2 everybody -- then everybody can use the center application,
3 send to DFG, that way you write application criteria designed
4 by 4(d) rule and limited No. 7 and then coordinate with NMFS
5 for programs (unintelligible). So NMFS will review our
6 request and then approve of our program application and give
7 our take limit. Then the program will keep going, and then
8 will transfer from me, and we'll need to submit a report
9 according to a mandatory standard to the DFG. And then we
10 will review the report and then send a program report to the
11 NMFS. And then NMFS will approve our report and review
12 report and next year's cycle will start. So this is based on
13 yearly basis. So it's very important for all the
14 (unintelligible).

15 And I think this is -- I may just very quick go
16 through -- this is the common requirement for petition and
17 report according to the 4(d) rule limited No. 7. And then
18 the species specific requirement, which is different from our
19 application and report. Quite honestly, I see the applicant,
20 they just want to take a shortcut. Sometime they try use the
21 same form for application for report. That cause a lot of
22 trouble for us because we have time line to comply with 4(d)
23 requirement. So I want you to make sure to follow the
24 guideline between the application report, and then we can
25 make program run smoothly.

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1 The future perspective is we have -- we face
2 significant challenge for program support, for staff, for the
3 resources, and also the staff causing change from the
4 agencies, the project, the policy changes from the listing.
5 So we have to coordinate all that into the program. And also
6 continue coordination outreach to make the --- to make people
7 understand the program and obtain a strong support from them.

8 I think my talk is done here. I will appreciate and
9 like to see Jeff (unintelligible) coordination in
10 information. And also (unintelligible) is my assistant for
11 data -- data -- data support. And, of course, I steal this
12 from somebody else. I didn't do this.

13 Okay. I think that my talk is ended about here. So
14 I will discuss with you for more specifics maybe after
15 meeting -- or do I have questions time?

16 MS. NEUMAN: We have time for one question.

17 MS. LIU: Okay. I know, you in policy stuff. It's
18 rigid standard, nothing -- nothing to question.

19 Thanks.

20 MS. NEUMAN: Okay. Thank you, Qinqin.

21 Our next speaker is Alicia Seeholtz from the
22 California Department of Water Resources speaking about green
23 sturgeon in the Feather River.

24 MS. SEEHOLTZ: Can everybody hear me okay?

25 All right. Basically, I'm just here to kind of give

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1 you a glimpse of green sturgeon on the Feather River. We're
2 in the listing quite a bit, but not much is really known
3 about green sturgeon on our system.

4 Basic introduction: The Feather River is the largest
5 tributary to the Sacramento River system. In addition to the
6 green sturgeon, we have two other federally listed species,
7 which are the Central Valley chinook salmon and the salmon
8 Central Valley steelhead. The majority of our studies have
9 focused on these species. It has a very unusual design which
10 ends up creating different flow regimes and temperature
11 regimes. The water flows out of Oroville Dam and is
12 diverted -- a small portion of it is diverted into the local
13 channel. It's generally 600 cfs. In the future, I'm not
14 sure exactly when, it's going -- the (unintelligible) is
15 going to be raised to 700 cfs. We also have a temperature
16 requirement there at 65 degrees mean daily temperature for
17 this section of the river. The rest of the water is diverted
18 into the Thermalito complex here where there's more power
19 generation. This water is used for agricultural diversions
20 to warm the water for rice users and for extra water storage.
21 The water that isn't used is then returned to the river
22 through the -- the Thermalito after-bay outlet, which I'll
23 refer to as "the outlet," and it flows south to Verona to the
24 confluence with the Sacramento.

25 The Feather River Program was brought into existence

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1 in the early 1990s to document and monitor fishes in the
2 lower Feather River. The major goal is to determine flow
3 requirements for salmonids. During the mid 1990s, we began
4 gearing up to prepare for the FERC re-licensing of the dam,
5 and we conducted studies to understand how the Oroville
6 complex impacted the fish populations. In addition, we also
7 gathered data that we could use for future restoration
8 efforts, and those studies are still ongoing.

9 Past sturgeon studies on the river, in print, anyway,
10 we have a study from -- Painter, et al., conducted studies
11 from 1968 to 1975 using many different methodologies to look
12 at how the dam was affecting fish populations, only one white
13 sturgeon were ever reported. In a report from NMFS in 1995,
14 they mentioned that a study was done on larvae sturgeon near
15 the mouth of the river, no sturgeon were found. In 2001,
16 Shaffer & Cohorst used artificial substrates to look at five
17 different locations on the river. They did not find any --
18 they found sub-adult reproduction, except that they did find
19 small sub-adult white male -- or white sturgeon at the
20 outlet.

21 During -- we did -- we conducted two years of
22 sturgeon studies through the FERC process. In 2003, we
23 conducted angling (unintelligible) surveys and also conducted
24 an egg and larvae study and did not find any sturgeon. This
25 angling -- we tried to angle and fight trap to catch sturgeon

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1 for tagging in 2004, and we were unsuccessful at getting our
2 hands on any; however, we did see sturgeon breaching for a
3 ten-day period below Shanghai Bend.

4 Also as part of the FERC process, there was a
5 sturgeon passage evaluation conducted. A team was put
6 together, and initially we were going to look at three
7 different locations on the river that were considered
8 barriers. However, the high flows in '97 re-conformed the
9 river to the point where the highest location, which was
10 actually in the low-flow channel about here, was changed
11 enough it was no longer a barrier. So the remaining two is
12 an artificial block wall that was built here at River Mile
13 38.5 for the Sutter Water Irrigation District to help create
14 a flume to sweep the fish by the pumps there. And then
15 another one is a natural barrier that curves down here at
16 River Mile 25 at Shanghai Bend, which creates a large
17 waterfall.

18 During -- woops, backup. During November of 2002, a
19 low-flow analysis was made where flows were approximately
20 2,000 cfs. It was determined that Shanghai Bend is likely a
21 barrier because of the height of the waterfalls. The water
22 velocities coming down the middle of the chute were extremely
23 high. And then there was an area that was -- that may be
24 passable, but there wasn't enough of an attraction for --
25 we believe that sturgeon would have used it. In addition,

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1 Sunset Pumps, their water flow was also very high, and their
2 water velocities were extremely high also through the chute,
3 and we were not sure if sturgeon would be able to navigate
4 it.

5 A high-flow evaluation was conducted in July of 2003
6 when the cfs -- when it was 10,000 cfs. At this point,
7 Shanghai Bend looked like it was passable; however, Sunset
8 Pumps, the flows there are -- are really pretty extreme, but
9 there is a Willow Bar complex that is off to the side that
10 sturgeon may be able to get through.

11 Currently this seems to be a pretty good year for
12 sturgeon on the Feather. We're definitely seeing more and
13 hearing more than ever since we've been on the system. We
14 are detecting it through our creole surveys that we're
15 conducting now and DWR, and Pacific State Fishery personnel
16 are seeing them more on the river.

17 I have borrowed a receiver -- a Vemco receiver. And
18 we -- last week we took it out to see if we could detect any
19 of the other -- detect any tags from other studies that are
20 being conducted in the area. I've been led to believe that
21 there are about 200 tags that are out in the water right now.
22 So we just wanted to see, well, have any of them potentially
23 come into the Feather River. We did not detect anything, but
24 yet we're seeing sturgeon. So that's making it a little
25 interesting.

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1 We are going -- depending on whether we can get the
2 money together and if we can do it before July, we're
3 attempting to try to purchase some receivers ourselves and
4 potentially do some tags and (unintelligible) and try to get
5 ahold of these sturgeon before they leave in July.

6 Some of our future plans: We are definitely going to
7 be getting some Vemco receivers. We're going to have a
8 minimum of 12. We're going to place them at six different
9 stations. We're going to try to get some more. And then
10 there will be -- continually be in the river so that we can
11 try to detect others just for presence. We just want to know
12 that they're there or when they're coming in. We'd like to
13 try to tag the sturgeon ourselves. If we can get some of
14 this tagging done and figure out where the sturgeon are at,
15 we will attempt some (unintelligible) surveys.

16 One thing that staff -- another thing that's going to
17 be taking place, we were planning it for this next spring,
18 but it's been pushed back; we've been monitoring the fish
19 weir, which is going to have a video monitoring. It's
20 actually being set up for salmonids, but we're going to have
21 a camera set up so that they can look downstream so if any
22 sturgeon try to pass, we'll be able to detect it. We can rip
23 out the salmon passage chutes place -- replace it with
24 something that will be more likely be able to pass sturgeon.

25 Future restoration and enhancement is being dictated

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1 through FERC which includes gravel and structural habitat
2 supplementation, increased flows and temperature.

3 Unfortunately I can't give you any more details on that
4 because they're still kind of working that out. It's being
5 evaluated on how we're going to deal with these issues.

6 The tagging the fish -- the fish weir and the -- the
7 supplementation for the gravel and structural habitat will
8 likely have some potential initial impact, but we feel that
9 in the long run it's definitely going to give us information
10 that we think is going to outweigh those initial impacts.

11 Some of our issues and concerns are, it appears that
12 the Feather River -- that the sturgeon that use the Feather
13 River -- I've been documenting them since 2002. And we
14 generally have sightings year round, but it's a few fish here
15 and there. It's not constant. We can't say that they're
16 there for each year is very different. It seems to -- every
17 time we have a flow that's higher than the Sacramento River,
18 it appears that the sturgeon come up in great numbers to use
19 the Feather. So if we do any studies on these fish, I don't
20 want to say our two years of studies dictates that there
21 aren't any sturgeon in the river. We've perhaps figured out
22 how to get our hands on them, and that those two years aren't
23 telling us what that population is doing. We're definitely
24 going to have to do longer studies on the Feather River in
25 order to determine what sturgeon are doing there. And

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1 there's also a concern that with these regulations, that
2 they're not going to be based on what's known. I know one of
3 the issues that they believe on the Feather is the Thermalito
4 Outlet provides a temperature barrier; however, this is where
5 we're finding our biggest concentration of sturgeon. The
6 tagging that we've been doing on spring-run chinook suggests
7 that this is not a temperature barrier; it actually provides
8 quite the habitat that it appears the green sturgeon like.
9 It's a very deep hole and the flows and the temperatures at
10 the time of the year they're there are in the appropriate
11 ranges.

12 So with that being said...

13 MR. HAMMOND: Jim Hammond for (unintelligible).
14 Whites or greens?

15 MS. SEEHOLTZ: Both. The greens are generally found
16 higher up. The whites would be actually found around
17 Shanghai Bend. But reports are out that both are caught. So
18 it might just be at the beginning of May while our crew was
19 out crewing -- there was a gentlemen that they actually saw
20 pull a green sturgeon out. They were estimating it was six
21 and a half to seven feet and weighed about 200 pounds. After
22 talking to that gentleman, he said he was fishing for salmon
23 but he hooked five sturgeon in a three-hour period. So...

24 MR. WARD: Paul Ward with Fish & Game. Alicia, you
25 alluded to two barriers that were either a waterfall or a

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1 velocity. What do you conclude in terms of height and
2 velocity as a barrier for an adult sturgeon?

3 MS. SEEHOLTZ: The -- Roger's going to be giving a
4 talk on fish passage which will probably address that a lot
5 better than anything that I could tell you. But the fall at
6 Shanghai Bend is six feet. It can be six feet high. So
7 we're definitely not thinking they can jump that. But --
8 unless they use the side passage, which is definitely doable.

9 When we were watching the sturgeon breach for that ten-day
10 period, they were continually there until it reached about
11 5,500 cfs, and then they just disappeared. We're not sure if
12 they just happened to be done, got out of the system, or if
13 it was at that flow that they were actually able to go over
14 the fall. So kind of iffy on that. Shanghai Bend -- or I
15 mean the Sunset Pumps is actually not very high, but there
16 are very, very large boulders. And watching the water at the
17 beginning of this month, the water actually comes down and
18 pretty much slams on the weir. It's kind of interesting,
19 depending on the flow how that works. At the lowest that --
20 I -- I mean at the highest height, I would say I've probably
21 seen maybe three feet of that structure sticking out of the
22 water at a point in time. And then they have a chute that's
23 probably about four feet wide, and we were guesstimating that
24 the volume velocities were about 15 feet per second.

25 MS. NEUMAN: One more question for Alicia?

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1 Okay. Thanks, Alicia.

2 Our next speaker is Roger Churchwell from the
3 Department of Water Resources, and he's going to be talking
4 about their sturgeon passage studies.

5 MR. CHURCHWELL: And what I hope to do is go through
6 our study and then present some of our findings, what we
7 ended up with. So I do have a rather long presentation, so
8 I'll try to get through it. But if not, we can get to the
9 findings towards the end.

10 The objective of our study was to research and
11 evaluate design of an upstreaming sturgeon passage ladder for
12 use in the Delta Cross Channel/Through Delta Facility. And,
13 of course, this was -- we did use white sturgeon and all
14 white sturgeon. And by doing -- performing sturgeon swimming
15 performance and tests, we determined that it identified
16 physiological and behavioral parameters, and then, of course,
17 the hydraulics evaluations and measurements were conducted.
18 And we also considered a 2 percent slope on a passage to be
19 a -- available for metal passage, so we wanted to do
20 something greater than a 2 percent slope.

21 This was a coordinated effort with UC Davis and the
22 Department of Civil and Environmental Engineering, Department
23 of Wildlife, Fish, and Conservation Biology, and, of course,
24 Department of Water Resources Fish Facility Tagging. Other
25 participation was the Happy Hooker fishing vessel out of

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1 Martinez, and, of course, Natural Resources Scientists, Dave
2 Vogel to help support this study.

3 This is a CalFed program outlined in CalFed and had
4 Team participation review and oversight by the Delta Cross
5 Channel/Through Delta Facility Team, North Delta Technical
6 Team, and also the Central Valley Fish Facility Review Team.
7 As I mentioned earlier, a coordinated effort between UC Davis
8 and DWR engineers and biologists.

9 And the approach was as a three-year effort. The
10 first two years were to look at and evaluate swimming
11 performance and behavior of white sturgeon -- this is all
12 white sturgeon. And then the third year was to develop a
13 prototype and test that and then evaluate the performance.
14 And the status right now is that the final report is in final
15 review, and then hopefully will be out soon.

16 We had to approach this because of infrastructure
17 limitations within the UC Davis hydraulics lab as a
18 mid-section of the sturgeon passage. So we're basically
19 injecting these fish within a section of what would be the
20 passage. We didn't have a staging area or a full passage
21 where you would possibly have a resting section within the
22 passage. We were limited just because of time and the number
23 of fish that we wanted to test to 60 minutes. Fish did have
24 a 30-minute acclimation period. All our fish runs were
25 during daylight hours, and we did -- we did use wild fish, of

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1 course. And our collection was to target the migratory
2 period of white sturgeon, and we used adult fish four feet
3 plus.

4 So our -- collected most of hour fish from the Bay,
5 and we also had some support from another DWR program and
6 collected some fish out of the fyke trap in the Yolo Bypass.
7 2003 we collected 32 adult sturgeon, and '04, 51, and then in
8 '05, 46. Fish collection occurred from the end of January to
9 the middle of April, and that's what we considered the
10 migratory period of adult white sturgeon. We didn't have any
11 way to identify whether these fish were also going to be
12 migrating, which they don't always -- adult sturgeon don't
13 always migrate in a given year. As I mentioned, we used the
14 Happy Hooker, Jim Smith, excellent fisherman. We would not
15 have had the success that we did without him knowing the bay.
16 And it was a 42-foot vessel. Fish were collected mainly by
17 rod and reel and placed in tanks, and water quality measured.
18 We were able to hold about six or seven adult fish, and then
19 we had return and take them back. And then, of course,
20 there's the fyke trap in the Yolo Bypass. We would get the
21 fish, and we did notice these fish would be moving up where
22 probably -- you know, were in the migratory process.

23 We had a specially designed haul tank constructed,
24 insulated that we hauled fish from Martinez up to UC Davis.
25 And we used specially designed slings for transporting our

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1 fish from the tanks to the flumes. I'll try the pointer
2 here. Maybe I won't. The slings had compartments within
3 them where we could hold water so the fish were never dried
4 out. And all our fish, they were returned after the study to
5 near locations of where we caught them.

6 And when we got to the university, they were put in
7 holding tanks and held for a period of time, marked, and kept
8 information on where they were collected. And, of course,
9 again I'll say we didn't use any green sturgeon at all; we
10 used white. Fish were moved from the holding tanks and back
11 into the slings, and then we would put them into the flume.
12 And this is a -- it's kind of hard to see in this picture,
13 but here's our flume site -- one of the sites of our flume.
14 And I'll go over the size of that in a minute. And they were
15 held in this as an acclimation period for about 30 minutes
16 before we started up the flume. And, of course, we collected
17 tailbeat frequencies, ventilation frequencies, the movement
18 within the flume, observations, behavior.

19 When we first started this study, we didn't even know
20 if these fish were going to swim in the flume. So we really
21 started from scratch really trying to figure out if this was
22 even going to work our first year. But we were pleasantly
23 surprised that they did want to move up the flume provided
24 the right conditions. We also used underwater cameras to
25 document their movement through the different barriers.

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1 So the total length of our flume system was 120 feet.
2 Our test section was 80 feet. Our flume pipe was four and a
3 half feet. We were about seven feet wide. The first two
4 years we had our main flume body level, zero percent slope.
5 And then in our last year from studies that we did, we sloped
6 it at 4 percent. And our final year we had a capacity of 60
7 cfs in our flume. We kept upgrading as we went, and things
8 were successful in what we needed.

9 Here's our flume, and our pumps were here. Our head
10 tank, and we had a flow straightener and a screen. This is
11 one of our early-on baffles. The flow was going this way.
12 Here's another baffle. We had another fish screen and a tail
13 gate for controlling flow, and then the water would
14 circulate. Then there's a cross section of the flume
15 section. It gives you kind of an idea. And, of course, this
16 was -- this was our test section. This was 80 feet from here
17 to here.

18 This is an overheard view of looking down at some of
19 the barriers. This one has a center opening, and this has a
20 two-end opening. And we really just started out just trying
21 to figure out how these fish would behave around different
22 hydraulic conditions, different types of eddies, velocities,
23 just trying to understand their swimming performance and
24 behavior. So we -- here's one of the barriers. We built
25 them very simply so we could change them. They were just --

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1 these were four-by-fours. Here's our flume wall. It's not
2 flowing here. And so we could adjust it, take out
3 four-by-fours, make it narrower or wider, look at the energy
4 dissipation, and the fish behavior at different velocities,
5 different flows. Here's another overhead view. And we --
6 you know, since these are bottom-dwelling fish mostly, you
7 know, we were really concerned about what we could do in the
8 bottom of the flume. And this is -- this is a -- what we
9 call the vertical barrier. Looking down into the flume, our
10 opening is here. And then we looked at horizontal barriers
11 that would go completely across the flume floor, and we did
12 some direct horizontal, vertical where they were coming to a
13 vertical surface. And we got very poor passage, and so then
14 we started looking at, oh, what if we sloped this. So this
15 is a result of -- after doing some vertical, horizontal
16 barriers with some slopes and -- so we're still in the
17 behavior stage of the study, trying to learn how these fish
18 behave around different types of barriers and what their flow
19 requirements are.

20 We did a lot of little short type of (unintelligible)
21 efforts. These are all kind of sort of our horizontal
22 barriers type of evaluations. We may run one or two fish
23 through one of these and evaluate that and move on to the
24 next. With the shortened period of when fish are available,
25 we had to make quick decisions and move on to the next where

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1 we were going to go. We tried the orifice. There had been
2 some information given upon the Columbia River that fish were
3 moving through the bottom of some of the salmon passages that
4 had holes in the bottom. We got very poor passage through
5 the orifice situation. Here's one of our barriers with the
6 center opening. Again, the four-by-fours. This was all in
7 the first year.

8 In the second year, we started considering, well,
9 what kind of a slope can these fish swim. So we built a
10 flume -- we didn't have the time to take and -- and this
11 is -- this is our flume within our flume. Here's our
12 original flume walls. And we wanted to look at the -- what
13 kind of slope these fish would swim. So we constructed this
14 interior flume and sloped it so we could start to look at
15 that. This is kind of an overhead view. Here's our flume.
16 You can see it in, this flume inside.

17 Here's some of our results. And take this in that,
18 you know, we documented this, but this was not our -- and we
19 wanted to look at this to help guide us because we took a lot
20 of the observations and a lot of the information that's not
21 given here. You know, we did a 4 percent slope that was on
22 the interior flume. And we did our 8 percent slope. We got
23 pretty good passage out of that. That actually dictated,
24 because of its limited time, where we were going to go with
25 our final year of what we were going to slope our flume to.

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1 And then vertical and horizontal baffle situations.
2 Like I said, we used different-velocity flow regimes to
3 evaluate the passage of fish and trying to figure out what
4 hydraulic conditions would best pass these fish. We also --
5 I'd like to mention, too, we also -- UC Davis had established
6 a Health Index on these fish. So we evaluated that and
7 considered that as fish also with their passage.

8 And then on the third year, we got together and put
9 together what we thought would be the required type of baffle
10 design to dissipate the energy and a 4 percent slope for
11 passage. And so that was fabricated in the flume. We got a
12 very late start on our plan last year. Our original plan was
13 to have this ready to go in July and go through hydraulic
14 testing, balance, and tune the flume, but because of
15 contracting and funding delays, we didn't have the flume
16 ready until February, and we had fish coming at that time.
17 So we actually delayed taking a lot of our hydraulic
18 measurements until after we ran the fish, and then came back
19 and did our -- re-set the flume up -- or kept the flume just
20 like it was and did our measurements because we just didn't
21 have the time.

22 So we -- our passage, what we found out is that, you
23 know, sturgeon don't like to turn these big bodies in flow;
24 they like to move straight. And so that kind of limits --
25 and, of course, any kind of bottom-type barriers are -- would

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1 impede their flow. There was a movement, so we were kind
2 of -- kind of limited on what we could do. So we looked at
3 ways to dissipate the energy by contracting the flow. We
4 wanted to keep the flow straight. And then another energy
5 dissipating method is expanding the flow. We did not have
6 the time to put any roughness into the channel. We think
7 that would also be a benefit with hoping to control the flow
8 in the passage.

9 And so this is kind of what we came up with. And
10 early -- early, simple in that here's our flume, our flow's
11 coming this way. The flow contracts and is pushed through
12 this section. These are -- these are overflow weirs here.
13 We did have the ability to adjust that. We knew when we put
14 these in that we wanted to have some adjustment. Fish are
15 moving through here. This side of -- the fish is moving up
16 here. This side of the baffle was actually sloped because we
17 did find that adult fish would -- if you had a vertical
18 surface and they were moving up to the flume, they would ram
19 into those water plants. They do sometimes want to move very
20 quickly through these and are capable of doing that. So
21 these are sloped. As the fish moves up, comes in this way,
22 they're coming in, and it helps guide them or glance off of
23 it and they go through the other. And these are set at
24 45 degrees, which I don't think that drawing is actually at
25 45; it's a little steeper.

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1 And here's a 3-D rendering. We first started out
2 with four baffles. I believe these were about 16 feet
3 spaced. And the other important thing about -- okay. The
4 other important thing is that, you know, we were only running
5 one fish. Then we went to six baffles, and that seemed to
6 dissipate the energy down to where we wanted to go. Of
7 course, the flume was raised at the back. We sloped the
8 whole flume to 4 percent. And then we -- moving a little bit
9 quicker -- I'm running out of time. Here's our baffle
10 design. Remember this little plank board here, our cameras,
11 here's a camera here, and there's a camera in that baffle.
12 We had it wired for video. Here's our flume actually
13 running. And the fish were moving up through here -- through
14 the flume. Yes, it's quite surprising the velocity these
15 fish could handle. Here's an actual sturgeon. There's that
16 white board you saw going through the passage. So I've got
17 three -- I don't have a movie; I've got stills. He's getting
18 ready to go through; then here he goes.

19 Some of our results and findings. We have our
20 baffles numbered. Here's our first baffle, second baffle,
21 third, fourth, and fifth. Of course, percent of passage.
22 And, actually, low tailwater, this -- this scenario and this
23 scenario are actually the same. The only difference was how
24 we held the fish. This scenario was a little bit different.
25 We controlled the tailwater a little bit more than if it was

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1 an actual baffle downstream. That's what we wanted to
2 create. My throat's getting dry.

3 Also, look at this, baffle No. 5, with this scenario
4 we were going down to 13 percent. But I'm going to show you
5 later on by balancing and doing some more pilot work, we were
6 bringing that up. But, you know, we do have some pretty high
7 percentage of passage in these baffles.

8 Velocities, I know some people had talked about
9 velocities earlier. Here are -- here are, of course, some
10 average velocities. Here are some maximum and minimum
11 velocities within the chutes, within the baffle passage.
12 These are running up to about eight feet per second. For a
13 very short distance that -- and with that widening, you get
14 the fish actually not sensing -- and straight flow, you get
15 the fish coming up and they're not actually sensing that high
16 velocity until they get right there and they've already
17 started to move through. But also there was some roughness
18 that, I think, could be slowed down. I hope everybody can
19 see that.

20 And we kind of developed some guidelines for the
21 baffle type of system. We don't get into any of the
22 entrance-type conditions that may be required. Of course,
23 that resembles what I showed you earlier. I won't spend much
24 time on that.

25 Some of the criteria, I don't think I probably have

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1 time to go through all that. I'd also like to mention, this
2 was all for up-passage -- okay, one minute. This was all
3 done for up passage. We did not consider down passage
4 because at the facility that we were working on, it did not
5 require down passage for adult fish.

6 I wanted to go back. We did -- even in the third
7 year, we did a number of pilot efforts. And I could show you
8 that, very little, 13 percent. With some balancing intruding
9 in the flume and with fish later on, we were able to bring
10 that up to 40 percent.

11 And I'm going to finish up here. I already mentioned
12 this. After the tests were done, fish were measured and
13 weighed, put into the slings, put back into the holding tanks
14 to recuperate, and then return -- we returned the fish back
15 to the wild. They were put back to the area close to where
16 they were collected and then released. There was also some
17 plasma stress -- blood plasma work done by UC Davis that I
18 didn't present here, but a lot of information that will be
19 coming out in the report. That's it.

20 MS. NEUMAN: Thank you, Roger. We don't have any
21 time for questions right now, but write down your questions
22 for Roger, and at the lunch break you can grab him.

23 Our next presenter is Ann Lucas-Williams.

24 MS. LUCAS-WILLIAMS: I am -- this is a short
25 presentation. It's an overview of Central Valley Projects

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1 and OCAP and BA. Twelve minutes is not a lot of time to
2 cover a lot of territory. Okay?

3 This is just some pictures of our dams. Shasta Dam,
4 Folsom Dam, Friant Dam, our San Luis Reservoir we share with
5 the state, our pumping plant down at Tracy, and I think that
6 might be the Delta Cross Channel Gate, but I'm not sure, the
7 Trinity.

8 Since our focus will be on our take, the state
9 (unintelligible) consultation, the pumping plants for the
10 state facility down in (unintelligible) and our Tracy Pumping
11 Plant -- they have the fish facilities just upstream of the
12 pumping plants. Just an overview of our Central Valley
13 Project, all our dams, canals, power plants, et cetera. We
14 are 20 percent of the state's developed water supply. Most
15 of our water that we provide the Central Valley is for
16 agriculture. There is a small amount that has also sort of
17 been municipal and industrial use.

18 Again, just another little map showing our
19 facilities. I'll show a little bit better map of
20 Red Bluff --- I don't know how far up the fish actually
21 spawn. Just a little bit up the Delta. Since I couldn't
22 find any good pictures of Red Bluff Diversion Dam, this is
23 the Trinity/Sacramento Water Quality Network. This is a map
24 that we will show Red Bluff Diversion Dam down here at the
25 bottom. And then for our winter-run salmon, we have our Bend

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1 Bridge, Jellys Ferry, Bolles Ferry, compliance points that we
2 use for our temperature control, see where Clear Creek comes
3 in, Cottonwood Creek, et cetera.

4 Our current operation of the Red Bluff Diversion Dam
5 was changed when we did our consultation for the winter-run
6 back in '92 and '93. So our current operation is, we put the
7 gates in for the agricultural season, May 15th through
8 September 15th. We do have -- which provides winter-run
9 passage, and some of the spring-run -- we may block or delay
10 some of the spring-run. And there's some steelhead. We have
11 seen our winter-run obviously above Red Bluff Diversion Dam.
12 There's a small percentage of spring-run that get above
13 Red Bluff. I don't know if it's like 6 percent or 9 percent.
14 And there's also the steelhead that aggregate, migrate but
15 after the gates are up. That is our current operation.
16 We'll be talking about that through our consultations.

17 We have several objectives within our operation. One
18 of the big ones is flood control. All of our dams try and
19 hold water so that we're not flooding the Central Valley.
20 Water supply, store the water so that we can move it later.
21 We try and move it at fish-friendly times. We're trying to
22 meet our temperature criteria for the chinook. We also have
23 water-quality issues that we're trying to deal with down in
24 the Delta. We work with both Fish & Wildlife and NOAA
25 Fisheries on our ESA issues. There is some recreational use.

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1 There's some seepage, and we have a navigation control point
2 at Wilkins Slough.

3 We try and meet these multiple objectives while we
4 also have several agreements and standards that we're trying
5 to meet. We are joined to the State Water Project under the
6 Coordinated Operations Agreement that was done in 1986. The
7 State Water Resource Control Board has a decision -- D-1641
8 that is our Water Quality Control Plan that we meet with the
9 state in the Delta. We have our '04 Biological Opinion on
10 winter-run, spring-run steelhead and coho salmon up in the
11 Trinity. We have done a final Fish & Wildlife Opinion on
12 Delta smelt. We have the San Joaquin River Agreement that
13 helps us with our ramp. Then we also provide funding for the
14 Central Valley Project Improvement Act through our
15 contractors who do various projects that are in that Act.
16 They also do work under CalFed, the Bay-Delta Program. This
17 is just a few. There's a lot more, but we're not going to go
18 into those today. Those are the major ones.

19 This is the Water Quality Control Plan Standards.
20 Here's the summary by month and the various standards that
21 we're trying to meet. This came out in '95, and the Decision
22 1641 came out in '99, 2000. Like I said, with the State
23 Water Project, we try and meet all these standards. You'll
24 see that most of them -- woops. I'm sorry, I lost my
25 picture. Most of these standards are for Fish & Wildlife on

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1 the top half, and then we have some M&I standards, some ag
2 standards. Then there are a few more Fish & Wildlife down in
3 the San Joaquin River and the Suisun Marsh area.

4 Like I mentioned, we coordinate our operations under
5 COA and in the Delta as well as upstream we coordinate with
6 the State Water Project and the Department of Water
7 Resources, it operates -- excuse me, for our flood control,
8 we're working with the Corps of Engineers to meet our Control
9 Plan and some of our state permits with the State Water
10 Resources Control Board. We work with Fish & Wildlife, the
11 State Department of Fish & Game, National Marine Fisheries.
12 On your fish flows that we're doing under CVPIA
13 (unintelligible), some of our (unintelligible) work with EWA,
14 obviously the ESA, like we mentioned earlier, and they would
15 also coordinate with our local stakeholders, ag users, M&I
16 users, and environmental interests.

17 I just listed the species that we've consulted on
18 within the Central Valley Projects, and we've done
19 consultation with DWR. We had our original consultation with
20 the winter-run in '92, '93, and we re-did it again in 2004 to
21 bring everything up to date. Our Delta smelt, we had our
22 consultation in '94, '95, updated it in '94, and then 2005
23 just to get the critical habitat added. Coho salmon, the
24 Trinity Restoration Project did a consultation for that in, I
25 think, 2000. We included it in our (unintelligible)

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1 consultation. Steelhead and spring-run, we had a series of
2 one- and two-year opinions until we did the long-term opinion
3 in 2004. And now with the green sturgeon listed, we'll add
4 that to our consultations.

5 So in '04 we went through our operations criteria and
6 plan and did our BA. We got our opinions from Fish &
7 Wildlife in July, and then we got our first opinion from NOAA
8 in October 22nd, 2004. Like I mentioned, Fish & Wildlife, we
9 had a critical habitat condition that we needed to re-consult
10 on, so we got a new opinion. And then in April of this year
11 we initiated consultation both for the new critical habitat
12 for spring-run steelhead and for the new listing of green
13 sturgeon. We're going to turn that conferencing into a
14 consultation when we -- when the listing takes effect.

15 So we're currently developing a BA for green
16 sturgeon. We're also going to be updating whatever
17 information is new from our consultation we did in '04 until
18 today. It's not a NEPA, CEQA decision document. We're just
19 identifying the existing actions, and we're going to do the
20 analysis of the affects on these listed species.

21 Just for those of you that don't know, our Operations
22 Criteria Plan is an overall description of the project. It's
23 what we used to build our project description, talk about
24 some of the legal and regulatory stuff that I just touched on
25 here lately. We first did an OCAP back in '92, when we did

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1 the winter-run consultations, and the second one was done in
2 '04.

3 That's all I have to present right now.

4 MR. BIRK: Is there any evidence that there's take of
5 green sturgeon at the federal facility particularly the
6 juveniles? And what proactive activities has the Bureau
7 engaged to get some more credible information of that take?

8 MS. LUCAS-WILLIAMS: I guess we have taken them. I
9 don't know if you have any more information, Mike.

10 MR. NEPSTED: Other than our usual salvage trucking
11 and releasing, I don't -- I'm not aware that we're doing
12 anything special for sturgeon at this moment.

13 MR. McLAIN: No.

14 MR. MICHNY: Just to add to that, do you know if they
15 rehabilitate some of the larger green sturgeon they catch and
16 release separate from the salvage operation?

17 MS. LUCAS-WILLIAMS: The ones out on the trash racks
18 that they sometimes --

19 MR. MICHNY: Yes. Yeah.

20 MS. LUCAS-WILLIAMS: -- will bring into the facility
21 and rehabilitate?

22 MR. MICHNY: Yeah.

23 MS. LUCAS-WILLIAMS: I was aware of that. I wasn't
24 aware of the juveniles.

25 Any other questions?

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1 MR. VOGEL: Yeah. Dave Vogel. Has the Bureau
2 thought about having a hatchery operation for green sturgeon
3 similar to the winter-run hatcheries?

4 MS. LUCAS-WILLIAMS: I don't know if we've had that
5 much thought yet. We're still just on the early stages of
6 consultation. We've just done a couple letters. So I think
7 as we move through the process, that may come up.

8 Thank you.

9 MS. NEUMAN: Thank you, Ann.

10 Our next speaker is Ken LeGrant -- David Byrd
11 couldn't make it -- from the Tehama-Colusa Canal Authority.

12 MR. LAGRANT: He did make it.

13 MS. NEUMAN: Oh, you are here.

14 MR. BYRD: They pulled a bait and switch.

15 (Multiple speakers.)

16 MS. NEUMAN: Okay. And Ken is going to be talking
17 about Fish Passage Improvement at the Red Bluff Diversion
18 Dam.

19 MR. LAGRANT: Serge, I see you're in your usual
20 attire for these kinds of things. It's always good to see
21 that things don't change that much.

22 My name is Ken LaGrant. I'm not in the fish
23 management business. I farm rice in Colusa County and
24 somehow was elected under our Water District Board of
25 Directors, and somehow that Board gave me the -- I drew the

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1 short straw and wound up being the President of the Water
2 District.

3 So we are -- I'm going to skip a little bit. We
4 irrigate about 120,000 acres along the west side of the
5 Sacramento Valley. We're serving 18 water districts, and the
6 crops are rice, tomatoes, orchards, all of it, almonds that
7 you see growing in all the foothills, grapes and vines. And
8 the service is from two canals, but primarily the
9 Tehama-Colusa Canal, which leaves Red Bluff -- leaves the
10 river at Red Bluff and comes all the way down terminating
11 into Yolo County. We divert our water --

12 Ann, you didn't have a picture of the Red Bluff
13 Diversion Dam because those are classified. We don't --

14 (Multiple speakers.)

15 MR. LAGRANT: -- have those. But it sits in the
16 middle of the river. So we're the bad guys that the river's
17 dammed up for. From a water-diversion point of view, this
18 thing is brilliant; it's just that it was designed
19 brilliantly before fish were considered as a thing that had
20 to be considered.

21 The river is -- this is just immediately south of the
22 City of Red Bluff. The I-5 bridge is just off the slide.
23 The dam is here, and the water gets -- as the water raises up
24 behind the dam, it flows into our headworks, through the fish
25 screens, and then on into the canal. So it's a gravity

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1 diversion. There isn't any pumping that goes on when normal
2 operations are in play. And you can see that the lift -- we
3 only dam it up about six feet, but the way that the dam is
4 unique is that the gates -- this is one of the gates. They
5 raise up out of the river when we're not using them, and we
6 lower them into the river when we need to dam up the water so
7 that it gravity flows in. Water does not flow over the dam;
8 it's going underneath the gates. But you can imagine that
9 the pressure of the water under the gates is probably not
10 negotiable for most fish.

11 So I'm going to back up just a little bit about here.
12 Initially we were able to put the gates into the river
13 whenever water was required. But as has been mentioned, fish
14 considerations have caused those dates that we're allowed to
15 put the gates in to be restricted over a period of time. And
16 we would say that the -- you know, the elasticity of that
17 operation is probably -- isn't "probably," it's stretched to
18 its limit at this point where the gates aren't able to go in
19 until May 15th, and they come out in September. It's
20 stretched to the limit because this is the demand curve for
21 water that's irrigating 120,000 acres. You can probably
22 guess that we're planting and need irrigating generally
23 before May 15th. Now, this year was pretty wet because of
24 the spring, so it was a little bit unique. But generally we
25 have a lot of demand out here that's unable to be met from

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1 Red Bluff.

2 Here's where we put the gates in, and we're generally
3 putting them in at midnight on May 15th. So what we worry
4 about is that gate moving out this way for any reason because
5 you're going to see, I think, acres dry up, which concerns
6 us.

7 I'm going to go back because I want this slide later.
8 The geography that makes it tricky and makes me feel like the
9 Far Side cartoon where there are two deer: One of them has a
10 big target, and the other one says, "Bummer of a birthmark,
11 Al." Well, that's how we feel, because when you get listed
12 in the Federal Register thing for the green sturgeon, it
13 feels sort of like you've got the target. Our diversion dam
14 is right in the midst of and below a lot of the prime
15 spawning habitat for green sturgeon, and we know that. But
16 as I said in the beginning, several years ago our Board kind
17 of looked at each other and said, "We don't want to be in the
18 fish management business. We want to get out of the fish
19 management business. We're in the farming business." So we
20 started a process about six years ago that went initially
21 through CalFed and then on through the Bureau of Reclamation
22 to do a Fish Passage Improvement Project. It has been led by
23 the TC Canal Authority as the CEQA lead agency and regulation
24 as the NEPA lead agency. Our purpose is to pass anadromous
25 fish and other species at the Red Bluff Diversion Dam and

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1 reliably move water to the districts.

2 That's not a green sturgeon, by the way; it's a
3 salmon that was going up one of our fish ladders.

4 As we went through that NEPA process, we've come to
5 the conclusion that the way to solve this problem is a
6 facility that probably most of you are familiar with, you see
7 them up and down the river, but we would move to pumping.
8 The good news is, we would only be pumping a lift of five or
9 six feet at the most. So a fish screen and pumping station
10 of some undetermined size at this point that would siphon
11 water into the canal headworks here and it would allow those
12 gates to be put in the up position as often as the fish
13 require it and provide as unimpeded passage as possible. We
14 like that.

15 The time line has been a feasibility study. We've
16 gone through the NEPA and CEQA documentation but are just
17 short of a decision. And we've been kind of stuck there for
18 several years. The TC as the CEQA Authority has selected a
19 third alternative for the reclamation and for four or five
20 years been kind of stuck in non-decision mode. The good news
21 is that just a couple of weeks ago, we have, I think,
22 initiated a discussion that the Interior is committing to
23 come under the conclusion of. So we'll try to wrap that up
24 and move that with a solution. But the good news is that
25 there is a fix.

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1 The various agencies -- excuse me. The various
2 agencies that participated in that process really all concur.
3 And so we feel good about the broad participation that we've
4 had and the support of the fix that's gone into that. But
5 the important thing that we worry about is that, as we go
6 forward, we want to work with the agencies that are writing
7 these opinions to make sure that there's a balanced approach
8 to handling how the impacts of the rule making affect the
9 larger community on the river. It's a complicated community.
10 We've been an active part in trying to find a solution for a
11 number of years, and we want to continue to be playing that
12 role. We're looking forward to Reclamation being a part of
13 that with us. And what we don't want to see is, frankly,
14 another Klamath right in the Sacramento Valley because that's
15 what -- that's what we're going to have facing us in the
16 event that gate operations are changed and we're unable to,
17 you know, deal with that in a long-term solution way.

18 I'll take questions.

19 MS. NEUMAN: Thank you, Ken.

20 Questions for Ken?

21 Okay. Thank you, Ken.

22 MR. LAGRANT: Thank you.

23 MS. NEUMAN: Okay. That was our last presentation
24 for the morning. We actually finished five minutes early.
25 So let me ask, did anybody have a question for Roger? You

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1 know, we didn't have time for questions, and I know I had a
2 question for Roger.

3 MR. CHURCHWELL: Okay.

4 MS. NEUMAN: Roger, were any green sturgeon caught in
5 the weirs? I know you didn't use them in the study, but were
6 any green sturgeon caught at the bypass when you were
7 collecting your whites?

8 MR. CHURCHWELL: I'm not sure. Our -- our
9 involvement in the Yolo bypass is the getting fyke traps.

10 MS. NEUMAN: Right, the fykes.

11 MR. CHURCHWELL: Right. Our involvement in that was
12 we notified them when they had a fish which usually -- and
13 also during our period, it was mostly during the white
14 (unintelligible) were moving up. So I'm not quite sure what
15 their catch information is. But I could give you a contact
16 person if you would like to talk to them about that.

17 MS. SEEHOLTZ: I could actually do that for you, Mel.

18 MS. NEUMAN: So was it the wrong time of year?

19 MS. SEEHOLTZ: They don't get green sturgeon in the
20 fyke. They've never had one in there.

21 MS. NEUMAN: Any other questions?

22 Okay. Well, I think we can break for lunch. Before
23 we do that, does anybody object to us arranging the room in a
24 U shape and having our afternoon discussion as one group.

25 MR. McLAIN: That sounds like a good idea.

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1 MS. NEUMAN: Okay. Great. Have a good lunch.

2 (Lunch recess.)

3 MS. NEUMAN: Okay. Everybody, we're going to get
4 started with our afternoon discussion session. If I can ask
5 you to, first of all, fill out your name tag if you haven't
6 done so already and place it on your table, direct it towards
7 Sandy. But in addition, we're going to go around the room
8 right now and have you yell out your last name. Sandy is
9 going to create a seating chart by last name.

10 (Discussion held off the record.)

11 MS. NEUMAN: Okay. So we're going to launch into
12 discussing each of the focus questions. As I mentioned,
13 yesterday we also talked about these five questions. We
14 generated a list of activities and programs that might
15 directly or indirectly affect Southern DPS green sturgeon.
16 So that we don't recreate basically everything we did
17 yesterday, I'd like to show you that list of activities and
18 programs we generated yesterday, and then I'd like to project
19 the activities that were identified and programs that were
20 identified that fall under the general heading of Water
21 Resource User Activities and Programs and get your input to
22 see whether we have everything on add that list of import.

23 Perhaps you will want to add to that list. If we add to that
24 list of activities, Susan will be up here in the front of the
25 room using the white boards to mark down the activities or

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1 programs that you mention. Once we completed that activities
2 and programs list, we'll move on to the next question.

3 Now, what happened yesterday was, as we were
4 discussing these programs and activities, aspects of all of
5 the other questions came up during our conversations. And so
6 we know that the conversation might stray a little bit in
7 that we may cover topics or questions that occur later in the
8 conversations. We're going to try to keep everything on
9 track and answer one question at a time. So remind yourself
10 of these questions, and let's try to stick to them as we move
11 through the afternoon discussions. But if you stray, it's
12 okay. And, you know, if you have a comment that isn't
13 related to these questions, perhaps you have some pressing
14 comment regarding critical habitat even though we're not here
15 today to talk about critical habitat, if it comes up in
16 conversation, Susan's going to have a parking lot of ideas
17 that fall outside the realm of activities and programs that
18 might affect green sturgeon, and she'll write those down on
19 the board. Okay. I think that covers everything I wanted to
20 say.

21 Any questions before we get started?

22 Okay. So here's the focus questions. Let me show
23 you the list that we generated yesterday. It's just going to
24 be a Microsoft Word document, and I'm going to scroll down.
25 Under -- can everybody see this?

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1 (Multiple speakers.)

2 MS. NEUMAN: Okay. Under fishing-related activities
3 and programs, we have commercial fishing and harvest, harvest
4 and bycatch in the Northern DPS. Recreational fishing,
5 harvest, and bycatch in the Northern DPS. Recreational
6 fishing and harvest and bycatch in the Southern DPS.
7 California Fish & Game regulations on recreational fishing.
8 Oregon and Washington commercial and recreational fishing
9 regulations. Tribal fishing in the Northern DPS. Poaching.
10 Delta-Bay Enforcement Program. Development of the Fisheries
11 Management Evaluation Program. Sports Fish Restoration
12 Program. As you can see, some of these programs have
13 positive affects on green sturgeon. We're looking for all
14 kinds of programs and -- or maybe we don't know the affect
15 and we want to know it all, if we can.

16 Okay. Next heading is Research and Monitoring
17 Activities and Programs. We have long-term funding issues
18 for research and monitoring activities and programs that are
19 inadequate, and we also have programs and activities that
20 involve current ESA 4(d) research programs for salmonids.
21 Activities and programs that promote the conservation and
22 protection of other species that may have an affect on green
23 sturgeon. Marine Mammal Protection Act, for example. Salmon
24 safe does not necessarily equal green sturgeon safe. Other
25 habitat-related activities and programs. There is a

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1 gravel-injection program, there are flood control programs,
2 dredging. Land-based development projects resulting in
3 increased sedimentation. Fire suppression leading to
4 sedimentation. Gravel mining. RCDs and riparian restoration
5 programs.

6 Can somebody clarify and tell us what RCDs stands
7 for?

8 MR. SMITH: Resource Conservation District.

9 MS. NEUMAN: Thank you.

10 MR. SMITH: Jim Smith.

11 MS. NEUMAN: Bank protection by government agencies.
12 Bay-Delta Enhancement stamp. Activities and programs
13 affecting water quality. EPA pollution-control programs.
14 Introduction of exotic species. Agricultural use of
15 herbicides and pesticides. California Water Quality
16 programs.

17 And here we are under Water Resource Use Activities
18 and Programs, and what we came up with yesterday with these
19 sub-headings: Installation of temperature-control devices.
20 Water flow alteration and regulation. Fish passage issues at
21 bypasses. Screening at diversions. Operation of power
22 plants. Exploitation of water. Operation of pumps in the
23 South Delta. The CalFed Program. The CVPIA. FERC
24 re-licensing.

25 Okay. So now I'm going to project just this sub-set

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1 of activities. I know I went through them quickly, but we're
2 going to focus on water resource use activities and programs.
3 There may be some overlap with some of those other categories
4 as well, but we tried to generally come up with categories
5 that we felt fit the program or activity. Okay? And then we
6 can start adding to this list if we're missing anything.

7 Okay. What are we missing, programs or activities
8 that may directly or indirectly affect green sturgeon?

9 MR. SMITH: Just dam operations, Red Bluff, Shasta,
10 Keswick. I see it's down there under FERC re-licensing, but
11 just dam operations.

12 MS. NEUMAN: Uh-huh.

13 MR. BIRK: The name is Birk. You may consider adding
14 the various environmental water programs and acquisition
15 programs so we have a CVPIA that are helping in that
16 (unintelligible) water acquisition programs.

17 MS. NEUMAN: So would we put that under CVPIA?

18 MR. BIRK: It's not necessarily CVPIA. It's under a
19 lot of funding mechanisms. It could be CVPIA; it could be
20 CalFed; it could be other authorities.

21 MR. ISRAEL: I think to be just more specific on some
22 things, fish passage issues at diversions like we heard about
23 at the Sunset Pump today, I think that's a diversion that
24 could be a fish passage issue at diversions
25 (unintelligible) -- fish passage at diversions.

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1 (Multiple speakers.)

2 MR. WARD: This is Paul Ward. I would add a number
3 of sub-sets to your fish-screening diversions. One is a
4 conflict of fish screen standards versus meander. The other
5 is the categories of diversions. Those that are in place
6 that meet salmon standards; those that are in place that meet
7 salmon standards that need to be modified; those that are --
8 that don't have screens.

9 MS. WANG: Could you repeat the second one -- or the
10 first and second one.

11 MS. NEUMAN: Can you repeat the first and second
12 sub-headings.

13 MR. WARD: The first would be fish screens versus
14 meander versus natural process.

15 MS. WANG: The second?

16 MR. WARD: And the second one was the efficiency or
17 the acceptance of currently existing fish screens that meet
18 salmon standards, both NOAA and Fish & Game.

19 MR. SNOW: This issue might be under water-flow
20 alteration, but in the Delta, the operation of the Delta
21 Cross Channel is operated now for salmon primarily. So is
22 that operation appropriate for green sturgeon?

23 MS. WANG: Operation of Delta Cross Channel?

24 MR. SNOW. Yeah.

25 MR. ISRAEL: One that came up yesterday that I don't

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1 see on list is dredging activities, harbor-dredging
2 activities. Did that come up yesterday?

3 MS. NEUMAN: Right. And we had it on the list, but
4 we put it under a different category.

5 MR. ISRAEL: I didn't hear you say it.

6 MS. NEUMAN: Yeah, we put it under our -- the problem
7 we had yesterday was that some of these programs and
8 activities fall under multiple categories. So perhaps
9 dredging should be added to this list as well, if there is a
10 consensus.

11 MR. ISRAEL: If you consider commerce part water
12 resources, then I think the one from yesterday was saying
13 that it is.

14 MS. LUCAS-WILLIAMS: Previously someone also
15 mentioned Water Quality Control Plans. I think Water
16 Resource Control Board issues -- I don't know if you want to
17 add it here as well.

18 MS. NEUMAN: Let's go ahead and add it here.

19 MS. WANG: Water Quality Control --

20 MS. LUCAS-WILLIAMS: What the State Water Resource
21 Control Board puts out.

22 MR. AMAKER: Tim Amaker. Potential for off-stream
23 storage programs, off-stream storage projects in the future.

24 MR. MICHNY: Frank Michny. What about the
25 (unintelligible). I'm not sure where that fits, but that's

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1 presumably an environmental program. But now we're shifting
2 water exports. But it's coming in question as to whether
3 will it do any good or not. I mean it's a stand-alone
4 program, environmental water count if you want to refer to
5 it.

6 MS. NEUMAN: Environmental water --

7 MR. MICHNY: Environmental water count. We're
8 basically shifting pumping from this late winter/spring into
9 the summer basically to save salmon or smelt, but now there
10 are questions arising that -- I don't know what it does to
11 green sturgeon, but there's questions arising that it's
12 shifting some of the dynamics of the ecosystem to the
13 detriment of some species that it's trying to help. So it
14 could figure into green sturgeon, too.

15 MS. LUCAS-WILLIAMS: Would you consider that a CalFed
16 program?

17 MR. MICHNY: Huh?

18 MS. LUCAS-WILLIAMS: Is that a CalFed program?

19 MR. MICHNY: Well, I don't know what it is, but it --
20 yeah, it could be CalFed. It could be a water flow
21 alteration. But it's a stand-alone program that probably
22 merits some looking at on its own.

23 MR. WARD: This is Paul Ward again. I would suggest
24 another would be new water right applications particularly in
25 the upper Sac for untypical periods of use.

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1 MR. MICHNY: I have a question. What -- what -- what
2 are you going to do with the CVPIA ultimately? Because the
3 CVPIA, the major portion of it is to provide for
4 environmental restoration. I mean an example is the
5 Anadromous Fish Restoration Program, which the sturgeon are
6 anadromous (unintelligible), but it's that other part for
7 renewal of contracts, you know, do a diversion. And how does
8 NMFS -- I mean how -- how are you going to break that apart?
9 Because you can't sit here and say, well, CVPIA is good and
10 CVPIA is bad, because there's a lot of good stuff in there.
11 You know, I just think in my head, how do you break that
12 apart and analyze it? Maybe you haven't gotten that far yet
13 in thinking about it.

14 MS. NEUMAN: Well, I think we're going to break it
15 apart, try and make a determination of whether or not it has
16 a positive affect -- I mean we'll break anything -- any
17 heading here into its various sub components and try and
18 determine whether or not it has a positive affect, a negative
19 affect, no affect, or we don't know.

20 MR. MICHNY: Okay.

21 MS. NEUMAN: And I think that's where we're going to
22 start. And it may be that many of these programs and
23 activities won't be considered in our 4(d) rule where we will
24 not be able to incorporate it into the considerations for a
25 4(d) rule. It may be that this information we're collecting

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1 today goes towards Section 7 biologists and helps them in
2 their consultations. It's a 4(d) workshop, but we're
3 collecting as much information as we can, and we'll use it in
4 all aspects of the work that we need to do in the future with
5 green sturgeon.

6 MR. BIRK: I'd like to follow up on that discussion a
7 little bit. As Frank pointed out here, the CVPIA, there are
8 probably 38 -- at least 38 provisions that may or may not
9 affect sturgeon. And you really do need to spend some time
10 hearing about -- anadromous fish programs is just one of
11 them, which is a plan. The rest are the implementation
12 components, which include everything from screens to fish
13 passage. And I think it would be helpful to show the
14 robustness of the intent of CVPIA. Same thing applies for
15 CalFed. This environmental water account, that's really kind
16 of the notion I had in a water acquisition program. There's
17 at least four of them. You need to list all four
18 environmental water acquisition programs and what they're
19 intended to do. But if you're going to start looking at
20 CalFed, CalFed also has some major components to it, one of
21 which is the Ecosystem Restoration Program, one is the Levee
22 Program, and there's three or four others as well. And you
23 could argue that, well, we're probably trying to do these
24 others under the non-PRP programs, the watershed program, for
25 example, and those investments have been helpful and have

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1 provided some cumulative benefit or may provide cumulative
2 benefit. So I'm a little concerned that just by saying
3 CalFed and CVPIA, it's just not going to cover it in terms of
4 the resolution of this document -- or what the rule needs to
5 be based on.

6 MS. WINDHAM: Well, I think it's fair to say --
7 Windham -- that a lot of -- I mean some of us that work
8 together in this area all the time are much more familiar
9 with a lot of the -- sort of the vagaries that are not being
10 fleshed out on the chart and so forth. But the development
11 of the 4(d) rule and this overall process also is not being
12 done in a black box down in Long Beach. And, you know, so
13 I'm sure Melissa's going to be coming to us to illuminate
14 some of these issues.

15 MR. BIRK: Well, I agree with that, but --

16 MS. WINDHAM: Your point's well taken. I think that
17 there's no problem with calling out specific components of
18 these larger programs that we're naming, but also rest
19 assured that we're all understanding how they function and
20 most of them will be provided, though it may not be apparent
21 in the discussions today.

22 MR. BIRK: Fair enough.

23 MS. NEUMAN: And if it would be helpful, we can tear
24 apart CalFed and CVPIA right here and now or maybe that would
25 not be productive. I think the reason why they're up here is

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1 because we know we need to go back home and tear it apart and
2 divide it up into its components, and we don't know whether
3 we have the time to do that here and now.

4 MR. BIRK: Well, I (unintelligible) that. It would
5 just be nice to be able to get some feedback to it once you
6 do it for those two programs. I mean arguably CalFed has
7 provided a commitment and certainty of \$150 million over the
8 last five years to the Ecosystem Restoration Program. Almost
9 every program that I saw under the selection panel said it
10 was going to do something good for the environment, meaning
11 it's going to do something good for anadromous fish, meaning
12 it's going to do something good for every -- that's how every
13 proposal is ever drafted. I just think it's such a
14 comprehensive program, we need to get as much as attention to
15 it and highlight it and notice so that we can keep that kind
16 of commitment going on in the future and refocus perhaps a
17 little more on what can be done. Because it's -- for the
18 most part, most of CalFed's stuff has been generic in terms
19 of what it can do for sturgeon, except for the site-specific
20 stuff on genetics and all that. Very few people even within
21 the CalFed community could tell you what's been done for
22 sturgeon, although they would state all of this has. And
23 virtually CVPIA, it's more than indirectly implied that it's
24 supposed to benefit sturgeon. But then again, you can ask
25 Jim who actually implements much of the act. He has a better

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1 idea of how many of those specific projects really were
2 directed -- that's the kind of information I'd like to see.
3 If there has been some specific projects done for sturgeon,
4 like the one we heard this morning by the presenter, I think
5 it would be more beneficial for us to be specific in the
6 places where we do know.

7 MS. NEUMAN: Do we want -- do we want to break it
8 down here and now into --

9 MR. BIRK: Well, if somebody has some knowledge, I
10 think this is a brainstorming session where somebody should
11 produce it. But if it's going to take some more time, I
12 don't think it makes a whole lot of -- it looks like what you
13 guys did yesterday is a pretty comprehensive effort.

14 MS. WINDHAM: Let me ask this, and I want to know
15 what we can do fit your needs the best. Because what I'm
16 thinking is that everything that's been said is absolutely
17 correct and there's a lot of nuances here that are not being
18 addressed. But some of these are federal activities or
19 there's some sort of federal nexus involved, and so they're
20 not going to -- while they affect sort of what we might
21 call -- what was the term -- baseline conditions, but they --
22 they contribute to either the conservation of the species or
23 habitat restoration and so on and so forth. But wherever
24 there's that federal nexus, those are actions that are not
25 going to be covered by the 4(d) rule. So given that, how

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1 relevant is sort of deconstructing these big program headers
2 into more specifics? Is that beneficial to you for the
3 purposes of the EAA?

4 MS. NEUMAN: I think it's beneficial with respect to
5 research because research activities may be rolled into a
6 4(d) program. And it seems like there are a lot of research
7 activities that are funded by CalFed and CVPIA.

8 (Multiple speakers.)

9 MS. WINDHAM: So if there's federal dollars
10 supporting that research, it wouldn't qualify for -- it
11 wouldn't be able to go that route in a regulatory sense,
12 would it?

13 MS. NEUMAN: Well -- did Qinqin leave? There's
14 Qinqin. I mean if there is -- I don't know, but if the state
15 is involved in those activities as well, I don't know whether
16 there are some -- whether some collaborative effort can't be
17 funneled through a state board -- I don't know.

18 MS. LIU: It depends, I think, the project. Some
19 project is federal project and -- but some project is, you
20 know, university project; it's purely research, PI, and
21 everything is -- you know, there's the situation of
22 contracting or there's individuals, independent project. We
23 cannot just say right now, okay, that's all, very generalize
24 situation. We have to pick it apart when project comes to
25 see, okay, is this project objective, is independent from a

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1 federal, you know, management, or is there just pure
2 research, PI. So I think at this point we should leave this
3 whole now.

4 MR. BIRK: I'm a little confused with your statement,
5 Diane. Almost everything up there is in part funded either
6 by federal dollars or something that's passed through a
7 federal nexus, you know, CalFed, CVPIA, FERC Re-licensing all
8 having federal nexuses. I mean arguably there may be some
9 screens that somebody went out and did on their own under the
10 4(d) guidelines for salmon, but for the most part, everything
11 we've done here is either participated in the Anadromous
12 Screen Fish Screening Program, which has a federal nexus --
13 and I thought the exercise here is to just list what things
14 may or may not affect, whether it's negative or positive.
15 And if we did take the stuff that the feds have been involved
16 with, directly or indirectly, we won't have anything left to
17 deal with that's positive or proactive. In fact, we've got
18 two major legislations, one which is CVPIA, and the other one
19 is the CalFed Authorization which was targeted specifically
20 to do this. And I think it's incumbent to continue to say
21 that we're in a situation -- we're not sure if -- the degree
22 of risk to this critter, but certainly these are the factors
23 that are contributing one way or the other. I don't know how
24 that falls under the 4(d) rule, but -- you may want to call
25 that baseline, but it certainly is a process, I think, that

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1 lets us highlight and note what things might need to be done
2 in the future. But I don't know how you're going to get away
3 from any federal nexus because if anything's making an impact
4 on -- pursuant to Water Resource activities, it's either the
5 federal or the state's operations because it's -- just by its
6 inherent nature --

7 MS. WINDHAM: That's why I was asking Melissa, you
8 know, what level of detail does she need us to produce today
9 in this workshop so that we meet your needs.

10 MR. BIRK: But, Diane, my point was not to do that
11 right here, but it's -- if folks know specific projects that
12 are targeted -- that really were targeted for the sturgeon,
13 it could be helpful to do that. I'm saying there's very
14 little known about that except for the PIs, the people who
15 are actually funded and doing that.

16 (Multiple speakers.)

17 MR. BIRK: You know, Roger's doing something for me
18 that makes sense, and I guess that's a water-related type of
19 activity, but I'm guessing that's going to fall under some
20 kind of research. I know that the work is being done on the
21 north coast by the Hoopas and the Yuroks pursuant to learning
22 about life history, about sturgeon in general. It's
23 something that's likely to help us in this process even
24 though they're in a whole difficult area. But to me, those
25 are things that are going to contribute some kind of

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1 knowledge and skills for us to deal with the 4(d) approach --
2 4(d) ruling.

3 MS. NEUMAN: Right. It's helpful for me personally,
4 and I'm speaking for Susan as well, for us to know as much as
5 we can know about everything that is going on in the Central
6 Valley that affects green sturgeon. Yes, we're working on a
7 4(d) rule right now, but next we'll be working on critical
8 habitat, and then there will be recovery planning, and
9 there's Section 7 complications. And I think if anybody here
10 wants to highlight a particular CalFed program or activity
11 that has gone on that has affected green sturgeon, mention it
12 here, and we'll know that it's not everything that CalFed
13 does and that we'll have to go to our CalFed web site or
14 reach out to folks who are dealing with CalFed all the time
15 and get an exhaustive list at some point. But I think we
16 want to know as much as we can even if it isn't going to
17 directly inform the 4(d) rule or the EA we are happy to be
18 working on right now.

19 MR. WARD: This is Paul Ward again. I would offer
20 another -- in the upper Sacramento River is the Sacramento
21 River Conservation Area Forum which covers the river from
22 Keswick Dam to the mouth of the Feather. They are currently
23 working on an NCCP/HCP Safe Harbor Agreement, and this needs
24 to be considered, presumably -- I'm sure if it's 4(d), but at
25 least how it impacts that process.

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1 MS. WINDHAM: Paul, are you talking about the
2 Bay-Delta Conservation Plan --

3 MR. WARD: No.

4 MS. WINDHAM: There's a whole separate --

5 MR. WARD: This is separate from the upper side of
6 the conservation area. It's tied -- there's a nexus there to
7 that, but it's a separate process to do this within that
8 confined area.

9 MR. HOLT: You're talking about the old Kennedy six
10 process --

11 MR. WARD: Yeah, that's currently the Conservation
12 Area Forum.

13 MR. HOLT: I've got a question, Paul, about your
14 thing about fish screens versus meandering. I don't quite
15 understand what kind of monitoring -- you want to create hard
16 points instead of letting the stream meander? Is that
17 what --

18 MR. WARD: We are, as we speak -- in fact, even the
19 GCID engaged in an exercise to either meet fish-screening
20 standards hydraulically, which requires a fish cross-section
21 hard point and/or allowing the river to meander and not to
22 meet those fish-screening standards. We have at least three
23 other sites that have current multi-million dollar fish
24 screens where the river is starting to move away from it
25 which do not meet fish-screening standards for salmon, which

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1 we either have to stabilize the river or find an exemption.
2 And if you look at the standard that might be applied for
3 green sturgeon, it's going to be much more restrictive likely
4 if that was the case.

5 MR. HOLT: Thank you very much.

6 MR. VOGEL: I'd like to go back to the question or --
7 I think you had, Melissa. If federal dollars are funding
8 research or monitoring, does that preclude any involvement
9 for 4(d)? Is it then only Section 7 or Section 10? I still
10 like the first answer that I heard.

11 MS. NEUMAN: Yeah, I think I'm searching for an
12 answer, too. I don't know whether there are activities where
13 both state and the feds are involved where those activities
14 are funneled through the state's program. I -- I don't know
15 whether that is happening in the salmon world right now,
16 whether there are programs included in the 4(d) anadromous
17 research program that are in some way funded by the feds,
18 whether there's a PI that happens to be a fed -- there's a
19 federal nexus for some of those research activities.

20 MS. LIU: Well, I can pretty much (unintelligible)
21 for you. And I think, for example, in 40 programs, there's a
22 quite a few projects that get funding from Sport Fisheries
23 Restoration Program from the U.S. Wildlife Services. So
24 there are (unintelligible) programs.

25 MR. WARD: This is Paul Ward again. And I can add to

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1 that. I oversee a research project that not only receives
2 sport fish funding but receives federal CalFed dollars for
3 the research project, both of which are covered under the
4 4(d) rule for spring chinook.

5 MS. NEUMAN: So I think that the answer there is yes,
6 there may be some federal research activities that are
7 incorporated into the state's 4(d) -- the state and federal
8 4(d) program for salmonids.

9 MR. McLAIN: It sounds like we're going to need to do
10 a little research and find out exactly -- specify exactly
11 what constitutes a federal nexus and not a federal nexus.

12 MS. WINDHAM: I will say that I think we always
13 encourage folks to try and find the Section 7 nexus if
14 possible because it's an easier process to move through.
15 Perhaps not necessarily easier than 4(d) but easier than
16 going through either Section 10 HCP for (unintelligible)
17 individuals or the research permits. But the process seems
18 to move a little faster in Section 7, believe it or not. So
19 that doesn't answer the question at all. It's just
20 information.

21 MS. NEUMAN: So we're going to have to get back to
22 the group on that question.

23 MR. MICHNY: This -- we brought up the -- Diane
24 mentioned this Conservation Plan for the Bay-Delta, but just
25 as a piece of information, the CalFed package, as we know it

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1 now, is probably going to disappear at the end of '07 due to
2 a number of reasons I'm not going to go into. You know, I
3 can, but it would take a lot of time. And what's happened is
4 the water users are meeting with the fishery agencies to
5 develop a Conservation Program which could morph into an HCP
6 with NMFS and the Service and the NCCP, Fish & Game that, in
7 effect, would supplant the existing CalFed package as of '07.
8 So I'm just giving you this information that if you look at
9 the CalFed Program and its Ecosystem (unintelligible)
10 component, it may, as a stand-alone thing, disappear in a
11 couple of years, and this other process may supplant that, of
12 which NMFS would then be an integral part of an HCP. And how
13 that plays into a 4(d), I'm not sure, because you know how an
14 HCP works; there's no surprise in all that. Just so you're
15 aware of the process and you think about the juxtaposition of
16 those and how they interact.

17 MS. WINDHAM: It's still --

18 MR. MICHNY: It just complicates everything more.

19 MR. NEPSTED: It's complicated. You should probably
20 put the Bay-Delta Conservation Program down there. It would
21 be covering the Delta and the Bay where green sturgeon are.

22 MR. MICHNY: There's probably an MOU that's going to
23 be assigned within the next couple of weeks that's going to
24 commit the agencies to doing it just so you -- it's not
25 signed yet, but it's going to be signed probably within the

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1 next two weeks that they'll start their process.

2 MR. NEPSTED: And I was going to say, too, you left
3 off Paul Ward's suggestion of unscreened diversions. And
4 then also since --

5 MS. NEUMAN: Unscreened criteria?

6 MR. NEPSTED: Well, there's diversions that don't
7 have any screens on them at all, and he was differentiating
8 those from the ones that already have a salmon screen.

9 And then also since we've got off-stream storage
10 programs, we should probably put down the feasibility study
11 for raising Shasta Dam.

12 MS. NEUMAN: For carrying out that study?

13 MR. NEPSTED: Well, DWR is carrying that out. And
14 they're also studying (unintelligible) Reservoir, which would
15 be an off-stream storage. And I suppose --

16 MS. NEUMAN: Is there a time line available for that
17 activity?

18 MR. NEPSTED: 2009.

19 MS. NEUMAN: For making a decision?

20 MR. NEPSTED: For completing the feasibility study.

21 MS. NEUMAN: Okay.

22 MS. WANG: This program is not in existence yet?

23 MS. LUCAS-WILLIAMS: It's being developed.

24 MS. NEUMAN: We hung these up on this wall yesterday
25 so that everybody could view them. I hate to -- you won't be

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1 able to see them, unfortunately. I wonder if I could move
2 you guys to the other side. This is really the only place
3 where we can hang these up and still be able to view them.

4 (Multiple speakers.)

5 MR. BIRK: I wonder if you could add another item to
6 this list. Earlier we had a presentation on --

7 MS. NEUMAN: Just hold on one second, Serge.

8 Okay. We're ready.

9 MR. BIRK: Yeah, I think one thing that affects all
10 the water resource use activities programs is the fact that
11 they are consulting on green sturgeon under the OCAP. I
12 think we need to mention that because that's the only deal we
13 got at this point that affects the federal projects.

14 MS. WANG: So (unintelligible).

15 MR. BIRK: Specifically for green sturgeon, right?
16 That's what's next, right?

17 MS. LUCAS-WILLIAMS: Green sturgeon and then the
18 critical habitat. But it really opens that whole
19 consultation because there's a new species listed.

20 MR. SMITH: Agricultural (unintelligible) or
21 drainage.

22 MR. OPPENHEIM: Did we already put up the South Delta
23 Improvement Program yesterday? There is an affect there of
24 the barriers maybe possibly preventing sturgeon passage.

25 MS. WANG: What was that called?

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1 MR. OPPENHEIM: The South Delta Improvement Program.

2 MR. McLAIN: SDIP.

3 MS. WANG: Oh, SDIP.

4 MS. WINDHAM: D -- as in "dog."

5 MS. WANG: SDIP?

6 MS. WINDHAM: SDIP.

7 MR. BIRK: Also, conservation measures that are being
8 employed by various user groups most notably agriculture
9 (unintelligible).

10 One thing we haven't mentioned on (unintelligible),
11 we are -- and it might fit into this bigger category, but we
12 are -- we have had some success in consolidating diversions,
13 by that we eliminate diversions: Two for one.

14 MR. SMITH: State and federal fish salvage
15 operations.

16 MR. SNOW: Jim Snow. I'm over here now. The
17 flood-control bypass operation at various gates.

18 MR. BIRK: The VAM Program, V-A-M-P -- Vernalis
19 Adaptive Management Program.

20 MS. LUCAS-WILLIAMS: Refuge Program.

21 MS. NEUMAN: What did VAMP stand for, Serge?

22 MR. BIRK: Vernalis Adaptive Management. It's a
23 program or plan --

24 (Multiple speakers.)

25 MR. BIRK: It's more than a plan. I don't...

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1 MR. MICHNY: What about depletions by -- this seems
2 like it's all federal stuff. But there's a lot of
3 non-federal entities that are taking water out of the system.
4 And to the extent you need a certain flow, are you guys going
5 to look at the non-federal depleters to the same extent you
6 look at federal diverters?

7 MS. NEUMAN: Who are they?

8 MR. MICHNY: Well, up in Sacramento Valley, you've
9 got water rights people that are probably taking close to a
10 million-acre-feed of water. They take after-storage water
11 rights. So I'm just asking, are you going to address that
12 sort of stuff so that you're not just looking at the federal
13 diverters and say, okay, you guys are taking water out of the
14 system, and you're causing this. You also -- here's another
15 guy over here that has a different name --

16 MS. NEUMAN: We're going to look at anything that
17 we're aware of.

18 MR. MICHNY: Okay. They're not -- put on the thing
19 non-federal depletions from river systems just as a topic.

20 MR. BIRK: Use of groundwater pumping in lieu of
21 diversions, wells that irrigate as opposed to diversions.
22 Conjunctive use.

23 MR. McLAIN: Conjunctive use.

24 MS. WANG: Just groundwater pumping --

25 MS. NEUMAN: I don't know what the --

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1 MR. McLAIN: Conjunctive use.

2 MR. VOGEL: It's using groundwater conjunctively with
3 surface water.

4 MR. MICHNY: Did you get an answer? You pump --
5 conjunctive use is like if you have high flows some year, you
6 take surface water and put it in the ground in groundwater,
7 and if the next year is a dry year, then you pump the
8 groundwater to irrigate with. So you conjunctively use
9 different water supplies. That's a simple example where
10 you're meeting your demand while using groundwater and
11 surface water. And there's an implication because you pump
12 water out of the rivers at a certain time to put it in the
13 ground so you can use it at other times.

14 MR. McLAIN: Well done.

15 MR. BIRK: What Frank said.

16 MR. VOGEL: Somebody earlier mentioned the Delta
17 Cross Channel operations. I'd like to add a broader category
18 but include that, and that is the provisions with an existing
19 Biological Opinions. In some cases they negatively impact
20 sturgeon and perhaps positively affect them.

21 MS. LUCAS-WILLIAMS: Good point.

22 MR. BORTON: The Trinity Restoration Program.

23 MS. WANG: Is that essentially (unintelligible)
24 consultations?

25 MS. LUCAS-WILLIAMS: Existing BOs.

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1 MS. WANG: And then what's the last one?

2 MR. BORTON: Trinity Restoration Program.

3 MS. NEUMAN: Is that a program or an activity that's
4 currently underway? Who is examining --

5 MR. BORTON: Well, it's a program. The Trinity
6 Restoration Program is the only thing I've heard of.

7 MR. BIRK: It's reduced water delivery to the Central
8 Valley but maintaining greater deliveries to the Trinity
9 River. So there is the assessment you need to make.

10 MR. HOLT: To the extent you're talking about the
11 Trinity, you said that you would have any Southern Distinct
12 Population fish in the Klamath River occasionally. You start
13 hitting linkages between the Klamath Project, Central Valley,
14 and all that stuff. It can -- I think it's a question
15 (unintelligible).

16 MS. NEUMAN: We need to know what's going on in the
17 Klamath and the Trinity as well if it's affecting what's
18 happening --

19 MR. HOLT: The Klamath is a particularly difficult
20 thing in which we have trade-offs between endangered species.

21 MR. BIRK: I would suggest that mitigation for Iron
22 Mountain Mine is something that should be looked into.

23 Can I ask a question? I noticed in one of the
24 presentations that when you outlined all the diversions or
25 fish passage barriers, a lot of them were in the tributaries.

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1 I was struck by the point that there's very little current
2 presence, abundance, or spawning and recruitment in the
3 tributaries. There have been some marshes and a fair amount
4 of removal of small dams, and I think that's something that
5 should be assessed. But it didn't appear that anybody was
6 suggesting that there was fish present there. That's not to
7 say they can't be part of the critical habitat some day. So,
8 you know, it goes with No. 3, but clearly we've removed over
9 a dozen structures in tributaries in the last five to ten
10 years in this area.

11 MS. WINDHAM: So small dam removal?

12 MS. NEUMAN: Small dam removal in tributaries.
13 Anything else?

14 MR. OPPENHEIM: As a sub-set under safe federal
15 salvage, you should probably have the research for the fish
16 facilities themselves. They each have a research program
17 like trucking and handling programs at the state facility,
18 and the predation studies at the height technically coming
19 out of the fish facilities that are used. Yeah, you could
20 put R&D for both facilities. They would have to get a 4(d)
21 permit for the state side.

22 And then within Clifton Court, there's a Herbicide
23 Spraying Program that would need to be permitted since there
24 are sturgeon with Clifton Court.

25 MR. HOLT: Are there any offshore programs that NMFS

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1 has? Certainly with salmon you have interaction with what
2 happens in the river valley and what's happening through the
3 sea phase, marine phase in their life cycle. Is that true
4 with green sturgeon, or can that be excluded? Or is there
5 any bycatch of green sturgeon as far as the ocean fisheries?
6 I don't know. I'm just asking.

7 MS. NEUMAN: Yeah, I think -- I think we have that
8 listed in our -- under our fisheries --

9 MS. WINDHAM: Bycatch.

10 MS. NEUMAN: Yeah, we have harvest and bycatch for
11 any fishery happening in the Northern DPS and Southern DPS.

12 MR. BIRK: You might want to consider looking at the
13 Four Pumps Mitigation Program since you've used salmonids
14 habitat as a surrogate for habitat for sturgeon. Since most
15 of those activities are directed for salmonid species, the
16 Four Pumps Program may have been contributed one way or the
17 other.

18 MS. NEUMAN: Any other activities?

19 MR. POYTRESS: Bill Poytress. Industrial effluent
20 wastewater.

21 MS. NEUMAN: Okay. I think we can only fill up one
22 more page. That's all we have room for.

23 MR. BIRK: I believe there was a program that the
24 National Fishery Service participated in. It was in
25 conjunction with the National Fish & Wildlife Foundation.

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1 You know more about that. Perhaps some of those activities
2 also contribute to this concern.

3 (Inaudible audience discussion.)

4 MR. BIRK: When I was there, there was some 90
5 some --

6 (Multiple speakers.)

7 MR. HOLT: Update: NOAA may still be putting money
8 into something like that for about a year -- six or eight
9 years, DOR -- NOAA Fisheries and NMFS and Santa Rosa
10 specifically and National Fish & Wildlife had a small branch
11 of the program supportive of small watershed groups and did a
12 lot of stuff on the coast particularly.

13 MS. WINDHAM: Restoration programs that comes out of
14 (unintelligible).

15 (Inaudible audience discussion.)

16 MS. WINDHAM: I think it's the NOAA Restoration
17 Program or something like that.

18 MR. MICHNY: You have agricultural return flows,
19 which is valid. And I don't know what the issue in
20 San Joaquin -- or Sacramento Valley is or -- but the
21 San Joaquin Valley, return flows off the wildlife refuges are
22 almost as big an issue as the agricultural return flows. And
23 I don't know enough about the Sacramento Valley refuge return
24 flows are an issue or not, but they are in southern
25 California.

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1 MR. SMITH: Drainage flows, basically.

2 MR. MICHNY: Yeah. Except here we have agricultural
3 returns --

4 MR. SMITH: Yeah, I (unintelligible). Yeah, whatever
5 drains off the land, whether it be municipal or agricultural
6 would be an issue.

7 MR. MICHNY: Okay.

8 MR. URKOV: Mike Urkov. This is simply a 4(d) rule
9 for state projects and the California Water Bonds. That's
10 going to hit in November for most of the state-funded
11 projects. Some of them will be money fronted for federal
12 facilities potentially, but it's going to be a large number
13 of state-funded water activities, everything from flood
14 control to parks.

15 MR. SMITH: Mercury contamination from old mining
16 sites.

17 MS. NEUMAN: I believe we have that --

18 MR. SMITH: Do you?

19 MS. NEUMAN: -- listed under water quality.

20 MR. SMITH: Okay.

21 MS. NEUMAN: But, again, there's a lot of blur here.

22 MR. SMITH: Okay.

23 MS. NEUMAN: Okay. I think -- unless anybody has...

24 MR. BIRK: Have you captured the TCD at Shasta
25 somewhere in water quality or any other discussions

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1 yesterday?

2 MS. NEUMAN: Yes. Well, we have --

3 MR. BIRK: I see TCD at Oroville. They have one,
4 too.

5 MS. NEUMAN: It's No. 1.

6 MR. BIRK: All right.

7 MR. SMITH: That's actually installation. There's
8 actually one on Shasta that's in operation. So I think
9 that's an installation...

10 MS. NEUMAN: So maybe we should just say
11 temperature-control devices, and then we have two issues:
12 Installation and operation of those.

13 MR. SMITH: Yeah. Uh-huh.

14 MS. NEUMAN: Okay. How many people are ready for a
15 break? Let's take a five-minute break.

16 (Brief recess.)

17 MS. NEUMAN: Okay. We're going to get started again.
18 I just wanted to make a couple of clarifying points. If you
19 take a look at the Section 9 prohibitions, you'll notice that
20 all of these prohibitions have something to do with either
21 the sale or transport of a species or take of a species.
22 These are incredibly broad categories. And when you actually
23 sit down to write the 4(d) rule, you can get much more
24 specific. For example, for seller (unintelligible), one of
25 the activities that is prohibited under the 4(d) rule is take

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1 associated with firearms being shot off on rookeries. So I
2 just wanted to point out that you can get very specific in a
3 4(d) rule with what you are prohibiting. It doesn't have to
4 be that you're prohibiting all take. You can be prohibiting
5 take at an unscreened diversion unless, for example, you have
6 a NMFS-approved plan for installing a screen or you have,
7 okay, a NMFS-approved plan for installing a salmon-safe
8 screen, let's say for now. So there usually is an "unless"
9 aspect of the take prohibition as well. We're not sure what
10 form this 4(d) rule is going to take, but what I can tell you
11 is it's going to be much more specific than just invoking
12 these prohibitions. And there are going to be -- very likely
13 be exceptions. And, again, those exceptions will be allowed
14 because of NMFS approval in two forms -- one of two forms:
15 Either through a 4(d) program, and we'll still need to
16 clarify what specific research activities are okay to
17 incorporate into a 4(d) program; we have this question here
18 of federal nexus. And, you know, we are doing Biological
19 Opinions on the 4(d) program every year for anadromous fish
20 species, but those buyoffs are because of our own federal
21 action, our own action of issuing the permit for allowing
22 that program to move forward. So there may be some projects
23 that have a federal nexus that we are not doing Section 7
24 consultations on. We need to figure out what's happening
25 there and, basically, what qualifies as a research project

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1 that can be incorporated or rolled into a 4(d) program.

2 And then, of course, there is the Section 10
3 permitting process, where an incidental take permit is issued
4 for a scientific research and (unintelligible) is issued. I
5 just wanted to clarify that. We'll have to get back to all
6 of you on this question of federal nexus and what trumps
7 what.

8 MR. McLAIN: So in the broad perspective, you have
9 your Section 9 prohibitions, right, and then within that you
10 kind of have this 4(d) rule folded in that says, okay, here's
11 your prohibitions and then your 4(d), those are the things
12 that we will accept or approve, and we have a list of those.
13 Is that another way of looking at it?

14 MS. NEUMAN: Right? It is. Before it -- it probably
15 is going to be a very long list. We prohibit take if it's
16 occurring in this way. And there may be an "unless" in
17 there. It all depends on what form the 4(d) rule takes. It
18 may not follow suit of the salmon 4(d) rules where these
19 limits were created. We may just create single statements
20 that prohibit an activity unless. And it's not going to be
21 just prohibiting all take. It will be take associated with
22 X, Y, or Z -- unless X, Y, or Z. So it's quite likely that
23 it will take that form.

24 Okay. The second question, what types of affects do
25 these activities or programs have on green sturgeon. We'd

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1 like to move through this list relatively quickly. I'm still
2 going to flash the original list on the screen here.

3 So, Susan, I guess you're going to have to get this
4 group's input on the affects of our first group of activities
5 that we had before we added on.

6 And what we're looking here for is positive,
7 negative, no affect, don't know. So let's try and keep it
8 simple and get through the list.

9 Okay. I think we named this first activity
10 temperature-control devices, and it includes sub-sets of
11 installation and operation in there.

12 MR. McLAIN: A beneficial affect, I assume.

13 MR. BIRK: Go to the next one.

14 MS. NEUMAN: Next one, water-flow alteration,
15 regulation. It's helpful to break this apart into life
16 stages of the species, we may, for example, know that there's
17 a positive or a negative affect on adults, but we don't know
18 for larvae and juveniles. We can get a little more specific
19 here.

20 MR. MICHNY: You know, I don't -- because even -- I
21 mean -- let me -- I mean you're changing water
22 (unintelligible) just like at Shasta. You've got more water
23 in the summer than you did before. I mean, I don't know,
24 without being an expert on green sturgeon, that may be
25 terrific. I mean I don't know how you know whether these

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1 things have a good or bad affect unless you really know about
2 sturgeon and water flow alteration. There's a million ways
3 you alter water. And the water's not always good water; it
4 may be bad water. It may be benign. I don't know how you
5 get a handle on that broad of a statement.

6 MR. VOGEL: You know, salt levels, knowing about the
7 life-history characteristics of the species.

8 MR. MICHNY: Well, that's the other factor, too. So
9 I don't -- you know, that one's so broad, I don't know how
10 you get a handle on that.

11 MS. LUCAS-WILLIAMS: We don't know.

12 MR. MICHNY: Yeah, we don't know.

13 MR. NEPSTED: You know, you have less flow in the
14 winter and more flow in the summer, at least on the
15 Sacramento River. I'm not sure what they're doing on the
16 Feather River.

17 MS. LUCAS-WILLIAMS: It depends on the year.

18 MS. NEUMAN: Fish passage issues at bypasses.

19 MR. SMITH: I assume this is the issue where sturgeon
20 are attracted into the bypasses and being trapped or poached.

21 MS. NEUMAN: Right. I think they're -- they're --

22 MR. NEPSTED: Are they being rescued?

23 MS. NEUMAN: There's entrainment and poaching, and
24 then there's a Rescue Program that attempts to salvage those
25 fish. So there really are three components under there. I

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1 think everybody would agree that poaching is pretty negative.

2 MR. MICHNY: Yeah.

3 MS. NEUMAN: We heard yesterday, you know, from a
4 group of people that, basically, once these fish are
5 entrained, if they are not salvaged, it is a dead end likely.
6 It's likely a dead end.

7 MR. McLAIN: Since we're talking about bypasses, do
8 we want to talk about downstream stuff? I mean there are
9 some potential beneficial affects for salmonids. Do you want
10 to mention that?

11 MS. NEUMAN: Sure. But we're talking about positive
12 affects for salmonids downstream.

13 MR. McLAIN: The growth and, you know -- I don't know
14 how sturgeon would be affected, but there could be some
15 positive benefits.

16 MR. SMITH: Could be some negatives, too.

17 MR. McLAIN: Yeah. Could be more entrainment.

18 MR. MICHNY: Yeah, because -- like the Yolo Bypass,
19 when it floods, it has demonstrable benefits for a lot of
20 native species of salmonids because it provides all the
21 shallow rearing habitat. And there may be an entrainment
22 issue associated with that, but basically it's looked at as a
23 good environmental thing to flood the Yolo Bypass more than
24 less. So even with a bypass, there are two different -- at
25 least two different dimensions there. And I don't know if

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1 that's the case with the bypasses along the Sacramento River.

2 MS. NEUMAN: Screening at diversions.

3 MR. WARD: I would offer both positive and negative
4 based upon -- the positive from the standpoint it may prevent
5 sturgeon from being diverted and impinged. The negative from
6 the standpoint, as I pointed out, that the screen standards
7 may be contrary to other values that would benefit sturgeon
8 like meandering and riparian.

9 MS. NEUMAN: Can you repeat that last point --

10 MR. WARD: The negative --

11 MS. NEUMAN: -- negative affects on --

12 MR. WARD: -- could potentially be the restriction of
13 the meander process and all of the values associated, like
14 riparian zones and shallow-water habitat.

15 MS. NEUMAN: So are the screens being implicated as
16 altering flow and potentially reducing flow? Is that the
17 issue?

18 MR. WARD: To meet federal and state fish screen
19 standards, you need a component of velocity in flow that is a
20 constant past the face of the fish screen. And the only way
21 you can guarantee and achieve that is to have a hard section,
22 which therefore you have -- as we have VCID, a 3,000 cfs
23 diversion with the Grady Restoration Program which prevents
24 the river from moving.

25 MS. NEUMAN: So the screen itself is altering habitat

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1 with respect to flow, with respect to sedimentation rates,
2 with respect to --

3 MR. WARD: Yeah.

4 MS. NEUMAN: -- other work.

5 UNIDENTIFIED SPEAKER: Although, I don't know if I'd
6 say the screen itself, but to keep the screen functioning,
7 you have to alter the habitat and basically armor the
8 (unintelligible) and keep it in line.

9 MS. NEUMAN: And that work, Paul, is based on
10 preliminary results from studies that are currently being
11 conducted? Who's collecting this information on the --

12 MR. WARD: You mean on fish screen standards?

13 MS. NEUMAN: On the negative affects of screens,
14 their installation, their maintenance.

15 MR. WARD: Well, I think there are a host of programs
16 that are evaluating this. But the physical reality is it
17 creates a hard point in the river. In other words -- so
18 that's the reality.

19 MS. NEUMAN: Right. But --

20 MR. WARD: So the alternative to that is the river
21 moves back and forth so that studies that support that are
22 the values of the riparian -- the values of shallow water
23 riparian habitat that no longer exists. Now, I don't know if
24 there's a study, yes, that has examined the extent of how
25 much of that's been foregone by fish screens, but certainly

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1 there is evidence out there that suggests that and would
2 support it. Absolute evidence. I mean Glenn-Colusa
3 Irrigation District is a fine example. This is right in the
4 middle of what could have been a meander zone but now is a
5 mile-long hard point with riprap banks. And we -- we had at
6 least six or eight other major sites on the other Sacramento
7 in my area that are undergoing the same sort of issue, some
8 of which are (unintelligible) that have already been put in
9 and met the standard and had the river move a little bit
10 where we have to go back and start riprapping and renovate
11 the hard point.

12 MR. HOLT: (Unintelligible) referring to is that
13 years ago the river moved, the water level would come to the
14 screen and drop the GCID. The water through the screen then
15 started to exceed standards. So they had to raise and adjust
16 the river again. And that's the problem he's talking about.
17 The trade-off is the values of the screen standard at the
18 expense of the allowing the river to meander, or do you allow
19 the river to meander and compromise the status of the screen.

20 MS. NEUMAN: Right. I think I understand that. What
21 I'd like to know is what the scientific basis of --

22 MR. HOLT: Experience.

23 MS. NEUMAN: -- Paul's comments are. Because any --
24 you know, if we -- I'd like to know something -- you know, a
25 study that's underway to examine those affects and --

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1 whenever we can cite a paper, cite a study, cite something
2 that's published and peer-reviewed, that's the best that we
3 can hope for.

4 MR. BIRK: You might want to take a look at the EIS
5 for the construction of the project since it actually looked
6 at all those factors. And I think what Paul is describing is
7 a feature of the project that makes the project functional.
8 So I think there's a fair amount of documentation for that
9 site. And the other thing is that you can actually just go
10 out there and see what's happening at the rest of the sites.
11 And without them, these structures are at a risk of being
12 abandoned because they don't work.

13 MR. WARD: And I think, in answer to your question,
14 Melissa, I can give you most of the references. I mean the
15 conservation area that I talked about has received CalFed
16 funding to do multiple studies on that very issue. So we
17 have a whole list. They want to quantify on each site how
18 much lost, a certain value (unintelligible) through the
19 process. There's no --

20 MS. NEUMAN: It seems like this is going to be a very
21 important issue for us because we are talking about screens
22 and whether salmon-safe screens are beneficial for sturgeon.
23 And this is really the first time I've ever heard that
24 installation and operation and maintenance on screening may
25 have a negative affect on the ecosystem.

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1 MR. WARD: This is new to my operation. In fact,
2 we're engaged in the very issue just on the salmon criteria
3 with -- with your -- your agency. No, it's not new. And --
4 and the other piece that may not be evident here but likely
5 is the screening criteria for a larval sturgeon is going to
6 be -- would be more stringent by quite a bit. So that would
7 be more complicated.

8 MS. NEUMAN: Yeah. Smaller mesh size, right.

9 MS. WINDHAM: Just for the record, I think it's
10 important to note that there has not been any change made to
11 the screening criteria for green sturgeon, and at the moment
12 we're simply following the salmon criteria until there's data
13 to suggest otherwise. So just so you know.

14 MS. NEUMAN: Okay. Operation of power plants.

15 MR. NEPSTED: I was just going to say on the fish
16 screens real quick --

17 MS. NEUMAN: Sure.

18 MR. NEPSTED: -- talking with the Fish & Wildlife
19 Service fish-screening person, he was telling me that they're
20 not aware of a way to actually make the screen mesh size any
21 smaller than it already is. And so it's questionable if
22 there was anything you could do for sturgeon in the first
23 place. So that's something to think about.

24 MS. NEUMAN: It is. And we also need to think about
25 whether there's a (unintelligible) on salmon --

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1 (Multiple speakers.)

2 MS. NEUMAN: -- you know, and say something in our
3 4(d) rule about, you know, encouraging the installation of
4 salmon-safe screens for the benefit of green sturgeon. We'll
5 have to balance some of these costs and benefits.

6 Okay. Operation of power plants.

7 MR. MICHNY: I mean that's a negative when you're
8 entraining (unintelligible) and chewing the fish up. I mean
9 I don't know if we're going to see any positive about a power
10 plant directive to fish.

11 MS. NEUMAN: Do all power plants -- all power plants
12 entrain --

13 MR. MICHNY: There's only a couple on the system that
14 I'm aware of down at the end of the Delta. There's another
15 one -- if anyone knows of any others, somebody please say
16 something. But I only know about two of them.

17 MR. McLAIN: We were talking about those two. That's
18 what we were focusing on --

19 MS. NEUMAN: What -- what are the names of those --

20 MR. McLAIN: The Antioch and the Pittsburgh --

21 (Multiple speakers.)

22 MR. CADRETT: M-i-r-a-n-t is the company.

23 MR. NEPSTED: Yeah, they did just send in a 90-day
24 letter to the state saying they were closing the plant. That
25 was like a month ago in the news.

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1 MR. CADRETT: What I heard is that the reports in
2 The Bee misstated that, and that they were -- they were
3 putting into re-operating but not closing the plant. That
4 was something I heard from someone from Fish & Game.

5 MR. NEPSTED: And they did do -- there was one year
6 they did do fish studies, I guess, in like 1978 through '79.
7 And apparently they found no -- no sturgeon entrained at the
8 plants during that one year that they actually looked -- or
9 looked and (unintelligible) to report what they found. So I
10 don't know if -- you know, how much of an affect they are or
11 not.

12 MR. BIRK: The data is buried with the Pentagon
13 Papers.

14 MR. McLAIN: That's the entrainment. Then there's
15 the water flume, temperature -- yeah --

16 (Multiple speakers.)

17 MS. NEUMAN: So there is entrainment and --

18 MR. McLAIN: Temperature.

19 MS. NEUMAN: Right.

20 Okay. And heating of the water: Positive?
21 Negative? I'm assuming negative.

22 MR. CADRETT: I would guess negative.

23 MS. NEUMAN: Okay.

24 MR. PAULSEN: Brian Paulsen. It occurs to me that on
25 the Colorado River, you know, revenues from power-plant

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1 generation are used to fund fish recovery programs. In that
2 sense, you know --

3 MR. MICHNY: I don't think they are here.

4 MR. SMITH: Those aren't. The ones we're talking
5 about here are a little different. I don't think power
6 plants are associated with CVP and the state water --

7 MR. BIRK: Guys, you know how our boys are paying
8 their share --

9 (Multiple speakers.)

10 MR. MICHNY: But that's not a power plant.

11 MR. BIRK: They're the ones that buy the power and
12 distribute it.

13 MR. MICHNY: Never mind.

14 MR. BIRK: Jim, you're right. You're right.

15 MS. NEUMAN: Okay. Exportation of water. I'm not
16 really sure -- this is so general. These are the ideas that
17 were generated yesterday. Is there anything that --

18 MR. McLAIN: The removal of water, basically. So not
19 associated with screening, entraining, but the change in
20 hydrology maybe.

21 MS. NEUMAN: Okay.

22 MR. AMAKER: The same as No. 2, the water flow and --

23 MR. McLAIN: Yeah. I guess I could be more specific.
24 That relates to the work that Fish & Game did in the Delta
25 where they found cumulative water exports affected year-class

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1 strength of white sturgeon in the early nineties. So that
2 was more focused on the Delta and the Rio Vista standards and
3 stuff like that.

4 MR. BIRK: What other factors did they identify that
5 may have contributed to that as well, just pumping?

6 MR. McLAIN: Well, it was just -- it was just water.

7 MS. NEUMAN: So the affect was negative on the white
8 sturgeon?

9 MR. McLAIN: Right.

10 (Multiple speakers.)

11 MS. NEUMAN: Operation of pumps in the south Delta.

12 MR. BIRK: Melissa, on that one there, a little bit
13 of detail (unintelligible) --

14 (Multiple speakers.)

15 MR. BIRK: -- who spent a little bit of time with
16 very few people, including myself know anything about the
17 affects on it, but certainly would be helpful for talking

18 about a certain size -- I think you suggested over the life
19 history. I don't know if there's entrainment of juveniles.

20 (Unintelligible) suggested that they're not in the Delta.

21 What size fish are we really talking about here at least for
22 the south Delta facilities?

23 MS. NEUMAN: Fish that are salvaged at the facilities
24 were juveniles.

25 (Multiple speakers.)

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1 MR. McLAIN: Juveniles all the way up based on
2 salvage records.

3 MR. BIRK: And then juvenile is something that
4 doesn't need a fish screen like maybe salmon juveniles?

5 MR. McLAIN: Right. These are 200-, 300-millimeter
6 or bigger.

7 MR. BIRK: They might have a different solution.

8 MR. McLAIN: Right.

9 MR. BIRK: Okay.

10 MS. NEUMAN: Okay. So --

11 MR. BIRK: Then a screen up at Red Bluff where you
12 have --

13 MS. NEUMAN: Right.

14 MR. McLAIN: Exactly, yeah.

15 MS. NEUMAN: So --

16 MR. OPPENHEIM: It should be unknown, because we
17 don't have any studies on survival of green sturgeon through
18 the fish salvage facilities. That's something that --

19 (Multiple speakers.)

20 MS. NEUMAN: Okay. So it's an unknown how many
21 individuals are passing --

22 MR. OPPENHEIM: Or what the survival rate is through
23 the trucking and the other things, the operation there.

24 MS. NEUMAN: Okay. Because there's a screen in front
25 of the pumps.

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1 MR. OPPENHEIM: Yeah. The fish are rescued. They're
2 salvage and they're trucked to the Bay --

3 MS. NEUMAN: Well, some proportion of them are,
4 right.

5 MR. OPPENHEIM: Well, yeah. Anything that's 200 or
6 larger would be salvaged (unintelligible).

7 MR. BIRK: Yeah, they're not screened at all.

8 MR. OPPENHEIM: It's 100 percent.

9 MS. NEUMAN: But those animals are not kept --

10 MR. OPPENHEIM: No, they're wild. They're not
11 tagged.

12 MR. McLAIN: No, she means trapped.

13 MS. NEUMAN: No, I mean they are not tagged with some
14 kind of devise that would allow you to later detect them.

15 MR. OPPENHEIM: No.

16 MR. McLAIN: What if we were to say "no take, unknown
17 affect" or something like that? Because we know that they're
18 taking them, but we just don't know what the affect is.

19 MS. NEUMAN: Okay.

20 MS. LIU: I think there's studies (unintelligible),
21 right, for all the pumping plants and the action --

22 MS. NEUMAN: Come closer.

23 MS. LIU: Oh. I know there were projects for pumping
24 and all that that belong to operations at Red Bluff --

25 MR. McLAIN: That's the Archimedes, and that's

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1 different. But that's the Archimedes.

2 MR. BIRK: It might be worth mentioning that that's
3 the research pumping plant. There may be some information
4 there dealing with sturgeon. But I don't think they were
5 catching 200-millimeter fish in their jib. Do you got any
6 idea?

7 MR. SMITH: Where?

8 MR. BIRK: Right below Red Bluff, the Archimedes.

9 MR. McLAIN: I think you've got one or two over a
10 number of years.

11 MR. SMITH: I think they're pretty small.

12 MR. BIRK: But certainly they were sampled for four
13 to eight years minimum, if they're doing it. I don't think
14 they're doing that anymore right now.

15 MR. SMITH: Yeah, they're sampling --

16 MR. BIRK: Are they?

17 MR. SMITH: It's part of the requirement.

18 MR. BIRK: For sturgeon, too? Are they data for
19 sturgeon?

20 (Inaudible audience discussion.)

21 MR. BIRK: Whatever you guys -- they're the trash
22 (unintelligible). That's the screen for them on the pumping.

23 MR. HOLT: Well, there's a pump -- the screen is
24 downstream of that.

25 MR. BIRK: Where they sample them?

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1 (Inaudible audience discussion.)

2 MS. NEUMAN: Okay. CalFed.

3 MR. BIRK: CalFed, good.

4 MR. ISRAEL: For what it's worth, green sturgeon are
5 listed in the (unintelligible) species for observation
6 strategy, and there's a list of actions being taken on behalf
7 of green sturgeon (unintelligible).

8 MR. McLAIN: We actually assessed all those
9 conservation measures -- was it the post-listing document or
10 the -- remember, we went thorough the conservation measures
11 in CalFed and talked about they generally were helpful but
12 just not enough to prevent...

13 MS. NEUMAN: I think we did a proposed rule.

14 MR. McLAIN: Proposed rule? Yeah.

15 MR. MICHNY: You know, this -- you know -- I mean I
16 agree, I think it's positive. I think it's positive overall.
17 But we're all getting in a box here because it's all part of
18 CalFed, and CalFed spends close to a billion dollars. And at
19 the end of that, we if say it doesn't really do any good, I
20 mean we've all got egg on our face, you know. I just think
21 there's a little -- there needs to be -- all I'm saying, you
22 need to be a little careful how you characterize -- when you
23 write your study, how you characterize CalFed because we're
24 all part of it.

25 MS. NEUMAN: There's a very specific way that we need

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1 to consider conservation efforts during the listing decision.
2 And one of those criteria is that we need to have hard
3 evidence that suggests that that measure, whatever it was,
4 whatever that conservation measure is, provided a benefit to
5 the species we're considering for listing. That's where we
6 ran into trouble for green sturgeon.

7 MR. MICHNY: All right.

8 MS. NEUMAN: A lot of conservation programs met many
9 of the criteria but fell down on the last one.

10 MR. BIRK: I think sturgeon is one of the big "R"
11 species now as part of the CalFed solution. You all know the
12 difference between the big "R" and the little "r", right?

13 (Inaudible audience discussion.)

14 MS. NEUMAN: Okay. CVPIA.

15 MR. BIRK: CVPIA, real good.

16 UNIDENTIFIED SPEAKER: You mean better than CalFed?

17 MR. BIRK: More better. More better.

18 MR. McLAIN: Are there parts of the CVPIA that may
19 not be good for sturgeon?

20 MR. BIRK: The fish part of CVPIA --

21 MS. NEUMAN: Are not good?

22 MR. BIRK: Are good.

23 MR. SMITH: There are other --

24 (Multiple speakers.)

25 MR. BIRK: (Unintelligible) CVPIA Program that's

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1 funded in perpetuity, right? It's a big deal, right?

2 MR. McLAIN: So, for example, water acquisition
3 programs and CVPIA are all beneficial for sturgeon?

4 MR. BIRK: I don't know. You haven't acquired much
5 money for sturgeon, but you have for the other ones. And,
6 again, my argument before is that you used habitat for salmon
7 as a surrogate for your critical habitat for -- you can make
8 that leap of faith that what you do for that is probably good
9 for sturgeon, too, in some places, right?

10 MR. McLAIN: Right.

11 MR. MICHNY: I think with CalFed what you have to
12 consider is that CalFed has some water stuff, but one of the
13 main purposes of CalFed was to make Fish & Wildlife
14 (unintelligible) project purpose. So if you consider what
15 life was like without CalFed -- and the CVPIA had no fish or
16 wildlife purpose and no money for it, and now you have
17 CalFed, you have a minimum of 50 million bucks a year you're
18 spending on environmental stuff, I don't know how you could
19 possibly say it's bad for the environment. It could be
20 better, but it's a whole lot better as a program -- it's
21 absolutely going to be beneficial compared to no CalFed,
22 which there is no project for Fish & Wildlife. It's just how
23 you look at it.

24 (Multiple speakers.)

25 MR. McLAIN: Well --

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1 MS. NEUMAN: What Jeff was saying was there may be
2 some aspects of CVPIA specifically that we're either not sure
3 or --

4 MR. McLAIN: Yeah, right. That's what I was -- yeah,
5 the impacts of gravel on the species --

6 (Multiple speakers.)

7 MR. OPPENHEIM: They're great for salmon, but what's
8 it doing for green sturgeon?

9 MR. McLAIN: We just don't know.

10 MS. LUCAS-WILLIAMS: Overall let's just say CalFed
11 and CVPIA are both beneficial?

12 MR. BIRK: Well, the "I" in CVPIA is "Improvement,"
13 right?

14 (Multiple speakers.)

15 MS. NEUMAN: But I think as Jeff pointed out, we
16 probably are going to have to break down the programs into
17 their components at some point. And when I say "we," you
18 know, everybody at NMFS who's working with green sturgeon,
19 whether the rule making or Section 7. And probably it's
20 going to be assigning a positive, negative, no affect, don't
21 know. We need to refine our scale than just the entire
22 program. I don't think anybody would disagree that overall
23 it's good.

24 MS. LUCAS-WILLIAMS: There's several processes going

25 on right now to look at the CVPIA. We just had to provide

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1 some stuff (unintelligible) for a federal review, and then
2 there's an internal review going, and we're going to try and
3 go through some of those. We don't have to necessarily
4 agree, but there are some things that we may want to get
5 copies of.

6 MS. NEUMAN: That would be great. Should we contact
7 you?

8 MS. LUCAS-WILLIAMS: Yeah.

9 MS. NEUMAN: Okay. FERC Re-licensing. Don't know?
10 Will know in five years?

11 MS. SEEHOLTZ: I can't tell you.

12 MR. SMITH: I assume, again, we're talking about
13 Feather River.

14 MS. NEUMAN: We are. Well -- yes, I mean -- but
15 there may be, as somebody mentioned, other dam-related
16 activities that are not related to FERC Re-licensing in the
17 Feather. But we've got up there.

18 MR. SMITH: Or green sturgeon.

19 MS. NEUMAN: For positives, negatives, no affect, or
20 don't know for green sturgeon specifically.

21 MS. SEEHOLTZ: More than likely it's going to be
22 positive. I mean we're going to be having -- we're supposed
23 to be having flow and temperature changes, so I can't see
24 that being negative. As of this point in time, I haven't
25 seen any green sturgeon language, but that could have been

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1 determined. So...

2 MR. McLAIN: If we're pooling all the FERC projects
3 together, I would say it would be variable. We have some
4 positive effects and some negative effects.

5 MR. WARD: I think I would agree with that. It
6 depends upon what you decide is the critical habitat. If you
7 do some of those small (unintelligible), there is a FERC
8 Re-licensing going on at Butte Creek which could be extremely
9 detrimental to both salmon and sturgeon, although we don't
10 have records of sturgeon in that system.

11 MS. NEUMAN: Well, I think we have records of
12 sturgeon in the Feather River, we just don't know whether
13 they're spawning or not.

14 MR. SMITH: You're talking about --

15 MR. WARD: That was Butte Creek.

16 MS. NEUMAN: Butte Creek.

17 MR. WARD: But there is a FERC re-license in place
18 which also affects salmon.

19 (Multiple speakers.)

20 MS. NEUMAN: Okay. Susan's going to move over here
21 to the additional and write on these sheets.

22 Okay. Dam operations.

23 MR. SMITH: For me that's a positive and a negative.
24 Taking Red Bluff Diversion Dam is an example of -- prior to
25 '86, the gates were in all year round, and that was a real

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1 negative operation. Currently they're only in four months,
2 which means they're up eight months a year, which expands
3 their range of -- likely expands the range for green sturgeon
4 spawning. So that's a positive and a negative. But
5 currently they also go in on September 15th which does limit
6 that. So to me that's a positive and a negative, the same
7 operation. So you've got to break it down a bit, I would
8 think.

9 MS. NEUMAN: With respect to Red Bluff. But what
10 about dams that are not --

11 MR. MICHNY: Isn't that the same -- because the dam
12 releases water out, which then changes the water flow
13 alteration and regulations. That's the end product of
14 opening and closing gates on a dam. So aren't they kind of
15 the same thing?

16 MS. NEUMAN: Uh-huh. I think, yeah, one is sort of a
17 sub-set under another --

18 MR. MICHNY: Or you can even put like dam
19 operations/water flow alterations -- you know, I think it's
20 the same thing.

21 MS. NEUMAN: You know, here when I see "dam
22 operations," I'm thinking about blockage to adult passage,
23 which in my mind is a negative.

24 MR. MICHNY: Yeah, but what are you going to do about
25 that in the 4(d) rule? You're not going to come in and say

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1 "take out" -- I mean that's like part of -- I mean they're
2 there. The 4(d) rule is not going to come in and say "You
3 have to take out Shasta Dam."

4 MS. NEUMAN: Well, I'm just telling you what I'm
5 thinking. I'm not saying that what thinking is going to be a
6 part of the 4(d) rule or whether it has any place in being
7 part of the 4(d) rule.

8 MR. MICHNY: Yeah, I think we all agree the dams have
9 negative affects, okay. But I'm just -- you confused me on
10 how they integrate in the 4(d) rule.

11 MS. NEUMAN: Yeah. You know, this is a 4(d)
12 workshop, I'll remind everybody again. But it's also a
13 brainstorming session. And we're trying to determine here
14 positives, negatives, no affect, don't know of these
15 activities. I think it remains to be seen when we go home
16 with this list what we're going to do with it for the 4(d)
17 rule. But there are many other aspects of what we do which
18 would benefit from understanding these things and hearing
19 your ideas on whether these activities are positive or
20 negative, we don't know. So what we're talking about here
21 isn't necessarily going to the 4(d) rule.

22 MR. MICHNY: Okay.

23 MS. NEUMAN: You can say that dam operations are
24 negative, and it might have nothing to do with what comes out
25 in that 4(d) rule.

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1 MR. BOYTRESS: This is more of a seasonal dam that
2 we're talking about here.

3 MS. LUCAS-WILLIAMS: Red Bluff?

4 MR. BOYTRESS: So where there's areas where you can
5 change your operation because it can be, then go ahead.

6 MS. NEUMAN: Well, actually, I have a question about
7 that. I mean at some point dams need maintenance, dams need
8 to be replaced. Who -- who makes -- who makes those
9 decisions about -- about at what point it becomes more cost
10 effective to put in a dam if it's falling apart anyway that
11 is more fish friendly? And I'm just wondering about that. I
12 mean obviously the decisions for Red Bluff came down
13 because -- why? Was it time to think about --

14 MR. SMITH: The ESA -- it was a Biological Opinion.
15 (Multiple speakers.)

16 MS. NEUMAN: It was completely governed -- it wasn't
17 that that dam was falling down and it needed replacing and
18 this was a good way to be fish friendly.

19 MR. BIRK: All the dam activities at the federal CBP
20 facilities like Red Bluff do have in some cases biological
21 conditions that govern operation and maintenance as well. So
22 those are part of the (unintelligible) or whatever you want
23 to call it --

24 MS. NEUMAN: There's feasibility studies that are
25 happening for Shasta Dam, for example. What is that being

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1 motivated by? Is it an ESA issue?

2 MR. NEPSTED: It's one of CalFed's water storage
3 projects. And so it's for water storage is why they're
4 looking at it. But a purpose for raising of the dam would be
5 to get additional water for Fish & Wildlife uses as well as
6 other uses. And so -- the reason I brought it up is because,
7 you know, flow turns out to be a limiting factor in the
8 Sacramento River for sturgeon. There isn't any other water
9 to give them unless you raise Shasta Dam or you build some
10 other -- like a side (unintelligible) and then after it's
11 built up, you could use that to get additional water in the
12 river for sturgeon. But the principle driving line is water
13 storage.

14 MR. BIRK: How about beneficial use?

15 (Multiple speakers.)

16 MR. NEPSTED: Beneficial use, one of which would be,
17 you know, Fish & Wildlife from dams. They'll all maybe need
18 to be replaced. And the big dams still fall apart and need
19 to be replaced, so that --

20 MS. NEUMAN: Sorry?

21 MR. NEPSTED: Well, you were observing that, you
22 know, eventually they crumble apart. The big ones don't
23 really do that. I mean Folsom Dam isn't even half cured yet.
24 So, you know, it will be another 50 years before the cement
25 is even hardened all the way through.

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1 MR. BOYTRESS: But they do fill up with sediment, the
2 big ones.

3 MR. NEPSTED: Well, that's probably true.

4 MS. NEUMAN: But the cost of doing maintenance
5 doesn't compare to what the cost of putting in a whole new
6 dam would be.

7 MS. LUCAS-WILLIAMS: Flood control and some of those
8 other things that they provide.

9 MS. NEUMAN: Okay. Let's move on. Water acquisition
10 programs.

11 MR. BIRK: I offered that one up. It's still not
12 clear to me, and I've heard a fair amount of dispute about
13 that, whether you acquire more water for sturgeon and whether
14 that's a good thing or a bad thing. I don't know. I
15 imagine --

16 MS. NEUMAN: So we don't know.

17 MR. BIRK: -- for certain species' life histories it
18 could help. But -- and, again, most of those come as a -- or
19 are linked to your choice of using salmonid habitat as a
20 surrogate for -- I'm just making a leap of faith. So I'm
21 still going to say more water in some places is likely to
22 benefit most life stages. But on this upper Sacramento, you
23 really don't need more water to generate cooler temperatures,
24 which is, I think, a factor, I think, because we have the
25 other ways of doing it.

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1 MS. NEUMAN: Uh-huh.

2 MR. MICHNY: I'll make a differentiation here. All
3 of the water acquisition programs that I'm aware of are for
4 environmental purposes, for refuge of fisheries, which is
5 distinct from people buying water to -- you know, for
6 contract or M&I or ag use, but it all -- I mean we have a
7 water acquisition program in our CVPIA administered by
8 Reclamation and it's all refuge and fish water that they're
9 buying not for other uses. Just so you have that concept in
10 mind. When we talk about water acquisitions, it's pretty
11 much all environmental water.

12 MR. BIRK: I think that's really more accurately
13 stated that way. It should be environmental water
14 acquisition, a specific purpose. And there are four programs
15 at least.

16 MS. NEUMAN: Okay. Fish passage issues at
17 diversions.

18 MR. CADRETT: So what's the question? Is that -- are
19 diversions a problem for fish passage or is fish passage past
20 diversions is good? What are you trying to -- I don't
21 understand how that's -- what that's saying.

22 MR. ISRAEL: I mentioned that because it seemed like
23 at some diversions -- I think Alicia mentioned one earlier
24 today, we mentioned that at Red Bluff there might be some
25 passage issues at the diversions, and that could potentially

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1 be negative. If there wasn't any downstream for them to
2 spawn, it could be eliminating spawners. So that's sort of
3 what I threw it out there for. You know, I don't think -- we
4 know if there's habitat downstream where they could be
5 spawning, then maybe fish passage isn't a problem.

6 MS. SEEHOLTZ: Yeah, I think it's largely an unknown.
7 Because even though our assessment kind of indicated that
8 passage at the Sunset Pumps is possibly unlikely, we're still
9 seeing them every year at the outlet. So they're getting
10 past there somehow.

11 MS. NEUMAN: Just to reiterate the focal -- the focus
12 question, it's what types of affects of the things that we've
13 listed here are going to have on green sturgeon.

14 MR. ISRAEL: Well, you mentioned one, but I don't
15 know if --

16 MR. BOYTRESS: I was going to say that one thought is
17 that there's been a lot of studies at Red Bluff Diversion Dam
18 about juvenile salmonid passage being affected by predation
19 below the dam. Potentially that could be an issue with green
20 sturgeon juvenile passage as well. But that is unknown, I
21 guess, at this point as to what extent.

22 MS. NEUMAN: Okay. I think we already covered screen
23 criteria.

24 MR. WARD: I would offer a nuance to that because I
25 don't think it's fish screen versus meandering; it's

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1 fish-screening standards versus meandering. You could have a
2 fish screen and still have meandering but maybe not meet the
3 current standard.

4 MS. NEUMAN: I guess the question is, it seems like
5 there's some positives, there are some negatives but there's
6 also a lot of "I don't know." So I'm not sure what outweighs
7 what, whether the "I don't know" --

8 MR. WARD: Well, it's relative or -- at this point
9 right now in the upper Sacramento River, because we have
10 projects that are awaiting an answer to that or may be
11 looking to that -- I don't have the answer. I know there's
12 some very significant opinions on that. Certainly I know
13 what physical affect there is.

14 MS. NEUMAN: Right. I mean we have evidence that
15 screens do divert salmonids.

16 MR. WARD: Do prevent them from being diverted.

17 MS. NEUMAN: Sorry, prevent them from being diverted.

18 MR. WARD: Right.

19 MS. NEUMAN: And that might be interpreted as a good
20 thing for sturgeon depending on the size of the sturgeon as
21 they pass the screen and -- pass by the diversion, that is.
22 And then there is this question of whether they do more harm
23 than good to the ecosystem on the whole.

24 MR. WARD: Well, I think -- in fact, I think Frank
25 Britney did some study on the value of riprap versus natural

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1 riparian bank, and so there are studies out there that
2 suggest that the solution is a riprap cross-section, and that
3 doesn't have a habitat value that a normal functioning
4 meandering river may have for salmon.

5 MR. MICHNY: Right. And it's going to change the
6 reach of the river. You know, at the Colusa, the river is
7 channeled with riprap, and so the screening diversions down
8 there doesn't affect the ecosystem because the banks are
9 armored. And I think when you get above Colusa, I think one
10 mile -- River Mile 144 upstream, the river is meandering, and
11 there, you know, putting in fish screens and fixing a point
12 becomes an ecological issue where it's not -- it changes with
13 the reach of the river.

14 MS. NEUMAN: Operations of the Delta Cross Channels.

15 MR. OPPENHEIM: I can see those mainly as negative.
16 You have the delay and blockage problem when the gates are
17 closed. Adults coming up behind -- I think they're holding
18 or going back all the way down into the Delta and back up the
19 main stem. And then you have juveniles that could be coming
20 down and going through the Cross Channel into the Central
21 Delta and maybe they're preyed on more than they would be if
22 it (unintelligible).

23 MS. LUCAS-WILLIAMS: These operations are going to
24 get complicated if you try and change it because there's
25 stuff in State Resources Control Board, there's stuff in the

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1 river (unintelligible) and salmon operations that we need to
2 sort of take a look at and see what we do with Cross Channel
3 operations.

4 MR. BIRK: That brings up a pretty good point. I
5 didn't want to bring it up earlier, but it's the same thing
6 with the screens. The reason we're putting screens in is
7 because they're mandated by the ESA laws to protect one
8 resource. Now somehow you're going to have to reconcile --
9 regulatory agencies are going to have to decide what do you
10 do so you don't compromise what's mandated and we have major
11 investments in with something that may or may not be a
12 negative impact. And I think the Cross Channel is another
13 one of those examples probably. The OCAP opinion, nobody's
14 doing these things unilaterally; they're being done because a
15 lot of folks have thought about it, and apparently they're
16 providing some protection for the stuff that came up first.

17 MS. NEUMAN: Well, yes, you know, I agree. But with
18 regard to the green sturgeon and the 4(d) rule, it's not like
19 we would undo what's trying to be accomplished for salmon
20 through that 4(d) rule and other measures. I think we would
21 just think very carefully about whether or not encouraging
22 people to install salmon-safe screens to benefit sturgeon is
23 really the way we want to go here, or do we want to put some
24 more thinking into this. And the folks in our
25 Santa Rosa office, the engineers in our Santa Rosa office I

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1 think are going to be tackling this question, whether there's
2 a set of green sturgeon screen criteria that could even be
3 developed. And if that's the case, then it's not going to be
4 coming down for a long time, I think.

5 MR. VOGEL: If that's the case, then how do you have
6 authorized -- provide authorized take?

7 MS. NEUMAN: How do you provide authorized take in
8 the event of what?

9 MR. VOGEL: Well, say green sturgeon are entrained
10 through the screen diversion. Do you provide a regulatory
11 protective coverage for the diverters because they would have
12 an unauthorized take?

13 MR. OPPENHEIM: He's talking about until the rules
14 come out.

15 MR. VOGEL: Right.

16 MR. OPPENHEIM: You said it might be two years.

17 MS. NEUMAN: Right.

18 MR. OPPENHEIM: So you've got a listed fish that's
19 threatened, and you've got two years of no take specified.
20 So --

21 MS. NEUMAN: Right.

22 MR. OPPENHEIM: -- is there --

23 MS. NEUMAN: Unless you're a federal entity. In that
24 case, you know, you need -- hopefully you're consulting.

25 MR. MICHNY: Wait, wait. You're getting to a point

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1 here that I didn't want to bring up again, but at the break
2 at lunch, we were -- some of us are totally confused on this,
3 and it's really important, I think, is that my understanding
4 when I came in here -- and I asked you a question, and I
5 thought you agreed in the affirmative -- that, okay, there is
6 no take prohibition until you issue a 4(d) rule. So if a
7 federal agency is involved --

8 MS. NEUMAN: No -- right. But you -- you need to be
9 consulting.

10 MR. MICHNY: Yeah, I know.

11 MS. NEUMAN: That process needs to be --

12 MR. MICHNY: You totally right. I agree.

13 MS. NEUMAN: Because as long as that's happening,
14 there is grace.

15 MR. MICHNY: Yeah, the point -- okay. We're going to
16 consult now on federal operations on green sturgeon. We got
17 a letter. Okay? Okay. In a couple of months -- you're not
18 going to have a 4(d) rule out for two years. Okay? In a
19 couple months, we're going to get a Biological Opinion. That
20 Biological Opinion is going to address the jeopardy question,
21 right? There's not going to be any incidental take statement
22 in there because take is now prohibited. So we're going --

23 (Multiple speakers.)

24 MR. MICHNY: -- consult and we're going to follow the
25 regulations. We're going to consult, and we're going to get

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1 an opinion. But until the 4(d) rule is out, all the opinions
2 we get are not going to have a take statement --

3 (Multiple speakers.)

4 MS. NEUMAN: It will cover you until the 4(d) rule
5 comes out.

6 MR. MICHNY: It will cover you. Okay. But it won't
7 be specific -- so it will, in essence, say, "Here's an SL
8 take statement. You're just covered procedurally because
9 you've consulted." That's my understanding. If I'm wrong,
10 somebody tell me different.

11 MS. NEUMAN: There can be -- there can be an
12 incidental take statement if there are no take prohibitions.

13 MR. MICHNY: Right.

14 MR. OPPENHEIM: Well, the way I understand it is that
15 we can go ahead and write an incidental take statement. It
16 doesn't become effective until the green sturgeon 4(d) rules
17 come out. And then when it does come out, that holds over --
18 but we actually specify terms and conditions in this -- in
19 the interim period.

20 MR. MICHNY: How can you do that if you don't know --
21 if you don't know what's causing the problem and to what
22 degree? I thought that's what the 4(d) rule was all about.

23 MR. OPPENHEIM: Well, we know what's causing the
24 problem.

25 (Multiple speakers.)

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1 MR. MICHNY: Okay. All right. Let's -- yours is
2 kind of a middle thing.

3 MR. OPPENHEIM: I agree, at the end of the -- we'd
4 have to evaluate the take at that point and see if it's
5 consistent with the 4(d) rule, for sure. And then, you know,
6 if there was some that weren't, we'd probably have to amend
7 the opinion or something.

8 MR. MICHNY: But we'd want to have something in
9 place -- otherwise you'd have to re-initiate the whole
10 opinion again when the 4(d) rule comes out.

11 MR. MICHNY: That's what I thought we had to do. But
12 what you're saying makes sense, and it's kind of like the
13 middle ground where I thought we were.

14 MR. OPPENHEIM: It's just like if we had a conference
15 opinion, you'd already take issues in that, and it would just
16 roll over once it became effective.

17 MR. MICHNY: Okay.

18 MR. VOGEL: What about all the other non-Bureau
19 projects, though? From what you said, it sounds like they
20 all have to initiate consultation. If they receive federal
21 funding for the screens, if they're installing them this
22 summer or next year --

23 MS. NEUMAN: Yeah, if there's a federal nexus, they
24 need to initiating consultation as of July.

25 MR. VOGEL: Okay.

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1 MR. WARD: I heard that you're going to have those
2 done in two months. I'll send you the list in my area. It's
3 going to be voluminous.

4 MR. VOGEL: You may want to consider having -- I
5 think what he was saying is have a blanket --

6 MS. NEUMAN: It's not like the rule just came out.
7 You know, the proposed rule was out last April, and the final
8 rules came out in April. This shouldn't be new news to
9 anybody sitting here that they've got to put together an
10 initiation package by July.

11 MR. OPPENHEIM: Yeah, if you have a current like
12 operational federal action, you should already have a
13 conference opinion in place.

14 MS. NEUMAN: I think we fully understand what our
15 additional work load is going to be. I think people like
16 Bruce and Jeff are taking deep breaths every night.

17 (Multiple speakers.)

18 MR. BIRK: Melissa, I missed something here. I just
19 basically do the federal projects, and the Section 7 process
20 covers us, and we do some extraordinary research when we do
21 the Section 10. What did you say, we should -- other people
22 should be initiating by July? What's that terminology you
23 used?

24 MS. NEUMAN: July? -- You should be thinking -- you
25 should be initiating consultation with us, which means

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1 putting together an initiation package for us.

2 MR. BIRK: For what -- for what diversions? For any
3 diversion that may be having some take of green sturgeon?

4 MS. NEUMAN: Yes.

5 MR. BIRK: Whether it's federal or any other
6 diversion? Does it matter?

7 MS. NEUMAN: If there's federal nexus. So it's
8 operated by the federal agency, it's funded by a federal
9 agency --

10 MR. BIRK: Okay. So the bigger component, the ones
11 that are affected by the Tracy pumps, for example, the
12 screening facility that provides water to the main CVP users,
13 you guys -- have you done this?

14 MR. MICHNY: No.

15 MR. BIRK: Let me ask this question, because this is
16 a big policy thing that several of us don't agree on.
17 Reclamation, we operate the project to put water in a river
18 for diverters to take at certain times in certain quantities.
19 Other than the Tracy pumps, we do not own the diverter
20 facilities, we don't control them, we don't pay them, we
21 don't do anything with them. So what we've done in our
22 previous consultations is we've had not asked for any
23 incidental take coverage for private diverters. It's up to
24 them how they get the water out of the river. They can take
25 it by buckets, they can sip it out with a straw, they can do

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1 whatever they want. But the federal action is to provide a
2 certain quantity of water at a certain time for them to take
3 to their facilities. And we can argue it, but we are --
4 we've been through our (unintelligible) on this, and -- and
5 the answer is that, you know, they are non-federal facilities
6 that are not controlled, you know, funded, maintained,
7 anything by the federal government. So our view is that all
8 of the private -- all of the irrigation districts that
9 take -- sell water, they've got to float their own boat with
10 the ESA. You know, we're not going to consult on their
11 activities. And that's where we're at right now unless
12 somebody tells us differently.

13 MR. MICHNY: Is that (unintelligible) Diversion Dam?

14 MR. BIRK: What?

15 MR. MICHNY: Is that the (unintelligible) Pump
16 Diversion Dam?

17 MR. BIRK: No, that's --

18 (Multiple speakers.)

19 MR. MICHNY: You've probably got 250 diverters on the
20 Sacramento River that take federal water, and we're not
21 asking for consultation for any of those. They have to float
22 their own boat.

23 MR. BIRK: At Glenn-Colusa we spent a little bit --
24 when you guys got your permit for research --

25 MR. MICHNY: That's a report --

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1 (Multiple speakers.)

2 THE REPORTER: Wait, wait, wait. One at a time.

3 MR. BIRK: I don't know if this would be helpful or
4 not. Federal nexus; federal money, right?

5 (Multiple speakers.)

6 MR. VOGEL: I got an answer to my question earlier.
7 We have to do Section 7 for federal funds to pay for
8 monitoring and research. That's how we're going to deal with
9 it.

10 MR. WARD: There's a fundamental question, Melissa,
11 for me based on what Frank said. There are 240 CVP contracts
12 that are competitive for the upper Sac.

13 (Multiple speakers.)

14 MR. WARD: Okay. Whatever. But -- and they're not
15 covered by you folks under your consultation. Are you
16 suggesting that each of those, because there's a federal
17 nexus, must now consult?

18 MS. NEUMAN: You know --

19 MR. WARD: Because they've already been built, and
20 they're operating to standards and been monitoring --

21 MS. NEUMAN: I guess --

22 (Multiple speakers.)

23 MR. WARD: No, they're not.

24 MS. NEUMAN: -- all I'm able to say is, is that if
25 they are taking sturgeon and we haven't produced a Biological

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1 Opinion that analyzes the affects of them taking sturgeon,
2 then they're in violation.

3 MR. WARD: Well, let me play devil's advocate --

4 MS. NEUMAN: And it's not like we're going to go and
5 seek these folks out. I mean there is some implementation
6 here in the Act. You know, we can't go seeking out folks and
7 make them initiate with us. I mean, you know, we have to
8 have some faith, I guess, in folks out there that they are --

9 MR. BIRK: How are you going to document that they're
10 taking sturgeon? It's the same problem we had when people
11 were unscreening diversions and voluntarily said, "We're
12 going to go ahead and screen" because they were convinced it
13 was in their best interest even though they said, "We never
14 took a salmon ever." So it's back to this chicken and egg
15 thing. How are you going to prove --

16 MS. NEUMAN: Well --

17 MR. BIRK: -- especially for the ones that are
18 screened?

19 MS. NEUMAN: You know, I don't think that I have the
20 answer to these questions. You know, if I had the money, I
21 think it should be part of NMFS's role to be doing more
22 monitoring and assessment in these places. And, you know, we
23 understand the limitations here. If these folks don't know
24 whether they're taking green sturgeon or not, it's really up
25 to that person to say, "Do I want to go through the process

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1 and cover myself in the event that some day someone finds out
2 that there is a green sturgeon in my diversion, or am I going
3 to take the risk?"

4 MR. BIRK: Well, I want to -- the people that I work
5 for, which are basically federal water users, some of them
6 are a little easier because they have a nexus to the feds
7 because they have a relationship with (unintelligible)
8 Diversion Dam. But it's pointed out that anywhere between
9 154 and 200 diversions that are part of the CVP of which I
10 know at least 20 or 30 have been screened in the last ten
11 years, right?

12 MR. WARD: That's about the limit of them.

13 MR. BIRK: So one might make the conclusion that
14 there's a bunch of them that are screened. I'm more
15 concerned about the ones that haven't been screened. They
16 initiate consultation with you on green sturgeon before July.
17 That's what they need -- that's the message -- the take-home
18 message to them? Even though we don't know they're taking
19 them, whether we know they're even present there, whether
20 there's no commercial or scientific evidence in some cases to
21 stop them either way? I'm just asking. I'm not making a
22 judgment. I just want to be able to give them the best --
23 I'm meeting with them on Tuesday. This is a big deal for us.
24 I need to be able to be clear on my message.

25 MS. NEUMAN: Did they do it when the salmon listings

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1 came down while we were screening on the diversions right
2 now?

3 MR. BIRK: Well, that's a long story, but -- partly
4 because we have (unintelligible) funding available and we've
5 had criteria that was accepted by the feds and the state that
6 was acceptable for the screens in the first place. They were
7 located in priority zones. They were taking a significant
8 amount of water. And it was part of the Section 7
9 consultation. I mean Red Bluff Diversion is certainly part
10 of OCAP.

11 MR. MICHNY: Red Bluff Diversion Dam is a federal
12 facility.

13 MR. BIRK: So -- on the ones that I'm most familiar
14 with. Otherwise, why don't you just put proactively, this is
15 a good thing for us to just -- as referred to -- the ones who
16 want to be in the farming business --

17 (Multiple speakers.)

18 MS. NEUMAN: You think that should be --

19 (Multiple speakers.)

20 MR. BIRK: Some people did that. Yeah, what I heard
21 earlier today is that there aren't any screening criteria and
22 that should be more stringent than what we have for chinook
23 right now. So somebody needs to make a decision that if
24 you're going to put a screen on, how about letting us know
25 what the criteria is going to be like, whether it -- you

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1 know, all those things. I've worked in the screening program
2 for ten years, so I have a little bit of history in it. I
3 just want to be able to know, hey, look, there's something
4 coming up and it's as soon as July, and I didn't know that
5 until just today. But then, again, I'm not aware of anybody
6 having a take for green sturgeon. That's not to say that
7 they are or not. Anyway, the only way you're going to get
8 that kind of data is by monitoring.

9 MS. NEUMAN: Right. And we're not doing it.

10 MR. BIRK: No. And neither is Fish & Game. But
11 there is a fair amount of monitoring done in places where we
12 put screens because it's a condition of the construction of
13 one.

14 MR. URKOV: And the folks that don't have screens
15 aren't monitoring, and a lot of those guys don't know how to
16 tell NMFS.

17 MR. BIRK: You know, when we started this -- before
18 AFRP, AFST, and CVPIA, NMFS, Fish & Game, Bureau of
19 Reclamation, and Fish & Wildlife Service had a workshop at
20 the Colusa Fair on why screens needed to be done. Something
21 you might want to consider re-doing for sturgeon and doing a
22 little more public outreach beyond this 4(d) rule. Because
23 most of the people I work with, at least in the ag field, are
24 the fields right now. They're not 4(d)'ing anything.
25 They're sending me and Dave and other people to come here.

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1 We need something -- you need to do a little more public
2 outreach to -- and something in the public -- in the Federal
3 Register or something else to let this message get out, hey,
4 we listed this thing. We're developing a 4(d) rule which is
5 likely to take two to three years, who knows. But we need to
6 get a sense of what the implications are --

7 MS. NEUMAN: We need to -- I need to defend what
8 we're doing here and say that lots of people commended us of
9 sticking to the time line for these things and holding these
10 scoping workshops and making every attempt to get the word
11 out on these issues. It is very hard to reach out to
12 everyone. And this proposed rule was published in the
13 Federal Register notice; it was posted on our web site; it
14 was published in all of the local newspapers. There were
15 NMFS press releases. If people don't read the papers, if
16 people don't look at the web sites, people aren't checking
17 the Federal Register, I don't know what else we can do.

18 MR. BIRK: I can offer you a few things, but we'll do
19 that some other time. I'll just send you a memo of what you
20 can be doing other than looking at a web site.

21 MS. NEUMAN: Okay. Because we're here having a
22 workshop, too, and we tried to --

23 MR. BIRK: I don't see any diverters here except for
24 the one presentation we had here this morning, and that was
25 from Red Bluff Diversion Dam. They're likely to be covered

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1 by Section 7.

2 (Multiple speakers.)

3 MS. NEUMAN: Well, they knew about it but they didn't
4 come. We can't force people to come. We also had a
5 recreational fishing workshop yesterday and invited bait shop
6 owners and recreational fishers. We had one person come. We
7 had public hearings, ten people showed up in this room.

8 MR. BIRK: Well, something's not working, Melissa.
9 I'm just suggesting you might want to expand on that effort.
10 And there's a bigger message here than just this 4(d) rule,
11 and that message is that by July, people need to initiate
12 consultation. I will do my part, at least for the federal
13 people.

14 MS. NEUMAN: If you have suggestions on how we can do
15 better outreach, we'd love to hear it.

16 MR. WARD: Melissa, I think I have one -- to get back
17 to these diverters in my area, this happens to be the height
18 of the ag season, so probably you could assume that you can
19 get diverters and ag folks to come to Sacramento at this time
20 of year would be really difficult for them. So if there's a
21 chance some time to hold a focus session in the upper Sac,
22 Chico, or Red Bluff, probably at night, in the evening, that
23 would really help. I think you'd attract some of those folks
24 that maybe didn't come.

25 MS. NEUMAN: Paul, if you can send me some

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1 information on locations and maybe give me some contact
2 information as well --

3 MR. WARD: Okay.

4 MS. NEUMAN: -- that would be great. We are
5 definitely considering holding other workshops.

6 Okay. I think we're getting off topic a little here.

7 MR. NEPSTED: Yeah, to get back to a comment that
8 Paul's made about four times, but I think the significance of
9 it is at least settled with me. If there's 150 or more
10 diverters in the upper Sacramento River and most of those are
11 unscreened and to screen them means making a mile or so hard
12 point along the river, then, in essence, we would be -- you
13 know, it's something to consider that a fish-screening
14 requirement is basically going to channelize the entire upper
15 Sacramento River and lose all natural river processes. And
16 the only reason we haven't seen it so far is because so few
17 people have gone ahead and actually done the screen. So I
18 think that is something to at least ponder. And that would
19 be independent of extra criteria for sturgeon. That's just
20 screening in general for salmon. That if everyone actually
21 went out and built a screen tomorrow and did all the
22 necessary monitoring to make sure that the river stayed where
23 it needs to be, we would -- you know, there might be a
24 considerable amount of negative impact to the river as a
25 whole as a result of that.

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1 MR. URKOV: Mike, you make a good point. And at the
2 risk of beating this horse further, I said earlier there's
3 154 diverters on the river. The 20 largest account for over
4 90 percent of the federal diversions to agriculture and, to
5 my knowledge, all 20 are screened. So, you know, how much
6 effort would you really want to spend, you know, going after
7 that 10 percent and then that 5 percent and then that 2
8 percent? I mean it's going to take an enormous amount of
9 effort to go out there for an increasingly smaller and
10 smaller diversions. So the big guys -- the GCID was the
11 first screened, basically, and the big ones are all done or
12 are in progress.

13 MR. WARD: In response to that, I'd agree that what
14 you just said is true. But would those constituents that
15 aren't -- I, as a representative of Fish & Game, have nothing
16 to offer them. You're hanging out there; you're taking a
17 chance. You're very small and likely nothing's going to
18 happen, but I don't know that. And so I think in this
19 process we need to give them some sort of an assurance or the
20 take authority, which you have the right to give, as do we.
21 But it needs to be something that gives these folks assurance
22 that they either know that eventually they have to put a
23 screen on and/or they have a take authority that covers that.

24 MR. URKOV: And so that's why it would be nice for
25 this collection of small diverters to be able to say that the

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1 value that they're providing in terms of meandering in the
2 river instead of screening is worth something because you'd
3 have a tiny increment of fish protection at the extent of,
4 you know, probably over 100 hard points on the river.

5 MR. HOLT: For one thing, it offsets that
6 (unintelligible). There are very few diverters between
7 Anderson/Cottenwood and Red Bluff, not that many at Red Bluff
8 down to Hanford City. Now, most of your diversions occur at
9 Willapa River. It's already full of riprap and
10 channelization anyway. So -- Jim disagrees. But basically
11 most of them -- most of your irrigated lands and
12 (unintelligible). And most of the diversions -- we've got a
13 big diversion up at Red Bluff (unintelligible).

14 (Multiple speakers.)

15 MR. HOLT: You've got a diversion right there, and
16 then you've got a section of river where --

17 (Multiple speakers.)

18 MR. HOLT: You've got Red Bluff.

19 (Multiple speakers.)

20 MR. VOGEL: Excuse me. Melissa, I've got a
21 suggestion. Why -- why can't NMFS issue, for lack of a
22 better term, an emergency 4(d) rule that would provide
23 blanket coverage for all these scenarios we're talking about
24 given the fact that NMFS hasn't decided whether or not there
25 should be criteria diverting for the salmonids -- you know,

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1 issue to all these diverters -- couple hundred diverters and
2 so forth that aren't educated on it and so forth, and that
3 would provide them the regulatory coverage until such time as
4 the final 4(d) rule comes out and NMFS determines what it
5 wants to do about the fish-screening issue?

6 MS. NEUMAN: Emergency -- okay. We'll consider it.

7 MR. WARD: I would suggest, too, Melissa that, you
8 know, I have an old copy here, but we have a fish -- a
9 screen -- or a diversion inventory that you guys should have
10 in your hands. That's just the Sacramento River in my area.
11 And most of them are those smaller diverters, but,
12 nevertheless, they have no take coverage even for salmonids.

13 MS. NEUMAN: Uh-huh. Okay.

14 All right. We have to be moving on. Harbor-dredging
15 activities is probably unknown. Does anybody disagree with
16 that at this point?

17 Water Quality Control Plan?

18 MS. LUCAS-WILLIAMS: Don't know.

19 MS. NEUMAN: Don't know?

20 MS. LUCAS-WILLIAMS: We don't know much about the
21 fish and what the current standards are (unintelligible)
22 whether it's helping or hurting.

23 MS. NEUMAN: Off-stream storage programs?

24 MR. WARD: They could be a net negative or a net
25 positive. It depends, I guess. Using (unintelligible) as an

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1 example, there may be a new diversion in the vicinity of
2 Colusa that would to 3 to 10,000 cfs, I presume, that would
3 be -- could be detrimental depending on how it's designed.
4 On the other side, having an off-stream storage site could
5 make up for some river diversion at key times of the year
6 might be a positive.

7 (Multiple speakers.)

8 MR. BIRK: (Unintelligible.)

9 MR. OPPENHEIM: Either way, you know,
10 (unintelligible) separate Section 7 notification unless it's
11 totally funded by CalFed or something else.

12 UNIDENTIFIED SPEAKER: I doubt that would happen.

13 (Multiple speakers.)

14 MS. NEUMAN: Environmental Water Account?

15 MR. MICHNY: I would say it's a question mark right
16 now. I don't think we know.

17 MS. NEUMAN: New water right applications, especially
18 in the upper Sacramento?

19 MR. WARD: I put that up there. I would suggest that
20 probably would be a negative because we are finding that many
21 of the traditional water right users or water users are
22 finding -- particularly for rice decomposition are finding
23 the use for water at key times when they haven't in the past.
24 And so this would be a use at a time and at a place that
25 normally there hasn't been.

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1 MS. NEUMAN: HCCP, Safe Harbor Agreements?

2 MR. WARD: I asked for that. I think that could be a
3 net positive. But where it may have some negatives is the
4 ability for the agencies to actually implement that. And
5 it's my understanding that, for instance, Safe Harbor is not
6 a -- it's something for -- for a net -- it's listed as
7 anadromous fish. Is that correct?

8 MR. OPPENHEIM: We don't do Safe Harbor. Fish &
9 Wildlife does.

10 MR. WARD: Right.

11 MR. OPPENHEIM: So were you thinking of their actions
12 that might affect -- or -- were you thinking of something
13 similar in the upper Sac to that program?

14 MR. WARD: That is -- that is (unintelligible) we
15 have, an HCCP with a Safe Harbor Authority for that area
16 along the river which would include any activities because it
17 would be covered under both of those.

18 MR. OPPENHEIM: Sounds real positive to me.

19 MR. WARD: Well, I think it could be if it, in fact,
20 could be implemented. But if, in fact, under NOAA
21 regulations you can't implement a safe harbor --

22 MR. OPPENHEIM: No, but we can do the HCCP. That's
23 part of it. There would be positive benefits to that.

24 MS. NEUMAN: Bay-Delta Conservation Program?

25 MR. MICHNY: I think it's similar. That would

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1 actually be positive because if you're doing an HCCP of a
2 listed species, it can't by definition be negative.

3 MS. NEUMAN: Unscreened diversions? Don't know,
4 probably. Depends on their size.

5 MR. URKOV: Should we talk about that a little bit
6 more?

7 MS. NEUMAN: No, no. We're done. Probably don't
8 know, but depends on their size. It may depend on their
9 size.

10 MR. URKOV: Location, location, location.

11 MS. NEUMAN: Location and volume.

12 MR. WARD: And timing.

13 MR. NEPSTED: Just to go back to look at that --
14 on -- on harbor and dredging activities, wouldn't that be a
15 negative? I'm not sure you -- other than if you were maybe
16 removing some -- some blockage. In the Feather River, I
17 would think any dredging or stuff you're doing would be
18 detrimental to the fish.

19 MS. NEUMAN: I don't -- in terms of re-suspending
20 contaminated sediment and things like that, I don't know what
21 kinds of affects those -- those things would have.

22 MR. NEPSTED: Well, I was thinking just the suction
23 dredge actually sucking the sturgeon right off the bottom,
24 which is what happens in the Columbia, I guess, when they
25 dredge out there. They just stick --

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1 MS. NEUMAN: So it would be a negative -- some
2 negatives and some "don't knows" associated with that.

3 Feasibility study for raising Shasta Dam.

4 MR. NEPSTED: I mentioned that one. But that's more
5 or less -- I mean if -- if we haven't actually fully
6 determined what we would use there because we haven't gotten
7 that far, but presumably we still have to operate the dam, so
8 we need all the existing flows (unintelligible). So I would
9 think if we finally have not merely any negative impact but
10 there might be a potential positive if we were actually to
11 get more water in the dam or greater cold water storage and
12 things like that. So...

13 MS. NEUMAN: Provisions using existing BOs. I guess
14 this is primarily for salmonids? Is that, for the person who
15 mentioned this, what they were getting at, or was it for
16 other species as well?

17 UNIDENTIFIED SPEAKER: I suggested that
18 (unintelligible).

19 (Multiple speakers.)

20 (Inaudible audience discussion.)

21 MS. NEUMAN: Trinity Restoration Flows Program?

22 UNIDENTIFIED SPEAKER: The ICDs are mainly there
23 (unintelligible). You're increasing the flows of the Trinity
24 River, that would help out the Northern Population. You're
25 restoring the banks. You're increasing the flood plane. All

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1 that's good for salmon, but it's probably changing it for
2 sturgeon there.

3 UNIDENTIFIED SPEAKER: I think his focus was not on
4 the current -- the ramifications --

5 (Multiple speakers.)

6 UNIDENTIFIED SPEAKER: There was no flow device in
7 the Sacramento River from the Trinity. It was all
8 artificial.

9 (Multiple speakers.)

10 UNIDENTIFIED SPEAKER: If I could jump back again.

11 (Multiple speakers.)

12 UNIDENTIFIED SPEAKER: Most of the Biological

13 Opinions that people get have work windows in them, either
14 for salmon or Delta smelt or both. And I think those may
15 not -- may or may not be protective for green sturgeon. So
16 that's something to consider.

17 MR. SMITH: LOP -- Limited Operating Period.

18 MS. WANG: What was that?

19 MR. SMITH: LOP --

20 MS. NEUMAN: Limited Operating Period.

21 MR. SMITH: Yeah, for salmon may not benefit
22 sturgeon.

23 MR. OPPENHEIM: Yeah, that actually came up yesterday
24 on the section on Bay-Delta dredging and harbor impacts.

25

MS. NEUMAN: Right. Ellen Johnck was here talking

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1 about how the concept of work windows is --

2 MR. OPPENHEIM: Paramount.

3 MS. NEUMAN: -- being lost from her vocabulary.

4 Mitigation for Iron Mountain Mine.

5 MR. BIRK: Good.

6 MS. NEUMAN: Small dam removal in tributaries?

7 MR. NEPSTED: Oh, that was me. I was going say
8 something on the mine.

9 MS. NEUMAN: Okay.

10 MR. NEPSTED: Reclamation -- since we just spent 2
11 and a half million dollars on this, I can probably mention
12 it. Reclamation just finished the cleanup of the Matheson
13 (unintelligible) Transfer Station, which was part of the Iron
14 Mountain Mine, and this was the component that was on our
15 property where the mine drainage -- or the acid mine sledge,
16 or whatever it was, was going straight into the river. And
17 so that's a big cleanup effort that's preventing the acid
18 mine pollution from coming into the Sacramento River.

19 MS. LUCAS-WILLIAMS: (Unintelligible.)

20 (Inaudible audience discussion.)

21 MS. NEUMAN: Small dam removal in tributaries.

22 MR. WARD: That was Serge's, but I think that might
23 be an unknown. Would you agree?

24 MR. BIRK: Put a question mark there. A maybe?

25 MS. NEUMAN: Question mark.

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1 MR. SMITH: Got any examples, Serge?

2 MR. BIRK: I've got a couple, but I don't know if any
3 of them apply. Let's stick with the question mark. But like
4 I said, when we started this this morning, we had a lot of
5 red dots in some these side tributaries, and dams were part
6 of the problem. So by removing some of them -- I don't
7 know --

8 (Multiple speakers.)

9 MS. NEUMAN: Herbicide spraying programs.

10 MR. OPPENHEIM: I would assume it's unknown until we
11 get some data on the affect on the current program on the
12 fish in Clifton Forebay or -- I mean we're still trying to
13 get data on steelhead for that program. And sturgeon is just
14 another one that we have to add to the list.

15 MR. NEPSTED: Just to add to that, the State
16 Department of Boating and Waterways is also spraying the
17 Delta for water hyacinth and (unintelligible).

18 MR. OPPENHEIM: That was mentioned yesterday.

19 MR. NEPSTED: You covered that yesterday? Okay. All
20 right. So I guess I won't say anything more.

21 MR. MICHNY: Well, wait a minute. Bruce made a
22 comment, and I know this is something that had already been
23 said, but the person who brought up the Trinity River -- I
24 forget who it was, but it was completely a different bent. I
25 just want to say it just so you're aware. Your bent was that

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1 a couple years ago Bruce Babbot signed a record recission.
2 The Trinity Project took water off the Trinity River for a
3 number of years and put it in the Sacramento side, so you had
4 more water in the Sacramento side. What the Trinity decision
5 did is it stopped that to a large extent and kept that water
6 in the Trinity River. So some people are saying that was bad
7 for the Sacramento River because now you have less
8 flexibility and less water on the Sacramento side because now
9 it's all over on the Trinity. I'm not arguing morality here
10 or nothing like that. I'm just saying that you're aware that
11 you write this up --

12 (Multiple speakers.)

13 MR. MICHNY: -- (unintelligible) positive thing and
14 the other side was a negative thing because you're taking the
15 water out of the system. Just so you're aware of that
16 argument.

17 MS. LUCAS-WILLIAMS: Well, it falls more to the
18 Trinity Restoration. What the Restoration Program does is it
19 sends a bunch of water down in the spring which some people
20 would see as you're losing all your cold water pool going
21 (unintelligible) so you don't have a cold water pool to
22 manage like you do on other rivers that we're managing within
23 the system. So I don't know if that's a good thing or a bad
24 thing, but it's a restoration program for geomorphic reasons
25 that they send down the river instead of like we do on the

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1 Sacramento side where we manage a cold water pool to help the
2 listed species in the river.

3 MR. HOLT: Sending it down in the spring, you also
4 avoid fall -- traction in the fall of getting
5 (unintelligible) in the Trinity which has been a concern the
6 last couple of years.

7 MS. NEUMAN: State and federal fish salvage research
8 and development. People view the salvage part of this as
9 being a positive. Probably the research and development part
10 of it are positive. I don't know. Let me hear from you.

11 MR. SMITH: Better than no salvage.

12 MS. NEUMAN: Right.

13 Okay. Flood control bypass operations?

14 MR. OPPENHEIM: That's the weir that we were talking
15 about earlier as having a negative affect because you're
16 isolating and stranding and killing sturgeon. I think Jeff
17 tried to bring up the positive point that there may be some
18 beneficial affects to juvenile green sturgeon, and he
19 compared them to salmonids in that maybe they may grow up in
20 the bypass to a larger extent or have a higher survival rate
21 if they did get to the bypass. But that's kind of unknown.

22 MS. NEUMAN: VAMP?

23 MR. ISRAEL: I think it's sort of unknown because I'm
24 not sure we know enough about the habitat requirements with
25 regards to the water. We know the salinity and things like

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1 that, but I think that's what the dam's about is
2 (unintelligible).

3 (Multiple speakers.)

4 MR. CADRETT: Yeah, that might hold true, not much
5 affect, but there are green sturgeon in the San Joaquin. So
6 it might have an affect on Delta conditions.

7 (Multiple speakers.)

8 MS. NEUMAN: Refuge program?

9 MR. ISRAEL: Wasn't someone talking about the re-flow
10 water out of the refuges?

11 MR. BIRK: Well, it's not the use, basically; it's
12 part of CVPIA throwing more water on the refuge and some of
13 it returns to the Sacramento River.

14 MS. LUCAS-WILLIAMS: Some of the water that returns
15 is good water, but probably more on the Sacramento River is
16 diluted than on the San Joaquin River.

17 MR. BIRK: That was Frank's. He left.

18 MR. NEPSTED: Yeah, I'm not actually sure why it's
19 even up there. It's a San Joaquin River problem. I don't
20 know. But the Sacramento River --

21 (Multiple speakers.)

22 MS. NEUMAN: Okay.

23 MS. LUCAS-WILLIAMS: Most of the federal people are
24 (unintelligible) contracts, so I don't know who was getting
25 it (unintelligible).

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1 MS. NEUMAN: Non-federalization of water systems?

2 MR. NEPSTED: That was Frank's, too, I think, wasn't
3 it?

4 (Multiple speakers.)

5 MS. NEUMAN: Okay. Feather River water rights.

6 MS. LUCAS-WILLIAMS: It's seen as water rights to
7 divert water.

8 MR. WARD: Well, that's a qualified yes, because even
9 within the Central Valley Project contracts, there are still
10 pre-1914 rights that are not really regulated very closely --
11 not lots of them, but they are there.

12 MS. LUCAS-WILLIAMS: Exactly.

13 MS. NEUMAN: Okay.

14 MR. HOLT: I think it depends on how much water.
15 You're referring (unintelligible) contract. That water
16 (unintelligible) water rights probably not regulated
17 anyway -- at least not too strongly. (Unintelligible)
18 because they have a component on this water to make it part
19 of the water (unintelligible).

20 MR. WARD: But there are people that don't have CVP
21 contracts, though, Buford, in that area. (Unintelligible)
22 Seco Ranch is one. They are a pre-1914 water right holder,
23 so there is no federal nexus.

24 (Inaudible audience discussion.)

25 MR. HOLT: It's something the state can take care of.

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1 MR. WARD: Well, I'm not even sure the state takes
2 care of it, really.

3 MR. HOLT: They should, but...

4 MR. BIRK: Paul, you said this was a good place for
5 the 4(d) rule to apply?

6 MS. NEUMAN: Groundwater pumping, conjunctive use.

7 MR. BIRK: I brought that one up. That could be a
8 good thing if you think you want to keep more water in the
9 stream.

10 MS. NEUMAN: OCAP consultations for green sturgeon.

11 MR. BIRK: I also brought that one up. I think it
12 has to be mentioned. I don't know if it's good or bad. You
13 can't overlook it. Hopefully a bunch of this stuff's going
14 to be covered under that.

15 MS. NEUMAN: Agricultural return of water.

16 (Inaudible audience discussion.)

17 MS. HINOJOSA: It increases the salinity
18 (unintelligible) contaminant possibly, but whether this is
19 something sturgeon tolerate -- I mean I honestly don't know.

20 MS. NEUMAN: It's probably a question mark. It might
21 be a question mark in terms of -- I mean that
22 (unintelligible) carry enough water back to the system.

23 MR. BOYTRESS: Plus the warmer water potentially.

24 (Inaudible audience discussion.)

25 MR. URKOV: The OCAP consultation for green sturgeon

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1 has got to be positive. It can't be an unknown. Sorry.

2 (Multiple speakers.)

3 MR. NEPSTED: I would think the agricultural return
4 water is more of an issue for the sturgeon in the Delta where
5 there's more water going --

6 (Multiple speakers.)

7 MR. NEPSTED: I can't imagine there's too much of an
8 issue in the Sacramento River.

9 MR. SMITH: It is down further, but, you know --

10 (Multiple speakers.)

11 MR. NEPSTED: If I could go back to the groundwater
12 pumping (unintelligible). It is generally positive, but it
13 is -- I would agree that it looks like for some of it that --
14 you know, what you do is you pump water out of the ground to
15 make up for diversions, and then at some later point you
16 divert water to make up for that -- you know, and then refill
17 the groundwater aquifer. And it's not a one-to-one exchange.
18 And so you do actually use more surface water to make up for
19 groundwater. So there is some possible potential for
20 affecting how much water we have in our storage in our
21 reservoirs depending on how much conjunctive use you do.
22 Because we basically have to release more water to keep the
23 same amount in the river.

24 MS. NEUMAN: Is that SDIP?

25 (Multiple speakers.)

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1 UNIDENTIFIED SPEAKER: South Delta Improvement
2 Project. That should be probably a negative.

3 MS. HINOJOSA: Well, no. Again, not being a green
4 sturgeon biologist at all, but part of the aim of that
5 program is to improve circulation so you actually might get
6 is to improve circulation, so you actually might get the
7 benefits to water quality, which has a varying on the
8 sturgeon, I think.

9 MR. OPPENHEIM: There's no fish passage for green
10 sturgeon in that. There's no passage in those barriers.

11 MR. VOGEL: It's cold --

12 MR. OPPENHEIM: Well --

13 (Multiple speakers.)

14 MS. HINOJOSA: But there are people (unintelligible),
15 and they would put them down as (unintelligible).

16 (Multiple speakers.)

17 MR. OPPENHEIM: But that won't pass sturgeon. They
18 don't swim over gates.

19 MS. HINOJOSA: They go into -- there's something -- I
20 don't remember what the --

21 (Multiple speakers.)

22 (Inaudible audience discussion.)

23 MR. OPPENHEIM: They don't go flush with the bottom.

24 MR. NEPSTED: Although, wouldn't you say, though,
25 that when the gates are closed -- I'm just being the devil's

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1 advocate here because I'm not that familiar this program, but
2 when the gates are closed, the sturgeon on the inside of the
3 gates are, I guess, trapped next to the export pump, but the
4 ones on the other side would be protected from the export
5 pumps.

6 MR. OPPENHEIM: Well, I'm not worried about the
7 pumps. I'm just worried about them getting passage up and
8 down the river.

9 MR. NEPSTED: Okay. So it's more of an issue of just
10 sticking them in the South Delta where there may be
11 (unintelligible) more rearing habitat.

12 MR. OPPENHEIM: Yeah. Once the gates go up, it turns
13 that whole area above it into a freshwater lake, basically,
14 that grows great aquatic weeds, and it changes the whole
15 dynamic of the river system. It's no longer really habitat
16 for green sturgeon.

17 MR. NEPSTED: Actually, shouldn't we have had aquatic
18 weeds (unintelligible)? That's not really -- or was that on
19 there already because of the spraying program? You guys
20 covered that yesterday or --

21 MR. OPPENHEIM: You could actually put this whole
22 program into the same category as the OCAP because there is
23 in the EIS/EIR on it right now. So we'll have to do a
24 consultation and Biological Opinion on it. So out of that,
25 if you -- we can -- out of that process, you would think it

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1 would be a beneficial opinion for -- maybe not --

2 MR. NEPSTED: Well, because I mean the point of at
3 least one of those four barriers is to keep fish away from
4 the export facilities.

5 MR. SMITH: Which fish?

6 (Multiple speakers.)

7 MR. SMITH: San Joaquin fish?

8 MR. OPPENHEIM: Yeah, that's to keep the juveniles --

9 MR. SMITH: You get more Sacramento water --

10 (Multiple speakers.)

11 MR. SMITH: I mean you get more Sacramento River
12 fish --

13 (Multiple speakers.)

14 MR. SMITH: There could be sturgeon.

15 MS. NEUMAN: Conversion measures by user groups.

16 MR. CADRETT: Seems like a positive.

17 (Multiple speakers.)

18 MS. NEUMAN: Consolidating diversions.

19 MR. BIRK: Good.

20 MR. WARD: I think that can be both positive and
21 negative because by consolidating you create a much bigger
22 diversion in some cases, which could be a negative for the
23 reasons we've talked about. So by very small ones, in some
24 cases that we talked about, there may not even be a need to
25 be screened.

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1 MR. BIRK: Paul, I was only talking about the good
2 ones.

3 MR. WARD: I know. But that's why --
4 (Multiple speakers.)

5 MS. NEUMAN: Four Pumps Mitigation Program?

6 MR. McLAIN: There are some positives.
7 (Multiple speakers.)

8 MR. McLAIN: Well, they restore habitat.

9 MR. NEPSTED: They did fund ten game wardens through
10 the Four Pumps.

11 MR. OPPENHEIM: Right. They fund the -- they fund
12 some of the dam restoration work on Butte Creek.

13 MR. WARD: That should also include the Tracy
14 Mitigation fund.

15 MR. NEPSTED: That was a separate program, the Tracy
16 Fish Facilities Direct Loss Mitigation Project. I think it's
17 not.

18 MR. OPPENHEIM: That agreement was not in place.

19 MR. NEPSTED: In place anymore. But back when --
20 they did construct a couple of fish screens in the Suisun,
21 and they did also fund the DD, which was the Fish & Game
22 warden.

23 MS. NEUMAN: Municipal and industrial effluent.

24 MR. McLAIN: Negative.

25 MR. CADRETT: Negative --

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1 (Multiple speakers.)

2 MR. SMITH: I don't --

3 (Multiple speakers.)

4 MR. SMITH: Beneath water quality standards, at least
5 under (unintelligible), is that necessarily a negative thing?

6 MR. McLAIN: Well, I just think with all the
7 information we have on toxicity affects on aquatic organisms,
8 it's a pretty big deal. There's a limited amount of
9 information on sturgeon. There's the selenium that fell in a
10 (unintelligible) habitat that had really high levels of
11 selenium.

12 MR. SMITH: Where is that coming from?

13 MR. McLAIN: Well, the San Joaquin Basin and-

14 (Multiple speakers.)

15 MR. SMITH: I mean it just doesn't usually come up as
16 a -- I mean as a -- is it not known when it comes up like
17 this, or is it an absolute negative right off the bat? I
18 don't think --

19 MR. McLAIN: It's not a positive.

20 MR. SMITH: No. I didn't say it was positive. I
21 guess in light of no treatment, but...

22 MR. ISRAEL: Certainly because the green sturgeon
23 are, you know, long lived, there is a higher likelihood of
24 (unintelligible) being a problem and could affect, you know,
25 their fitness, their reproduction, their (unintelligible).

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1 There's all kinds of biological things. But really it hasn't
2 been studied that much, you know, so it's hard to know --

3 (Multiple speakers.)

4 MR. ISRAEL: -- (unintelligible) standards are
5 stringent enough for something that is going to be living out
6 there in estuaries for 10 or 15 years before they decide
7 they're going to develop 100,000 eggs in their belly.

8 (Multiple speakers.)

9 MS. NEUMAN: Natural Fish & Wildlife -- wait --
10 natural Fish & Wildlife SDN activities with NMFS. This is
11 the habitat restoration stuff. I think, again, the
12 Restoration Programs, it seems like there may be some
13 positives but also some negatives.

14 MR. ISRAEL: This will be interesting to look at
15 because the NOAA Restoration Centers community-based grant
16 programs -- which they're not allowed to directly fund, but
17 there was some congressional money (unintelligible) where
18 they weren't directly funding salmonid-specific work. But I
19 know that there was a lot of interest in the restoration
20 centers to continue funding the work around anadromous fish
21 (unintelligible). And there's been some discussions about
22 trying to -- yesterday about trying to get volunteers more
23 involved in regards to like fishing and -- you know, trying
24 to eliminate poaching and things like that. This might be
25 one, you know, where you found the National Fish & Wildlife

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1 Foundation who is interested in doing some kind of sturgeon
2 program through community-based restoration grants, you know.
3 There might be some interest in it. It's not salmonid
4 explicit, and they don't -- congress doesn't (unintelligible)
5 make it salmonid explicit. So...

6 MS. NEUMAN: Drainage flows.

7 MR. SMITH: We already covered that.

8 MR. McLAIN: That was the --

9 (Multiple speakers.)

10 MS. NEUMAN: Refuge --

11 (Multiple speakers.)

12 MS. NEUMAN: So we'll just put "see agricultural
13 and" --

14 (Multiple speakers.)

15 MS. NEUMAN: California Water Bond? State-funded
16 activity.

17 MR. URKOV: I thought that was a source of upcoming
18 projects that might warrant 4(d) consideration.

19 MS. NEUMAN: And mercury contamination at mining
20 sites. Is somebody working with Joe at UC Davis on mercury?

21 MR. ISRAEL: I don't know.

22 UNIDENTIFIED SPEAKER: Yeah, there is that guy Bob
23 who's working -- yes, he is doing mercury decontamination
24 (unintelligible).

25 (Multiple speakers.)

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1 MR. McLAIN: There's a lot of CalFed work on mercury
2 that we should maybe look at.

3 MS. NEUMAN: For white sturgeon or salmonids?

4 MR. McLAIN: Yes, I just think it's generalized
5 (unintelligible).

6 MS. NEUMAN: Okay. Do you know what the end point
7 is?

8 MR. McLAIN: I don't. I mean I know there's high
9 levels of mercury in resident fishes in the Delta and that's
10 why they don't want you to eat more than one a month or
11 whatever. So sturgeon are long lived, so I'm assuming that
12 they're impacted.

13 MR. BIRK: Monterey Bay Aquarium's got a pretty good
14 list of those, the outreach data.

15 MS. NEUMAN: A state list or whatever --

16 MR. BIRK: Yeah.

17 MR. OPPENHEIM: There's no restriction on sturgeon in
18 the Fish & Game regs that I know of for health warnings.
19 They're on striped bass, large-mouthed bass in the Delta and
20 in the freshwater streams. I don't think there's any mention
21 of sturgeon from --

22 (Multiple speakers.)

23 MS. NEUMAN: Okay. We sort of addressed question
24 No. 3, anyplace where there's a positive, we've identified
25 the activities that might contribute to the conservation of

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1 green sturgeon.

2 And now instead of re-visiting the list again and
3 going through it one by one, I think we should just
4 brainstorm here and fill up a couple of pages on how some of
5 the activities and programs that are going on now might be
6 modified in a way that you see doable to help conserved green
7 sturgeon. Are there things we can be doing differently that
8 will help benefit green sturgeon in terms of water resource
9 use?

10 MR. NEPSTED: Well, I mean certainly the Water
11 Acquisition Programs that are specifically targeting
12 something like in-flow needs of a particular -- running of
13 salmon or steelhead. And so, you know, there's no -- there's
14 no reason -- if we knew what the needs were for sturgeon,
15 those programs could certainly buy water for them.

16 MS. WANG: I'm sorry, they -- what?

17 MR. NEPSTED: They could buy water for sturgeon if we
18 knew we needed it and when.

19 MS. NEUMAN: We only have about another 20 minutes.
20 Actually -- yeah, another 15 to 20 minutes.

21 MR. McLAIN: What about passage barriers -- upstream
22 passage barriers, just improving those?

23 MS. NEUMAN: How, by removing the --

24 MR. McLAIN: Removing, modifying --

25 MS. NEUMAN: Creating a bypass --

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1 MR. McLAIN: Yeah, a facility passage.

2 MS. NEUMAN: Okay.

3 MR. WARD: I hate to keep beating on the same horse
4 here, it seems to me on the fish criteria that we might not
5 be benefiting green sturgeon in the other list of fish if we
6 were selective on how we relaxed fish-screen standards for
7 the purpose that I mentioned.

8 MS. NEUMAN: So you're saying adjusting the
9 fish-screen standards?

10 MR. WARD: Right.

11 MS. NEUMAN: Okay. Adjusting the salmon criteria for
12 screens in a way that I guess is -- it's more flexible with
13 respect to spatial placement and size of screen and other --

14 MR. WARD: Well, in terms of implicating hard
15 sections or cross-sections, I guess, so that we don't damage
16 another value.

17 UNIDENTIFIED SPEAKER: Since we're talking about fish
18 screens, what about specifying loci stages protected, in
19 other words, you're going to protect larva or not, are we
20 gonna -- you know, what about fish screens? There may be
21 some way to -- if we're going to decide we're going to
22 protect them at 14 millimeters when they, you know -- when
23 they get to the waterfall, or are we gonna
24 (unintelligible) --

25 (Multiple speakers.)

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1 MS. NEUMAN: How does that -- how does that relate to
2 modifying -- how -- how would some of the activities and
3 programs we've mentioned help any life stage of green
4 sturgeon?

5 UNIDENTIFIED SPEAKER: Well, I guess I'm just
6 thinking of in terms of 4(d). We may want to draw a line
7 somewhere as far as everything -- you know, everything taken
8 prohibited above a certain size and just limit it at that or
9 something. So you could modify or you could choose not to
10 modify things.

11 UNIDENTIFIED SPEAKER: It might be modified, too, you
12 know, by -- by location. It may not be true in the main part
13 of the river, but it certainly might be in the central part
14 of the valley.

15 (Multiple speakers.)

16 UNIDENTIFIED SPEAKER: And that's what I was thinking
17 about. The thing about the Delta smelts situation, is it
18 practical to screen 14-millimeter fish?

19 UNIDENTIFIED SPEAKER: You know, I'd call that review
20 current fish-screening criteria for salmon for applicability
21 for sturgeon and establish new criteria if necessary.

22 UNIDENTIFIED SPEAKER: For sturgeon or for salmon?

23 (Multiple speakers.)

24 UNIDENTIFIED SPEAKER: Paul's got a wealth of
25 information on that.

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1 MS. NEUMAN: I mean I think that overlaps could work
2 in the previous --

3 UNIDENTIFIED SPEAKER: Paul's is a little different
4 in that he's talking about, you know, relaxing some salmon
5 criteria so you don't (unintelligible). That's what he was
6 talking about.

7 MS. NEUMAN: Uh-huh.

8 UNIDENTIFIED SPEAKER: What I was suggesting here --
9 what I started hearing beating around the bush is actually
10 look at the screening criteria we have, especially in terms
11 of approach velocities and screening size to see if there
12 actually -- because you're still gonna have GCID nets.
13 You're still gonna have some big screening projects out there
14 at the Red Bluff Diversion Dam that you need to consider. So
15 that's a little different than Paul's.

16 MS. NEUMAN: So there should be a self-evaluation of
17 our own salmon --

18 UNIDENTIFIED SPEAKER: And Fish & Game's screening
19 criteria for salmon and steelhead.

20 UNIDENTIFIED SPEAKER: Along that same vein, you
21 might want to (unintelligible) --

22 (Multiple speakers.)

23 (Inaudible audience discussion.)

24 MS. NEUMAN: How about spending some money on
25 monitoring the effectiveness of conservation measures that

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1 are already in place -- with NMFS' help?

2 MR. NEPSTED: Well, not to be facetious, I think you
3 guys already determined that all those conservation measures
4 are inadequate anyway.

5 MS. NEUMAN: They're not inadequate; we just didn't
6 know whether they were effective and being directed at the
7 sturgeon because we live in such a salmon-centric world.

8 MR. WARD: I have a suggestion. If I could get Dave
9 down here to chime in because he's doing the work. But with
10 the conservation measure that's in place and then maybe the
11 hard -- some of the things we've said about the fish screen
12 and, you know, the hard processing, he's doing some really
13 formative research on adult and juveniles -- primarily adult
14 sturgeon but also larval and juvenile sturgeon on passage of
15 barriers and the affects of the fish screens, and all of that
16 is pertinent. So, you know, if you want to put some money
17 somewhere, there's a good place to do it. I don't know how
18 many of you tag, but if you tag 40 or 50 so far, adult
19 greens -- or, again, greens and whites?

20 MS. SEEHOLTZ: So when you're saying "conservation
21 efforts," you're talking about screening, and that sort of
22 thing? Because baseline -- we really don't have enough
23 baseline information to determine if conservation is working
24 because we don't even know what's the process. So are you
25 talking about the screening that sort of thing, or are you

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1 talking about conservation efforts?

2 MS. NEUMAN: I'm basically talking about any of those
3 protective measures that we considered. So pretty much any
4 program funded by CalFed or CVPIA. I mean the whole host of
5 things that they have funded. You know, it doesn't seem like
6 there's been the money to follow through --

7 MS. SEEHOLTZ: Uh-huh.

8 MS. NEUMAN: -- on determining whether those measures
9 have really been effective, whether the aim of the measure --
10 what was the goal and did the conservation measures meet that
11 goal?

12 MR. NEPSTED: Certainly a sturgeon-specific sampling
13 program would be useful because really the only time we catch
14 sturgeon is at the bycatch when we're sitting in the river
15 for something else.

16 MS. NEUMAN: Well, the California Department of Fish
17 & Game is actually thinking about implementing a directive
18 Green Sturgeon Monitoring Program. And probably within the
19 next year or so we'll have more information on whether that
20 program will take off. NMFS is currently tracking and
21 monitoring adults in their use of estuaries in coastal areas.
22 But we -- we lack an in-river monitoring program, that is, we
23 haven't -- you know, we have not implemented one nor have we
24 supported an in-river monitoring program of green sturgeon.

25 MR. SMITH: I will say our Red Bluff Diversion Dam,

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1 our Juvenile Monitoring Program has a secondary objective of
2 monitoring sturgeon. We have that part -- not the salmon
3 (unintelligible).

4 MR. WARD: And I'd like to amplify just a little bit
5 on what Dave is doing, because the issue is the hard
6 cross-section which we're not real pleased about having to
7 put any in. But the issue was, by creating a barrier or a
8 head difference to drive the fish screen was whether it was a
9 barrier to adult (unintelligible) migrations, specifically,
10 that was the objective to this study. And Dave's evaluation
11 is, in fact, tagging both white and green sturgeon and
12 tracking through that grade differentiation, which is
13 specific to actually several of the questions that have been
14 raised here about what a hydraulic jump or a waterfall or a
15 velocity would be detrimental to sturgeon passage.

16 And the other piece of that --

17 I think, Dave, you need to chime in here with me.

18 (Multiple speakers.)

19 MR. WARD: The other piece of that is that to the
20 4(d) or Section 7 or consultation is -- his study could end
21 July 7th unless we have some sort of expedited permitting to
22 keep him going. And he's got fish with tags on them, I
23 suppose, right now.

24 So this has been really valuable to the department
25 for one thing, but it should be valuable to this thing.

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1 MS. NEUMAN: Uh-huh.

2 MR. WARD: I'll send you my bill, Dave.

3 MS. NEUMAN: Other ways to modify activities or
4 programs to minimize the affects of these activities --
5 negative affects of these activities on green sturgeon?

6 I guess, you know, I just turned that question around
7 and turned it into how can we modify activities or programs
8 so that they provide some kind of benefit to green sturgeon.
9 I think I just turned that question around. I don't know
10 whether that's the same question.

11 MS. WANG: I guess kind of like for those who are
12 working with the water like for irrigation districts or for
13 more specific fish passage work, what kinds of things that
14 would be reasonable to do that we could like include in the
15 4(d) rule that would provide passage for green sturgeon but
16 also allow the operations to continue and result -- you know,
17 in a reasonable manner. Like what are some things that could
18 be implemented, I guess.

19 MR. CADRETT: It seems to me like the answers to a
20 lot of these questions, we need to know more about the life
21 history before we even say this is what we need to do to
22 operate with more fish (unintelligible). So I don't know, to
23 me it's tough to say that -- to make a -- you know, an
24 upstream passage barrier that's more sturgeon friendly. It's
25 hard to say, well, operate it this way or change the

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1 operations or put it in a fish -- this kind of fish ladder
2 when we don't know if that's going to have an affect or when
3 the juveniles are coming downstream. I don't know how you
4 answer those questions without knowing the life history about
5 the fish.

6 MS. NEUMAN: We do know that sturgeon are spawning
7 between the Glenn-Colusa Irrigation District and up -- we're
8 not exactly sure (unintelligible) still going to be up
9 past --

10 MR. SMITH: Somewhere up above Red Bluff.

11 MS. NEUMAN: Somewhere up above Red Bluff. Somebody
12 mentioned (unintelligible) yesterday.

13 MR. SMITH: We don't know.

14 MS. NEUMAN: What?

15 (Multiple speakers.)

16 MS. NEUMAN: Is it all the way up to Keswick?

17 MR. SMITH: We don't know.

18 (Multiple speakers.)

19 MS. NEUMAN: So maybe we should be focusing in on
20 that area and specifically focusing in on ways to modify
21 things that are going on in that area so that adults can pass
22 up and down and so can juveniles and larvae.

23 MR. NEPSTED: Well, to give you an example of the
24 person next to Alicia's comment --

25 MR. CADRETT: Paul.

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1 MR. NEPSTED: You know, green sturgeon, I guess, are
2 more active at night than they are during the day. And so if
3 someone were to do some studies that show by day they're hold
4 up in the deep cobble and at night they start to move down
5 the river, then that would probably mean that they're more
6 vulnerable to being entrained in an unscreened diversion
7 operating at night than in the day when some of these small
8 unscreened diversions could limit their operations for the
9 daytime. But we'd have to know that. I mean we don't -- you
10 know, it wouldn't make any sense to impose that now because
11 we wouldn't know if it would do any good or not.

12 MR. CADRETT: It might do more harm than good.

13 MR. NEPSTED: Right. I mean that could be a --
14 potentially a low-cost solution to probably hundreds of these
15 diversions since they just don't pump at night, if that would
16 do any good.

17 MS. NEUMAN: If we do have some information from the
18 folks at UC Davis that would confirm that type of behavior on
19 green sturgeon --

20 MR. NEPSTED: Well, everything I've read, yeah. But
21 I mean how inactive in the day they are would be the
22 question, if they're safe from a diversion (unintelligible)
23 or if they're somewhat vulnerable or not.

24 MS. NEUMAN: Okay.

25 MR. NEPSTED: Then I wouldn't know if the diversions

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1 still work (unintelligible). I'm sure that would be another
2 question for you.

3 MS. NEUMAN: None of the answers here provide -- do
4 they provide us with the tools we need to create the
5 exemption, but we're thinking of creating a 4(d) rule. So...

6 UNIDENTIFIED SPEAKER: Since I'm the only one
7 talking, I guess I'll do it. There are non-structural
8 concepts of ways to keep fish out of diversions. And I know
9 they've been tested: Acoustical barriers and bubble
10 curtains, and things like that, but I don't know if any of
11 them have actually been tested on sturgeon. And so that
12 might be something for somebody to look at.

13 MS. NEUMAN: Have they been tested for salmonids?

14 MR. NEPSTED: I think they have, but they didn't
15 perform too well. But, you know, if they're already
16 unscreened and nobody's done an effort for salmonids -- I
17 mean it's not -- but it might at least be something to think
18 about for the small diverters in the immediate vicinity where
19 the sturgeon are spawning, then that could be a vast and
20 inexpensive thing to do rather than a five- to ten-year
21 planning -- or project.

22 MR. HOLT: Of course, there's always what Dave is
23 doing, trying to get CalFed to look at a bubble curtain. The
24 idea being that you simulate a moving curtain, which is --
25 all the ones you're using, the curtains are fixed in place.

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1 He was using them for the fact that we know that in the Gulf
2 of Alaska, the whales were able to herd fish into bubble
3 curtains to their advantage. And so the question is whether
4 it can work, and the answer is yes, it can in some fish, some
5 places. The question is if you had a moving curtain versus a
6 simulated moving curtain and having multiple (unintelligible)
7 you could control it with some sort of a computer, the air
8 emissions -- you know, Mike, in the lab he found some fish
9 were attracted and some were repelled. So maybe there's some
10 options there (unintelligible).

11 MS. NEUMAN: Okay. Well, I think we've answered many
12 of the aspects of Question No. 5 in answering some of these
13 other questions. And our time is up here today. I hope
14 everybody got something out of today's workshop. I don't
15 know whether we feel there's a need for future workshops. It
16 sounds like Serge felt that there was a need for workshops
17 that focused on folks actually diverting water, getting them
18 together in a forum to discuss this -- to discuss issues
19 regarding the 4(d) rule and perhaps Section.

20 I think we have one major unanswered question, and
21 that is for projects where there's a federal nexus, what
22 covers what? Does the Section 7 process trump the 4(d)
23 program? Can projects with federal nexus be rolled into a
24 4(d) research program or not? So we're going to have to get
25 back to you on this. We're probably going to take a look at

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1 those research projects that are currently in the 4(d)
2 Anadromous Research Program and figure out what it was about
3 those research projects that made them acceptable projects
4 for that program. And in that case, they stepped over the
5 Section 7 process, basically, or side-stepped it. So we'll
6 have to figure that out.

7 We'd appreciate feedback from all of you on whether
8 you feel that this workshop was useful; whether there is a
9 need for conducting future workshops; who, again, the people
10 that we should be focusing in on are; and perhaps most
11 important at this point for us to take this information and
12 to boil it down and get it back to all of you because we'd
13 appreciate any review of this information once we condense
14 it, and perhaps in another setting you can provide some more
15 feedback to us.

16 Any final comments?

17 MR. WARD: I have one final request. I guess it's --
18 I have at least four projects that are -- that are being
19 built right now or modified right now that are going to be
20 impacted by this. And Howard Brown has been the contact,
21 presumably may still be. But I think it would be real
22 helpful to have a consistent message from NOAA via whether it
23 be Howard or whoever because we have federal funding that is
24 dependent upon having permits in place, and this is kind of a
25 new wrinkle in this, that could either make the funding go

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1 away or delay it or add a lot of additional costs. So I
2 think it would be helpful to maybe prioritize some of these
3 projects that have to have immediate need and then have a
4 contact and a specific person and voice to address those. We
5 have at least three fish-screen projects that are 8 or \$9
6 million apiece that could be put off and have costs go very
7 high if we don't have an answer.

8 MS. NEUMAN: Your point of contact for all of those
9 projects in the past has been Howard?

10 MR. WARD: Yes. Or Mike Tucker, I guess would be the
11 other one.

12 MS. NEUMAN: Then it should be those folks in the
13 future.

14 MR. WARD: Okay.

15 MR. VOGEL: I just talked to him about two hours ago.
16 He's now going to be working on the levee emergency. So he's
17 not going to be working on this anymore at least for the time
18 being.

19 MR. URKOV: Are you talking about Mike Tucker or
20 Howard?

21 MR. VOGEL: Howard.

22 MS. NEUMAN: Okay. Well, we'll have to talk to Mike
23 Acetuno, who is the Assistant Regional Administrator for
24 Protected Resources here in Sacramento and find out who's
25 going to be picking up this work for Mike Tucker.

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1 MS. SEEHOLTZ: I don't know if this will help at all,
2 but I put in a call just trying to ask a question, and within
3 a very short period of time I had three people contact me
4 just to try to get some answers. So they're good at trying
5 to get back to you. (Unintelligible.)

6 (Multiple speakers.)

7 MS. NEUMAN: You contacted the Sacramento office?

8 MS. SEEHOLTZ: I talked to the local office, and she
9 ended up contacting other people, and they called me.

10 MR. WARD: We have contacts, but the contacts have
11 work loads are always heavy.

12 (Multiple speakers.)

13 MR. WARD: This is going to require direction based
14 upon this program, and somebody to write it out.

15 MS. NEUMAN: Right. But you know our time line is a
16 year and a half to two years from now.

17 MR. WARD: We have four fish-screen projects right
18 now that either construction -- we'll start construction in
19 the summer that have not considered the green sturgeon, but
20 are federally funded.

21 MS. NEUMAN: It sounds like these are Section 7
22 issues. That's what it's sounding like to me. And this is
23 something that is apart and separate from the 4(d) rule.

24 MR. WARD: Right. I agree.

25 MS. NEUMAN: If the person who was handling your

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1 Section 7 consultations is no longer going to be handling
2 them, it seems like he should know who is going to be. And
3 if he doesn't, then his supervisor should. So contact Mike
4 Acetuno, the Director.

5 MR. WARD: Okay. We'll do that. Again, I think it's
6 going to depend upon you guys who would be implementing the
7 program that all of you folks should have a heads-up with the
8 contact person. (Unintelligible.) You can't just pass this
9 back and forth within the staffers and (unintelligible). And
10 that's a real frustration (unintelligible).

11 (Multiple speakers.)

12 MR. NEPSTED: Melissa, I know we didn't
13 (unintelligible) or anything, but it would be helpful at
14 least for me to know who you are at NMFS. Are you in like
15 the listing branch?

16 MS. NEUMAN: Susan and I, we're within the Protected
17 Resources Division in the Long Beach Regional Office. And
18 that is the Headquarters Regional Office for the Southwest.
19 So our office speaks to all the area offices, which includes
20 Sacramento, Santa Rosa, and Arcadia. And I do Biological
21 Opinions but I do them for abalone. And I probably will not
22 be doing the Biological Opinions for green sturgeon, although
23 I may be helping in reviewing of them.

24 (The hearing was concluded at 5:00 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 215 pages comprise a
transcription of the proceedings had at the hearing in the
hereinbefore-entitled matter.

Dated this 7th day of July, 2006, at Sacramento,
California.

SANDRA L. HOPPER, CSR NO. 7110

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