WORKSHOP
STATE WATER RESOURCES CONTROL BOARD
STATE OF CALIFORNIA

Subject: Review of Water Quality Standards
for the San Francisco Bay/
Sacramento-San Joaquin Delta Estuary

Held in
Resources Building
Sacramento, California

Thursday, September 1, 1994
10:00 a.m.

VOLUME VII
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MR. CAFFREY: Good morning. My name is John Caffrey. I am Chairman of the State Water Resources Control Board.

Welcome to these continuing proceedings on standard setting for the Bay-Delta.

Let the record show that the full Board is present this morning.

By way of introduction, to my far left is Executive Director, Walt Pettit. Next to Mr. Pettit is Board Member Marc Del Piero, and between Mr. Del Piero and myself is Board Member Mary Jane Forster. To my immediate right is Board Vice Chair James Stubchaer, and next to Mr. Stubchaer is Board Member John Brown.

Good morning to my fellow Board members and to all of you.

We also have at the staff table Mr. Tom Howard, Senior Engineer; and Barbara Leidigh, Senior Staff Counsel.

Also in the front row available to assist are other staff of the Board, Heidi Bratovich, Gail Linck, Ben Romero, Sean Bagheban.

Good morning to all of you.

This is the fifth in our series of workshops in which the State Water Resources Control Board will hear oral
comments and recommendations regarding the water quality
standards for the Bay-Delta estuary.

I have discussed the procedure that we should follow
from this point forward with the other Board members. All
of us are aware of the important work the parties have been
doing in developing alternative sets of standards for the
Bay-Delta estuary.

We commend the parties for their efforts. We know
it has not been easy. We encourage all of the parties to
continue working together to identify and develop areas of
agreement in response to these very positive efforts, and to
keep everyone updated on the continuing work of the parties
and the Board's staff.

We have asked the Board's Executive Director, Mr.
Pettit, to conduct a series of publicly-noticed meetings
with the parties and the involved State and Federal agencies
starting later this month. We have tentatively scheduled
the first of these for September 21. A public notice will
be issued in the next few days.

The purpose of these meetings will be to review in
detail and compare the features of the various alternatives
that have been presented to the Board, and to provide
opportunity for frank discussion and the exchange of ideas
for modifications and/or improvements.

Later, probably in mid-October, the Board will hold
a concluding workshop to receive a progress report on the
alternatives. If possible or appropriate, the workshop will
include a staff presentation of an alternative developed out
of the meetings between Mr. Pettit and the parties that may
become the preferred alternative.

One serious caution: In order for the Board to meet
the December commitment laid out in the framework agreement
with the federal agencies, it is critical that the parties
reach agreement or narrow the alternatives as soon as
possible. We are confident that the process we are setting
up to be conducted by Mr. Pettit and later the Board will
afford that opportunity.

If you intend to speak today, please fill out a blue
card and give it to our staff at the front table.

As you know, the comments and recommendations
received during this series of workshops will be used to
prepare a draft water quality control plan and we expect to
release the draft in December, 1994.

About two months after the draft is released, we
will hold a hearing on the draft. After the hearing, we
will make whatever changes are needed, provide copies of the
revised draft to the interested parties, and then, hold a
Board meeting to consider it for adoption.

Conduct of today's proceeding: As in the past,
today's proceedings are described in the notice for today.
Additional copies of the notice are available from staff.

This workshop will be informal. Today we want to hear from the parties on the key issues specified for this workshop. Each party will have 20 minutes for an oral presentation.

A party may be represented by one or several speakers. If the party needs additional time, the party's representative may request additional time at the beginning of the presentation. Please explain why the additional time is necessary.

If we are not able to provide you all the time you think you need, we encourage you to submit your presentation in writing.

In the interest of time, we ask that parties avoid repeating details already presented by other parties whenever possible and simply indicate agreement.

Alternatively, parties with the same interests are welcome and encouraged to make joint presentations.

We will also accept and we encourage, as we have been all along, written comments. You need to provide the Board and staff 20 copies of any written comments and recommendations, and make copies available to the other parties who are here today.

As in the past, a court reporter is present and will prepare a transcript. If you want a copy of the transcript,
you must make arrangements with the court reporter.

There will be no sworn testimony or cross-examination of the parties, but the Board members and staff may ask clarifying questions.

I believe I have about 15 cards for today, so perhaps we will finish today and not have to go over to tomorrow.

Today's key issue is carried over from the fourth workshop. It is: What fish and wildlife standards should the State Water Board evaluate as alternatives in this review?

And I will call the parties in the order that we have called them in the past: Number one, elected officials for the State, Federal and local governments; number two, representatives of the State, Federal and local agencies; and number three, all others in the order that your speaker cards were submitted to staff, unless you have special time constraints which you have noted on your speaker cards.

At this time, I would like to note that I have a special request from the Western United Dairymen to present a new economic model they have developed for these proceedings. This is something that they told us about a couple of workshops ago and asked that they be given some deference when that information is available.

Economics is not listed as a key issue for today,
but we have tried to accommodate people in these workshops whenever possible, and we recognize that the economic effects of the various alternatives are a very important consideration. Therefore, unless another Board member objects, I will grant 20 minutes for the presentation by Western United Dairymen.

Also, they have asked for permission to speak as early as possible to allow for discussion if it is desired on the economic model during the discussion of the alternatives presented by the other parties.

We will hear from them right after the elected officials and representatives of the public agencies.

In addition to the Executive Director's meetings later this month and the Board's October workshop, you may continue, as always, to send written materials to Mr. Pettit or Mr. Howard. If you do that, we ask that you send 20 copies of your materials and that you also send copies to the parties who have participated in these proceedings.

Any materials received by the Board will be made available for inspection by interested persons. We thank those persons who have used these workshops as an opportunity to help the Board develop a plan that will afford reliable and reasonable protections for the estuary and all its beneficial uses.

We are hopeful that you will be able to further
address the Board as a result of the meetings to be conducted by Mr. Pettit.

Do any of the Board members wish to add anything to the statement I have put into the record at this point? If not, we will then move to the cards in the order that I specified.

The first presentation then is going to be from our counterparts in the Federal Government, Club Fed. Are the representatives of Club Fed ready to make their panel presentation?

I understand Patrick Wright, Dan Fults, Joel Medlin and Chris Mobley are present.

Have I covered everybody?

Please come forward.

MR. FULTS: We are missing Chris Mobley.

MR. CAFFREY: Does that present a problem?

MR. FULTS: I don't think so. I am not quite sure whether he will be here or not.

MR. CAFFREY: Good morning, gentlemen. Before you begin, I hope I didn't cause any confusion. Mr. Stubchaer was reminding me I may have said we would hear from the Dairymen after the elected officials. If I said that, what I meant to say was the representatives of the elected officials, of which there are a number here today, and the public agencies.
So, we will not be getting to the Dairymen's association immediately, but we will in the very near future.

Gentlemen, good morning.

MR. FULTS: We are here on behalf of the Club Fed and we will have a presentation for you today by Patrick Wright from EPA, who will be making a more in-depth presentation to you on the status of their activities.

My intention is to bring you up to date on where we are in terms of activities of Club Fed. It will be very short, but that will help to bring you up to speed as far as those things that have been going on.

My name is Dan Fults from the Bureau of Reclamation.

MR. CAFFREY: Let me remind all the parties that since this is not a hearing per se, we are, as I said in the statement, keeping a transcript, so if you could identify yourselves before you make your presentation, it would be helpful.

MR. FULTS: First off, I do want to say that yourself, as Chairman of the Board, signed the framework agreement. It is fully consummated now. All signatures have been done.

MR. CAFFREY: It hasn't changed since I signed it; has it?

MR. FULTS: No. It is signed and transmitted by the
Assistant Secretary to the Secretary of Resources, Doug Wheeler.

MR. CAFFREY: We appreciate that. Thank you very much.

MR. FULTS: A success story. It has three principles involved in it:

One of them is to work on water quality standards in the Bay-Delta.

The second principle is establishing an oversight management work group for the day-to-day type of operations that impact the Bay-Delta.

And then, the third principle is to work toward long-term solutions to the Bay-Delta issues that we have.

And in regard to developing a long-term process for getting at these issues, we have been working closely with members of Club Fed and certain representatives of the Water Policy Council on various proposals and ideas of how we can package a group that would be able to move ahead and start studying and working towards the long-term solution.

We have made good progress in that. In fact, there's a press release that I left quite a number of copies of in the doorway as you come in that announces a meeting, a formal type of meeting on September 19. There's a 10:00
a.m. meeting in Los Angeles, and then later in the day, a 3:30 meeting in which State and Federal officials would like to meet with public interests to go over all the long-term process ideas that we have and to hear others' ideas, too, as we formulate this organization.

This process we have been working through I really feel reflects a true partnership between the Federal and State governments and the representatives involved.

We do want the public to play a very important role to us, both the State and Federal agencies. We have talked very seriously about establishing some type of citizens' advisory group that would be sanctioned by State and Federal law and we do realize that we will have to take an approach that could eventually lead into some type of CEQA and NEPA compliance in formulating solutions to the long-term issues in the Delta.

That pretty well brings you up to speed on where we are in the overall framework endeavors, and then, to get more informed on the water quality standards, Patrick Wright will be making a presentation.

MR. CAFFREY: Thank you, Mr. Fults.

MR. WRIGHT: I am Patrick Wright from EPA in San Francisco.

Good morning.

At the last Board workshop, EPA summarized the
extensive discussions with the parties that have taken place since our proposed standards were announced last December. We also described some of the modifications to those standards that we have developed in an attempt to reduce their water supply impacts while maintaining our targeted level of protection.

Once again, we would like to thank the staffs of the various agencies and interests that contributed their time and energy to this process.

Although several significant differences remain among the parties, we are encouraged by the progress we have made to date and urge the Board to build upon these efforts in its development of State standards.

In December, 1993, EPA proposed three sets of water quality standards for the estuary as part of a coordinated set of federal actions. In the past several months, we have been reviewing the comments received on the proposed rule, and working with a broad spectrum of interested parties in developing the final rule.

Today we are making available several documents that explain in detail our current staff recommendations with respect to the final standards.

The first set of documents were contained in a notice of availability that was published in the Federal Register last Friday. The second set were part of a letter sent
earlier this week from EPA to the Fish and Wildlife Service and the National Marine Fisheries Service as part of the Endangered Species Act consultation process on the federal standards.

The recommendations in these documents are, of course, preliminary. They represent staff recommendations only and have not received final management approval. Nevertheless, we believe it is important for the State Board and other parties to be apprised of our efforts as we all work towards adoption of mutually acceptable standards.

The staff recommendations include four sets of water quality criteria:

1. Estuarine habitat criteria.

The first are the two parts per thousand salinity criteria at Rowe Island, Chipps Island, and the confluence of the Sacramento and San Joaquin Rivers.

Based on extensive discussions with DWR, CCWD and other parties, we have developed two major modifications to the estuarine habitat criteria described in the proposed rule: A sliding scale to replace the five water year classifications and three alternative methods of compliance at the Rowe Island and Chipps Island stations; daily salinity, 14-day average salinity and the equivalent daily outflow.

These modifications have been endorsed by a broad
2. Fish migration criteria.

The second set of criteria are fish migration criteria to protect salmon smolts and other migratory species in the Delta.

After the close of the public comment period, EPA participated in a series of three scientific peer review workshops on these criteria organized and facilitated by the urban and environmental interests. Several participants in the workshops raised concerns about using predicted model results as the basis for these criteria.

The group agreed that goals for salmon smolt survival should be based on the actual fall-run salmon smolt survival index rather than predicted model results from the U. S. Fish and Wildlife Service model.

Based on these discussions, EPA has developed an alternative methodology for the fish migration criteria that is based on measured survival rates. The new methodology is described in two documents published in the Federal Register last week: The summary of the three scientific peer review workshops on the fish migration criteria sponsored by the urban and environmental interests in June; and a description of an alternative set of criteria based on the conclusions of those workshops.

The target values for the new set of criteria reflect
an achievable set of implementation measures, and are
generally consistent with the doubling goal established by
the CVPIA and State legislation.

The workshop participants also discussed how these
criteria might be implemented. There was general agreement
that a specified salmon smolt survival goal should be
coupled with a set of implementation measures designed to
achieve the goal, including gate closures, increased flows,
export limits and other measures.

The goals would be revisited during the triennial
review process to determine the effectiveness of the
measures. The implementation measures could then be
modified as appropriate to achieve the goals on average over
a period of years.

We believe this approach will insure that the
designated uses are protected while providing the
flexibility necessary to experiment with different
approaches to improve survival.

In recent Board workshops several parties have
stressed the importance of developing real-time monitoring
programs and studies to evaluate the effectiveness of
innovative control measures, such as the sound barrier on
Georgiana Slough.

By combining goal setting with an adaptive management
process, we can provide a mechanism for the State Board to
incorporate the results of these and other ongoing studies into its implementation plan without modifying the approved criteria.

3. Fish-spawning criteria.

The third set of criteria are salinity criteria to protect fish spawning and other fish and wildlife uses of the lower San Joaquin River from Jersey Point to Vernalis. The purpose of these criteria is to address increased salinity levels caused by agricultural return flows in the San Joaquin Valley.

In the preamble to the proposed rule, we suggested that these criteria were likely to be implemented by increased flows on the lower San Joaquin River. That statement was based on an analysis by the Board staff which concluded that the measures proposed to protect salmon in Draft Decision 1630 would also be adequate to meet these salinity criteria.

Several commenters took issue with these statements and suggested that these criteria should be implemented through reductions in salt loadings from agricultural return flows.

EPA agrees with these commenters, and recommends that the Board develop an implementation plan that builds upon the recommendations of the San Joaquin Valley drainage program and Environmental Defense Fund's recent proposals to
use economic incentives to achieve compliance with the criteria. Through this approach the Board can insure the criteria will not have any additional impacts on water supplies.

Some parties have suggested that these criteria are inconsistent with an ecosystem-based protection plan for the estuary and may even have adverse impacts on some species.

We disagree. We don't believe that setting criteria to reduce the impacts of salt loadings on spawning habitat for sensitive species, including striped bass and Sacramento splittail, is in any way inconsistent with an ecosystem-based approach.

We are also not aware of any evidence that reductions in salt loadings would have adverse impacts on other species. In fact, we note that several parties, including the California Urban Water Agencies and the Association of California Water Agencies have recommended reductions in salt loadings as part of their comprehensive protection plan for the estuary.

4. Suisun Marsh tidal wetlands criteria.

The final recommended criteria is a narrative criteria to protect the tidal wetlands surrounding Suisun Bay. You may recall that EPA's approval of the 1978 Delta Plan was conditioned in part upon the Board's commitment to develop standards to protect aquatic life and the brackish
Because these commitments were not met, EPA specifically disapproved the State's salinity criteria for the marsh because they were not adequate to protect estuarine habitat, wildlife habitat, rare and endangered species, and other fish and wildlife uses of the marsh.

In the proposed rule, therefore, EPA has included two possible narrative criteria for the tidal wetlands, and solicited comment on whether these or other criteria should be included in the final rule.

Let me just clarify here. Those two possible narrative criteria are contained in a special section of the proposed rule that requested comments rather than in the proposed rule.

Based on the comments received on these and other questions, we have further refined this narrative criteria. It provides that water quality conditions be sufficient to support high plant diversity and diverse wildlife habitat, to prevent conversion of brackish marsh to salt marsh, and to protect and maintain sustainable populations of those species vulnerable to increases in water and soil salinity.

We believe that this criteria serves several important purposes:

It fulfills our responsibility to set standards for the tidal marshes;
It addresses concerns raised in the Endangered Species Act consultation process regarding the protection of candidate species dependent upon brackish marsh habitat;

It provides a clear statement that the tidal marsh community should be protected in any comprehensive ecosystem-based protection plan for the estuary;

And it provides an incentive for new and ongoing studies of the marsh to be completed, as the Board recommended in the 1991 plan.

You may recall that in the 1991 Water Quality Control Plan, the Board noted that a biological assessment is needed to determine the water quality requirements of the rare, threatened and endangered species in the managed and unmanaged wetlands around Suisun Bay. The plan stated that the Board would develop amendments and additions to the existing numeric criteria based upon the results of this assessment, and then, in a later action assign responsibility for meeting any changed standards.

EPA supports this approach and encourages the Board to work with the Department of Water Resources, the Department of Fish and Game and others to complete the assessment before the next triennial review.

The narrative criteria will provide a framework for these studies, and insure that protective criteria are in place pending the development of revised numeric criteria
for the marsh.

That concludes my summary of EPA's staff recommendations. Again, each of these criteria are explained in more detail in both our letter to the Fish and Wildlife Service and the National Marine Fisheries Service and our Federal Register notice regarding the fish migration criteria.

Thank you, again, for hearing our comments. We appreciate this opportunity to contribute to the State Board's process, and look forward to working with you and your staff in developing approvable State standards.

MR. CAFFREY: Thank you very much.

MR. WRIGHT: That concludes our presentation and I would like to welcome Chris Mobley here from the National Marine Fisheries Service.

MR. CAFFREY: Do you have a statement you want to make to the Board?

MR. MOBLEY: No.

MR. MEDLIN: I would like to introduce myself. First, I am Joel Medlin. I have recently come to the Sacramento area from the Dakotas, and worked for the Fish and Wildlife Service for a number of years and now I am the Field Supervisor here in Sacramento, California.

I do appreciate being here along with the other members of Club Fed, but I just want to assure the Board
that the Service has a major role in this activity in the establishment of the water quality standards, and especially regarding Endangered Species Act compliance.

We are looking for the long-term solution along with our counterpart federal agencies and obviously under the framework agreement with the State, and I'm very pleased to see the framework agreement as the basis for us to get really involved in the specific issues.

Clearly habitat is a major key to a long-term solution, and basically, that habitat can be broken down into physical, chemical and biological resources or parameters, and certainly, the Service's goal is to work with all the agencies to reverse the downward decline of all the species, not just those that are listed and endangered.

In fact, the mandate of the Endangered Species Act is to conserve natural resources, especially those that are listed, but also, those that are candidates for listing, and we are going to be looking at that long-term solution as a way to hopefully return some of the values that are causing many of the species to decline.

Obviously, key to the Bay-Delta area habitat is the chemical or the water quality standards which EPA and the Board are working on now, and certainly the Service is going to be much involved in reviewing the outcome of those efforts and implementing our Endangered Species Act
requirements.

In that regard, obviously, we are in various forms of consultation on many of the actions right now on the Endangered Species Act and I just felt like I should introduce myself and give you a few brief thoughts on my views.

MR. CAFFREY: Thank you, Mr. Medlin. Welcome to California. I take it, you arrived recently.

MR. MEDLIN: Yes, I came on paper, I arrived in April, but I have been in various stages of moving since, but I am in the office now.

MR. CAFFREY: All right. That completes then the presentation of the Club Fed panel. Thank you, gentlemen.

Let me see if we have questions. Mr. Del Piero.

MR. DEL PIERO: Mr. Wright, in regard to the presentation that you made, I have a couple of questions, if you would be kind enough.

At the end of the first paragraph titled Estuarine Habitat, the last sentence says: These modifications have been endorsed by a broad range of interests.

Whenever I read a sentence like that, I wonder who those broad range of interests are. Are they articulated somewhere so I can see who agreed and who disagreed? There's an implication that there are apparently some who disagreed.
MR. WRIGHT: Well, that may be. I am not aware of any parties that disagree in concept, for instance, with the idea of having a sliding scale or an alternative method of complying.

MR. DEL PIERO: How many were asked?

MR. WRIGHT: We have worked with dozens of interest groups from all parties.

MR. DEL PIERO: Were they asked?

MR. WRIGHT: Oh, yes.

MR. DEL PIERO: Have any of them voiced opposition?

MR. WRIGHT: We have had some disagreement over the technical details of how both the sliding scale and the alternative compliance methods would work.

MR. DEL PIERO: So, it was not unanimous in terms of support for the plan?

MR. WRIGHT: No, I would say not.

MR. DEL PIERO: Do you know who those organizations are so I can get a list?

MR. WRIGHT: What we can do is we can provide you with a list of the participants in the working group sessions that we held on these particular provisions.

MR. DEL PIERO: What good will that do if I don't know who supported and who didn't?

MR. WRIGHT: You will probably have to contact those members directly. In addition, there's a summary that was
prepared by Dr. Wim Kimmerer of a consensus process that as
we indicated was sponsored by both the urban and
environmental interests that wrote up essentially the degree
of consensus that was achieved at those workshops and listed
the participants.

MR. DEL PIERO: Now, no one kept a comprehensive list
of who supported and who opposed?

MR. WRIGHT: I think this is the first time we have
presented the specifics of this, so I am not sure that any
of the parties, with the possible exception of the urban
water agencies, are on record specifically on the specifics
of these two alternatives.

MR. DEL PIERO: So, the broad range of interests
referenced here are none of the water agencies?

MR. WRIGHT: No, again, I would say the broad range
of interests supports the concept behind these major
modifications. There may be some disagreement over some of
the details, but I am not aware of any major disagreement
with either of these.

MR. DEL PIERO: There is no way of my finding out what
potential objections there might be to these
recommendations?

MR. WRIGHT: That is what the Board's hearing is all
about. Hopefully, you will hear that.

MR. DEL PIERO: This is being represented by you as
being endorsed by a broad range of interests.

MR. WRIGHT: As I said, when you look at the summaries of the urban and environmental documents, this reflects that summary -- that summary reflects a broad consensus of a large number of parties.

MR. DEL PIERO: But you don't know who they are?

MR. WRIGHT: No, there's a list of the urban agencies, DWR, environmental groups, including the Bay Institute. I don't have the specific list in front of me, but I can assure that a wide variety of groups was represented.

MR. DEL PIERO: All right. Let me go on to something else then.

The U. S. Environmental Protection Agency, during the tenure I have had with the Water Resources Control Board has repeatedly encouraged the Board to implement a permitting system whereby all agricultural discharges in the San Joaquin and Sacramento Valleys that are contributing to salt loading would be permitted by the Board.

Is that basically what you are recommending under your fish spawning, the third paragraph?

MR. WRIGHT: Not specifically.

MR. DEL PIERO: I want to get real specific on this because I want to know how you would propose this Board implement this recommendation without a permitting process.
MR. WRIGHT: For instance, there are a number of different programs out there that have been developed to reduce agricultural drainage.

MR. DEL PIERO: You are talking about voluntary programs?

MR. WRIGHT: I am talking about all the measures listed in the San Joaquin Valley drainage program and the wide variety of concepts in EDF's recent papers, as well as several others.

We are not prepared today to outline a specific recommended implementation approach, but to merely say that the Board should develop such an approach in order to implement the standards just like the Board does any other water quality standards, whether it be selenium in the valley, copper in the South Bay -- generally in those standard-setting processes, EPA does not show up and try to recommend or prescribe any particular implementation method, but instead, it focuses on the standards that are necessary for protection of the uses.

MR. DEL PIERO: You don't disagree, though, that EPA in the past has, if not outright recommended strongly, encouraged the Board to adopt a regulatory scheme for ag discharge.

MR. WRIGHT: I am not familiar with what our previous statements have been, but it wouldn't surprise me if that is
what our policy has been.

MR. DEL PIERO: Do you have any time line in which this nonspecific program that the Board should adopt should be implemented in order to achieve water quality standards?

MR. WRIGHT: We do not have a specific time frame in mind today, but we would be happy to discuss that with the Board and other parties in developing an implementation plan.

MR. DEL PIERO: The reason I ask that is because the implementation of a program to eliminate salt loading from agricultural return flows could be -- well --

MR. WRIGHT: We recognize it is not going to happen overnight.

MR. DEL PIERO: I don't think we have a staff to implement a permitting program like that for the San Joaquin and Sacramento.

MR. WRIGHT: They might give us a grant.

MR. DEL PIERO: They would have to be giving us a grant for the next 50 years to do something like that given the amount of salt.

I guess I am asking how realistic EPA's expectation is of implementing any kind of proposal like this short of tremendous amounts of funding for the implementation of this very strict regulatory program on all agricultural discharges.
How realistic do you expect this to be in addressing water quality in the Delta?

MR. WRIGHT: I would say we intend to be realistic and flexible regarding the time period it might take to comply with these standards just as we have been with the selenium standard in the valley, which also has a very extended implementation plan that has tried to address that issue as well.

MR. DEL PIERO: Is that within the context of protecting the species of the Delta or in the context of realistic implementation of the program you are recommending?

MR. WRIGHT: Clearly, by law, the standard has to be set at a level that's necessary to protect the use but at the same time the law provides plenty of flexibility in terms of time frames to implement the standards, so I think there is plenty of room for flexibility on that particular issue.

It's not, though, allowable to simply say that because it is difficult to implement, it is allowable not to set a standard. If you have a pollution problem, the law requires you to set the standards and then work towards implementation, and if that takes longer for some standards than others, that can be provided for.

MR. DEL PIERO: I understand. I am not being hard.
I am trying to get really down to some very specific facts and specific recommendations here because I have looked at this real closely and I am becoming concerned that a number of recommendations are sort of open ended in terms of actual implementation of proposals that can be incorporated into a water quality plan that can be sustained, and if, in fact, it is challenged, it appears that there are a lot of recommendations that don't have any specificity, or more significant lack of specificity, and there is a tremendous propensity on the part of all the parties to say, we're going to be very flexible.

I had the occasion yesterday to see some of the most current species indicated in the Delta, not just the regulated indicated species, but pretty much all the species that are evaluated by the Department of Fish and Game, and I am concerned that proposals like this that could be years, if not decades in the implementation, are not going to be realistic in the event someone challenges this water quality plan and points to the very practical immediate population declines in terms of species in the Delta, and in order to avoid this Board losing any more lawsuits, I am looking for real solutions as opposed to we are going to be flexible.

And I am not picking on you, I have heard it repeatedly from all kinds of People, so I guess in terms of me anyway, if there could be a greater degree of specificity
in terms of the timing that you all anticipate for things like a salinity control plan for the San Joaquin Valley so that we can have a realistic discussion on what that actually means so that the agricultural interests that are present here understand that that may well mean a waste discharge permit for everybody that has an agricultural discharge into the San Joaquin Valley.

MR. WRIGHT: Let me just say one additional thing there, and that is, of course, when we published our proposed rule, we got two very different sets of comments on the issue of implementation.

One party said because EPA has no authority over implementation, we shouldn't say anything about it.

And another said that how can you possibly expect the parties or the Board to accept the standards without describing in excruciating detail exactly how it would be implemented.

What we are trying to do is also balance those two competing views. In doing that, we would certainly be happy to talk to you and your staff about what is realistic in the San Joaquin Valley.

That's about all I can say.

MR. DEL PIERO: I would hope that if there are proposals made not only by fed and the agencies that you all represent, but by everyone here, if there are proposals
being made that there be a degree of specificity so we understand what the practical implication of those recommendations is going to be.

Having had some discussion with the people from the San Joaquin Valley before in regard to the potential of their having to get a waste discharge permit for their ag drains, there may be some small amount of antagonism to that idea.

MR. WRIGHT: Let me just make one final point and that is, of course, we believe merely by setting a standard, even if the implementation plan is going to take quite some time, we strongly believe that setting the standard itself is a powerful incentive for those things to happen.

If you have been reading from the other parties', virtually all of the interests in the state agree that salt loading should be reduced and the standard provide the framework and a mechanism for that to happen.

MR. DEL PIERO: There are a lot of things everybody agrees on. Implementation is the issue.

MR. WRIGHT: We hear you.

MR. CAFFREY: Ms. Forster, and then Mr. Brown.

MS. FORSTER: I want to compliment you, Patrick, on the progress that you have made in this report today.

I have a question about what you mean here in the third paragraph where it says: The first set of documents
were contained in a notice of availability that was published in the Federal Register last Friday; the second set were part of a letter sent earlier this week from EPA to the Fish and Wildlife Service and the National Marine Fisheries Service as part of the Endangered Species Act consultation process.

It is my hope, and I guess I want you to respond to this, it is my hope that the Club Fed group, when you are working on your standards and the water that will be dedicated to your standards, that you are not just narrowly looking at the Clean Water Act, but you are also looking at the block of water that satisfies the Clean Water Act and the Endangered Species Act, and what you represent as the amount of water needed for fish and wildlife takes care of all of your issues, and then, that hopefully would translate into the certainty and the shelf life, the word that people use.

Is that how you are working at Club Fed?

MR. WRIGHT: We have been striving very hard to make sure that we try to integrate the federal actions as much as we can, and in particular, to make sure that standards, particularly State standards, will be driving the system rather than the Endangered Species Act, and the consultation process is the right vehicle for doing that.

We want to make sure that through the broader habitat
based approach that's represented by the standards, we can try to protect the needs of not only those species that are listed now, but the wider variety of species so we can preclude the need for additional listing and not have water supply impacts above and beyond what's required for the standards caused by either additional listings or take restrictions, or other mechanisms under the Endangered Species Act.

It's a bit of a challenge, but that's been our goal from the beginning.

MR. CAFFREY: I asked Ms. Forster if she would yield and she said she would.

I want to make sure I understand what you are saying. You seem to be saying that you would look to the State Water Board, and this is my inference, I can't remember the exact words you used, but you seem to be saying you look to the State Water Board to pick up the pieces for the guarantee of the shelf life after you do what you do.

That worries some a little bit because I would like to think that the framework agreement reflects that when you produce your standards, that they will be represented by the Federal Government as a package deal, and that there will be a certification therein that there is a shelf-life guarantee of some specific amount of time, because I'm afraid if that doesn't happen, and I am not saying we are sending you off
by yourself to do that, but that if we are not able to use
dthis mechanism that you have described this morning or some
other mechanism in the near future to fashion something that
we all understand and agree to provides us the needed
reliability we need for all beneficial uses in terms of
water supply, I am afraid that a lot of this will be for
naught, so I really think that whatever is done really has
to have all that happening at once because we won't have the
reliability.

MR. WRIGHT: I didn't mean to imply that at all. I
merely referenced the State, in anticipation that the State
will be adopting approvable standards next spring so EPA's
role and the role of the federal agencies under ESA therefore
will be minimized.

MS. FORSTER: I just wanted to wrap up by saying in
studying for the workshop today, Patrick, I was reading
statistics and reports and numbers, and one of the things
that worries me is that this year just the take costs 1.4
million acre-feet.

Well, if we go with that and we come up with an
allocation for fish and wildlife that greatly enhances the
ecosystem productivity of the Bay-Delta and is a major
increase in the goal that we are all working toward, and
then we have this 1.4 million or whatever it is going to be
every year, that doesn't work for either of us as serving
Californians, and so that's why those kinds of statistics make me nervous on how we are going to resolve that in a real prudent reasonable fashion.

MR. WRIGHT: It makes us nervous, too, and we are working around the clock to make sure we try to come up with an integrated package that doesn't have that result. Hopefully, by December 15 we will get there. We have a number of different processes going on as part of both the consultation process and the biological opinions that are being prepared to try to avoid that situation.

We are not yet prepared to tell you exactly how we propose to do that, but that certainly will be a major focus of our discussion in the next couple of months.

MR. CAFFREY: Mr. Brown had a question.

MR. BROWN: Mr. Wright, when you speak about return flow from the Central Valley Project and the State Water Project supplying irrigation water to the San Joaquin Valley at the rate of about one ton of salts per acre per year, there are several problems associated, of course, with agricultural drainage and we are concerned with water quality as it affects the ecosystem.

There is another major concern as to the accumulation of salts in the San Joaquin Valley and in the root zone where these kinds of problems have helped to destroy civilizations in the past, and it seems if you are going to
address the first part of improving drainage water quality, that the second part also needs to be addressed.

You can't continue to accumulate salts in a closed system without destroying the agricultural community, or certainly degrading those districts that are affected by this and who have worked hard over the years to improve their irrigation system.

They have closed off a number of tile drainage systems and practically all of the tail water recovery systems.

There's maybe some more improvements that you can do, and you talk about economic incentives and such, but it seems like until you develop a salt balance or until we develop a salt balance of this closed system and have some way of exporting salts as well as importing them through these plans, that the long-term solution will not be addressed.

Have you given any consideration to a long-term solution to the problem?

MR. WRIGHT: Certainly a number of other people in EPA are working with the Board and other parties to try to address that issue, not only as I said before, to address salt loadings, but selenium loadings and other issues, and I certainly agree with most of the parties that any kind of implementation for this standard or any other standard
should be developed as a part of a broader comprehensive plan to try to deal with all of these issues.

I don't want to in any way minimize the complexity of the difficulty in trying to do that and we are participating in various efforts.

MR. BROWN: I am not concerned with the complexity -- yes, I am concerned with complexity, but I am concerned with doing one without the other. If we just cut off drainage, and all the options that we are talking about does this, if we just cut off drainage, we solve half of the problem but we haven't addressed the other half.

Can we address half of the problem without addressing the whole?

MR. WRIGHT: Again, I am not personally involved in our efforts to deal specifically --

MR. BROWN: Well, that's what you are suggesting here.

MR. WRIGHT: No, I am suggesting that the Board adopt and work with the parties on an implementation plan for this standard, which is the same recommendation that you are hearing from the Association of California Water Agencies and the California Urban Water Agencies, that a salt load reduction program should be implemented as a part of a broader program in the valley to deal with agricultural drainage.
That's all we are prepared to say at this point.

I recognize, as other Board members have suggested, that we need to make more progress on specifics. We are not hearing a lot of specifics from any of the parties right now, but we would be happy to participate in discussions and work towards an implementation plan that is flexible and deals with the issues that you have raised.

MR. BROWN: Thank you, Mr. Wright.

MR. CAFFREY: Mr. Stubchaer.

MR. STUBCHAER: About three weeks ago, I believe, Secretary Babbitt issued a press release on a habitat conservation plan agreement for terrestrial species in Southern California that guaranteed a certain life of, he said 15 years or a decade.

I am wondering if Club Fed is considering such an agreement or such a plan, a conservation agreement to give the certainty that was discussed earlier in connection with the Bay-Delta proceedings.

MR. MEDLIN: I could try to answer that. We are acutely aware of that effort on the part of Secretary Babbitt, and I would like to indicate that was a national policy. It did focus on a wide area of planning issues and the ACP planning effort in the southern part of the State, but indeed, the concept that he is talking about is being looked at and implemented nationwide on all of the Service's
activities on the Endangered Species Act, so I would like to clarify that wasn't for just the southern part of the State.

And specifically to the Bay-Delta and to a long-term approach that I have visited with a little bit earlier, and Dan visited a little earlier on, that's indeed our hope that we can be planning ahead long enough in an areawide plan type of concept that we can address reversing the downward decline of the many many species that are on the proposed list or the candidate list for federal listing, and indeed, reverse that trend through the process we are talking about here, and I tried to emphasize the water quality standards are a very important part of that.

So, indeed, we are thinking along that line and we are looking to implementing those kinds of things.

MR. STUBCHAER: You emphasized the long-term process. What about a tie to the standards that we are working on and thereby gaining the certainty and shelf life we have been referring to, or maybe a couple of triennial reviews, not decades.

MR. MEDLIN: That is the point I was going to make. Indeed, I understand certainly the significance of setting this criteria this year and going through the consultation process with EPA's proposals. We have to do that. We are forced to move toward that but, indeed, we should look at the setting of standards in the near term over maybe a
couple of triennials, or whatever you call those, the three-
year review, to get to where we have to be, and the litmus
test for all of that is going to be reversing that downward
trend of all the species.

MR. STUBCHAER: Thank you.

MR. CAFFREY: Just for clarification on that, does
that mean, Mr. Medlin, that you would pretty much --
regardless of what happened, let some agreed upon period of
time expire to see what those results are, and I am talking
about shelf life again?

I realize it is difficult for you in terms of the
traditional approach of the Federal Government to listing
and how you react to them, but I think this is really a
critical point that there needs to be some certification for
the sake of reliability that at least for some period of
time we are going to observe what happens to the species. I
don't know if they are going to dip slightly before they
climb or what.

How are you going to deal with that?

MR. MEDLIN: I think the way we are visualizing that
is to establish a monitoring program and try to understand
through the framework agreement process and try to detect
this reverse in the downward trend; in other words, that
this will really assist in reversing that and actually
conserve species and increase the species.
MR. CAFFREY: Mr. Del Piero.

MR. DEL PIERO: Mr. Medlin, let me suggest our staff has -- I saw them yesterday for the first time and they are very good -- has charted out the monitoring the California Department of Fish and Game has been doing on population declines on virtually large numbers of species, not just target species, and those are available from our staff.

If you would like to get those, they show over the last two or three decades what's been going on.

MR. MEDLIN: I am certain my staff has been involved in that and has copies already.

MR. DEL PIERO: You might want to avail yourself of those so you can see what the current situation is.

One question I have of Mr. Wright and then I have no more questions after that, Mr. Chairman.

Mr. Wright, in the event the Board chooses not to pursue the proposal that you have recommended, basically the Board chooses not to pursue addressing the salinity problem in as comprehensive a fashion as EPA would like, and whether the Board chooses not to pursue it through a permitting process or some kind of enforceable voluntary program, although that's a contradiction in terms, wouldn't EPA's recommendation for outflow go back up again?

MR. WRIGHT: No. The answer is no, it would not.

Each of our standards are directed at protecting different
designated uses, although certainly there is overlap between
them.

There is no mechanism under the Clean Water Act for
us to specify any kind of implementation measures to begin
with.

MR. DEL PIERO: I am not asking you whether or not
you can specify limitation measures. I am asking about your
recommendations. You have indicated a reduction in what you
anticipated the outflow requirements were going to be, based
on modifications to your proposal, one of which is the
recommendation to us that we implement a salinity loading
control program.

MR. WRIGHT: Right.

MR. DEL PIERO: Maybe I wasn't clear. In the event
we don't do what you have recommended and what your
subsequent modifications downward in terms of water
recommendations are, will your recommendation for outflow go
back up again?

MR. WRIGHT: Okay. Clearly, if the State Board
chooses not to implement a program to reduce agricultural
drainage and chooses instead to increase reservoir releases
to meet that standard, obviously that would have an
increased water supply impact.

We are not recommending that. In fact, I think it is
probably safe to say that we would not recommend increased
reservoir releases to meet that standard under any circumstances.

Certainly, it's always been EPA's policy that you should not be using dilution essentially to meet a standard. You should be trying to control it at the source.

MR. DEL PIERO: Would you sue the Board then to enforce water quality standards -- I don't want to ask you that.

Is it likely that EPA would consider suing the Board?

MR. WRIGHT: I think it would be unlikely, but I have to defer that to our attorneys.

MR. DEL PIERO: Then, what is the impact of your recommendation on salinity standards?

MR. WRIGHT: Then, our recommendations on implementation measures have no legal or other impact. We have no authority over implementation. That is completely up to the State.

MR. DEL PIERO: I am not asking that question. I am not trying to pin you down to that. I am talking about from a substantive ecosystem standard.

If the Board chooses not to address the salinity problem, what would EPA's recommendation be?

MR. WRIGHT: Our recommendation would not change, just as it wouldn't change if --

MR. DEL PIERO: So, your recommendation would be fix
the salinity problem under any circumstances, and if the Board chose not to do it, then EPA has no other position other than fix the salinity problem?

MR. WRIGHT: I would say we wouldn't treat it any differently than a copper standard for South Bay. If the dischargers refuse to implement it, in that case, we have direct authority. In this case, we don't.

MR. DEL PIERO: You answered my question. Thank you.

MR. WRIGHT: I am not trying to evade your question.

MR. DEL PIERO: I don't think you are. You answered it. You said you would deal with it in the same way you would with the copper standard in the South Bay and we know how you dealt with that.

MR. WRIGHT: No, as I said, we would not because we do not have direct authority in this case, where in that we do have direct permitting authority. It is a very different situation. We have no direct authority, so in that case it is possible, I understand from our attorneys, that there could be some litigation under State law, but under Federal law, I don't know that we have any authority to require implementation of the standards.

MR. DEL PIERO: Okay. Then, let me ask the last question again. Under your water quality authority under the Clean Water Act where this process started, what recommendation could you make for water quality standards in
the Delta since as part of this recommendation you have reduced your recommendation for outflow on the assumption of certain things taking place.

MR. WRIGHT: I'm sorry, I don't follow the question.

MR. CAFFREY: I didn't follow it either.

MR. DEL PIERO: Mr. Wright, I will help you out. I will write it down and send it to you.

MR. WRIGHT: Okay, that would be helpful. We would be happy to discuss this with you further, and clearly, what we are trying to do here is --

MR. DEL PIERO: The one regret that I have is this is the last hearing where I get to ask the questions.

MR. CAFFREY: That is not the case. We are going to be meeting in October and hopefully on a positive note where the parties and the agencies bring back perhaps something that the Board can use as a preferred alternative.

MR. DEL PIERO: I guess the point I am trying to get to, Mr. Chairman, is that the recommendation here assumes that the Board is going to implement -- candidly I don't think there's any big secret here about what's been considered to be a very onerous process, a very onerous permitting process and permitting scheme by the farmers in the San Joaquin Valley for a good number of years, long before I arrived here, and if that is the key to resolving the water quality problems in the Delta from the standpoint
of federal agencies, the reduction in outflow being proposed by Club Fed may cause it to appear that Club Fed is being particularly flexible, and then putting the State Board in the position of regulating every agricultural discharge in the San Joaquin Valley.

I don't know if that's ultimately a particularly good position for the State of California to find itself in. It may be realistically the position we find ourselves in, but if it is, then I just hope everybody understands what is being recommended to us.

MR. WRIGHT: I am not sure that you are in any different position with this standard than you are with the existing selenium criteria in the same water bodies and the toxic pollutants that are there.

MR. DEL PIERO: I don't disagree with that at all.

MR. WRIGHT: Given that you will be receiving recommendations from a number of parties to include reductions in salt loadings as part of the comprehensive plan, perhaps it would be appropriate for the parties to hold a workshop on that topic and come back to you with a set of recommendations that provides the flexibility you are looking for.

We would be happy to participate in that kind of process.

MR. CAFFREY: Any other questions?
Ms. Leidigh has a question.

MS. LEIDIGH: My question is for Mr. Medlin. You were asked several questions by Mr. Stubchaer about the fishery agencies' process with the ecosystem protection habitat conservation plans, so I want to ask a little more directly with regard to the Delta whether you have any specific recommendations for requirements at times of the year other than those that you have already specified in biological opinions.

For example, you have other fish, in particular the splittail, that are under consideration for listing. If there were standards that would protect those, it seems possible that you might not have to list them, but we haven't heard from you as to what sort of standards might be needed in order to achieve that.

I think as part of the framework agreement and part of this proceeding, it would be helpful to the Board if you could tell us right away, as soon as possible, what potential standards would help with that overall ecosystem-protection approach.

MR. MEDLIN: I am not prepared personally today to answer that, but I agree conceptually with what you are asking, and certainly in the process that we are going through right now with EPA's consultation process on the standards, that's the very things that will be addressed.
On the candidate species, I agree, in fact, we need to be thinking ahead far enough so that we can look at the candidates and try to develop some standards and provide inputs on those measures that would actually reverse the downward trend.

Conceptually what's good for the Delta smelt are also going to be good for many of the other estuarine species that we are talking about, so that's the way I would answer that right now.

I agree with the need to provide additional information.

MS. LEIDIGH: Is there any change that in the fairly near future you would be able to provide the Board with additional information on that?

MR. MEDLIN: Yes, I think so.

MS. LEIDIGH: If you can, I think the Board would certainly appreciate that.

MR. MEDLIN: Okay.

MS. LEIDIGH: Mr. Caffrey outlined the method for sending copies to the Board and copies to the parties, and we would appreciate that as early as possible.

MR. MEDLIN: Okay.

MS. LEIDIGH: Thank you.

MR. CAFFREY: Any other questions from staff?

Anything else from the Board members?
Mr. Brown.

MR. BROWN: Mr. Wright, I thought I was through with the salinity problem in the San Joaquin Valley until I heard you say, control salinity at its source.

Are you familiar with the evaporation box?

MR. WRIGHT: Generally.

MR. BROWN: You take the tailwater and tile water from agricultural drainage and growers have developed these large ponds through a drainage district and such to contain the drainwater, evaporate it off to control salts at the source.

Those ponds are under critical fire right now because of the accumulation of the toxics that are gathering in the evaporated water and the condensing of the salt and such to the point where there is considerable support from various communities to close the ponds off.

What ideas did you have in mind when you say control it at the source?

MR. WRIGHT: I was merely trying to say that we would certainly recommend that the standards be dealt with as part of a comprehensive plan to deal with the drainage issues rather than the reservoir releases, and certainly, we would be happy to work with you and your staff to talk about what EPA staff recommends would be on that long-term program as I talked about before.
But we don't have any specific recommendations today on how we believe the Board should implement the standards.

MR. BROWN: Okay. Thank you.

MR. CAFFREY: Let me just say to you gentlemen, you've heard concerns of some of the Board members today and I continue to be very hopeful that we are going to be able to work something out that all the parties can be satisfied with and provide reliability for all of the beneficial uses, and I hope and trust that you gentlemen and your agencies are going to participate in the meetings with Mr. Pettit, and then thereafter in the workshop with the Board again in trying to narrow the alternatives and come up with something that is acceptable.

We thank you very much for your exchange today and your presentation. We appreciate your being here.

MR. WRIGHT: Thank you.

MR. CAFFREY: Dick Daniel from the State Department of Fish and Game.

Good morning, sir.

MR. DANIEL: Good morning.

For your record, I am Dick Daniel California Department of Fish and Game. I serve as the Water Management Coordinator for the Department.

Very briefly this morning, it is our understanding that the recommendations that the Department of Fish and Game
has offered as the trustee agency for fish and wildlife for
the State of California have been considered and are being
modeled as part of your ongoing process of evaluation and
consideration.

Therefore, we won't present any additional formal
testimony today, but we do feel it is appropriate at this
time to restate several of the basic principles that we have
advocated through this summer's process in order to keep
those in focus as you go off and commence your deliberation.

First of all, the interim goal: We stated very early
on that we thought it was appropriate to use the population
levels or the fishes in the Delta that were present during
the mid-sixties and the early seventies as an interim goal.
We want to continue to remind you that the overall objective
should be restoration of the ecological integrity of the
Delta.

We believe that is reflected in both State and
Federal law in terms of the doubling objective that we have
before us.

We very strongly continue to support the
comprehensive ecosystem approach that we and others have
advocated. We think that the regulations that are
eventually implemented should use the basic mechanism of
outflow and export restrictions in order to achieve their
goals.
Further, we want to reiterate that year-around protection is particularly essential if we are going to reach our goals of ecosystem restoration.

We believe that in an effort to restore the ecosystem of the Delta as a whole, it will be necessary for all water rights holders who divert runoff which would otherwise reach the Delta to participate in an equitable allocation of responsibility for additional outflow.

This is particularly important on the San Joaquin side of the Delta and may well have a relationship to the problems associated with salinity.

We support the idea of establishing a Delta ecosystem restoration fund which could be used to purchase water, could be used to support water conservation measures, and which potentially could serve as part of the State's cost share for activities under the Central Valley Project Improvement Act.

Specific to the Suisun Marsh, we continue to support the existing Suisun Marsh Preservation Agreement and its standards. We believe that some refinements in terms of the day-to-day management and use of water would improve the quality of the habitat in the Suisun Marsh as it is driven by the Suisun Marsh Agreement.

We believe that something like a water master service could be instituted that would further improve habitat
quality under the existing standards.

We suggest that it is appropriate for you to admonish all State, local and Federal agencies who regulate or affect the Delta ecosystem to work together to develop a comprehensive plan and regulatory program that complements your efforts and those of the EPA, and hastens our eventual success.

Finally, it goes without saying that this is an urgent matter. Mr. Del Piero referenced the rather distressing statistics that have accumulated over the last three or four decades. This is not something that we can put off much longer. We urge you to go forward with as much implementation as you possibly can as soon as you possibly can.

Thank you, that's all I have to say. I would be happy to respond to any questions.

MR. CAFFREY: Thank you, Mr. Daniel.

Any questions from the Board members?

Mr. Brown.

MR. BROWN: Mr. Daniel, you stated all water rights holders should be responsible.

Do you think there should be any distinction made between junior and senior water rights holders?

MR. DANIEL: Frankly, the recommendation that we are making can't be implemented under the State water rights law
without very dramatic reformation of that law.

We believe it is essential that contributions to Delta outflow come from all its tributaries. Part of the problem that has not been comprehensively looked at is the fact that production of fishes upstream of the Delta hasn't been dealt with yet as well.

And our proposal for an ecosystem approach shows upstream issues are a part of the problem and have to be resolved.

There are a number of water rights decisions that are currently pending before your Board that go a long ways toward dealing with that problem, but it is going to be very very difficult within the context of our appropriative water rights system to go in and comprehensively re-evaluate the appropriateness of those original appropriations.

But we think it needs to be done and in doing so, I think you are going to have to under current law address the priority that the vast majority of the currently noncontributing water rights holders have.

MR. BROWN: A second question: I didn't understand, a water master service to improve the habitat?

MR. DANIEL: I really don't have the right term to present to you, but it is a fact that because the vast majority of the landowners in the Suisun Marsh are absentee landowners, because they rely on caretakers to manage the
water for them, there are inconsistent applications of water, inconsistent timing of use of water, and we are not deriving the full benefits of the standards that currently exist.

MR. BROWN: Thank you. That's very good. Thank you, Mr. Daniel.

MR. CAFFREY: Anything else from the Board members? Anything from staff?

Thank you, Mr. Daniel.

David Anderson, Department of Water Resources.

Good morning, Mr. Anderson.

MR. ANDERSON: Good morning, Mr. Chairman and members of the Board.

I am David Anderson representing the Department of Water Resources.

I have just delivered to Barbara 20 copies of comments. I neglected to provide those earlier.

I also provided 10 additional copies of the memorandum that I delivered to the Board yesterday and I will refer to in my comments.

MR. DEL PIERO: Mr. Anderson, does the Department have any agricultural drains that discharge into the San Joaquin River? I am just checking.

MR. ANDERSON: I am making no comment on that.

MR. DEL PIERO: Do you want any?
MR. CAFFREY: The record already shows that Mr. Del Piero said he wasn't being hard today.

Please proceed, Mr. Anderson.

MR. ANDERSON: Thanks, Mr. Chairman.

We have three points to make today on the topics that have been noticed by the Board for this workshop.

The first is the issue of the Board's authority to adopt planning objectives for flow and diversion.

The second is our specific request for the Board to adopt the suite of agreements for the protection of the Suisun Marsh and the Suisun Marsh area, and the related Suisun Marsh preservation monitoring agreement to satisfy the water quality objectives for the Suisun Marsh area.

And the third is support for the Board's recognition of the need for the Board to entertain a thorough and open discussion of the various control parameters and factors that are the basis of the various protective standards for aquatic resources that have been proposed in your alternatives solicitation.

The first two issues I think we can deal with in fairly short order. I refer to the 10 copies of the memo on the issue of Board authority that I gave to the Board yesterday and an additional 10 copies to Barbara.

I think that the authorities that are described in that memo enable the Board to develop and adopt a plan for
flow and diversion at the same time that it adopts a comprehensive water quality control plan for the estuary.

We have discussed this topic frequently with the Board twice in this workshop and I think the memo pretty much stands on its own.

I would note that we firmly believe that the Board may combine the water quality and non-water quality planning efforts into a single document under essentially an identical analytic approach.

I note that Mr. Del Piero was concerned when we talked about this originally, that this might create some obstruction or impediment to the Board's quickly proceeding with the business it has at hand.

I think looking at this rather deeply that this should not delay at all or otherwise create an impediment or complication to the Board's accomplishing the adoption of new objectives within the time frame that the Board has set for these purposes.

As we indicated in the first of these workshops in April, we are making specific recommendations to the Board on the Suisun Marsh. It is basically the same one I think I heard Dick Daniel make, and it is a recommendation that we made several times before to the Board, both in the context of water quality planning and in terms of implementation scenarios, one as a petition for an interim standard pending
the achievement of the Board's water rights phase Bay-Delta
hearings, and then, again, as a recommendation for
implementation in the D-1630 hearings.

We think that the agreement provides a flexible and
cooperative planning and management approach by the four
public agencies signatory to it and it is a process which is
attended regularly by the Board staff, and it is an
excellent approach for dealing with needs and uncertainties
of the beneficial uses of this important wetland area.

I would note that we negotiated and entered into
these agreements with the express purpose of their becoming
a substitute for water standards in this area, and Congress
specifically authorized the Bureau to execute and
participate in them.

The third issue the Department wishes to address is
the need for the Board and the parties to engage openly in an
inquiry into the diverse factors and control parameters
which have been put forward as the basis for standards, and
this is the point that the Chairman addressed up front in
introducing this workshop, and we certainly support what the
Board is intending to do. We think it is absolutely
warranted and it is going to be extremely beneficial to have
the Board run through these things with the public, with the
biologists mainly, and have them discuss the various aspects
of these things and what they think of them.
We think we have prepared a matrix here which simply sets forth control parameters. It is attached to the back of the statement, a copy of it.

The various control parameters which are mentioned or used in the various alternatives which have in some sense come before us, not only the ones we mentioned in the recent Board staff memo requesting analysis, but also, includes the various EPA proposals, biological opinions for Delta smelt and for winter-run salmon.

These regulatory schemes and scenarios present different parameters for different seasons and different durations under differing degrees of restriction to protect fish and wildlife uses.

And we think that these differences reflect in great part the fundamental uncertainties which pervade our understanding of the Bay-Delta system, its condition and the effectiveness of measures proposed to protect it. And yet, it is from these proposed parameters that the Board must choose something which both affords reasonable protection to aquatic resources with some reasonable assurance of providing material benefit, and which gives urban and agricultural users a reliable and useful water supply.

We think that as the Board proceeds over the next few weeks to analyze its planning alternatives, we think it is
essential that it take this opportunity to hold this
colloquy on the proposed factors to explore and understand
with the biologists what they think is important.

It goes without saying that there's been a community
of good scientists devoting virtually their entire
professional lives to enhancing our understanding of the
Bay-Delta system, and it also goes without saying that what
they produce is what we call good science.

But unfortunately, good science has not produced
scientific certainty, or putting it obversely, it has not
diminished uncertainty, fundamental uncertainties in certain
important areas. And it has not given us what I would call
reliable solutions to the problems that we perceive exist.

We have said many times before that this uncertainty
issue must be addressed directly as the Board considers
alternative standards or objectives for the Bay-Delta
estuary.

Decisions in systems as complex and uncertain as the
Bay-Delta estuary certainly must be made notwithstanding the
fact there is uncertainty. But, as we have said before, the
Board's decisions must reflect, not mask, that underlying
uncertainty; and to be reflected whether it is in the
weighing and balancing processes of the Board's decision
making or the in the ultimate decisions themselves, it must
first be recognized and understood.
We propose this matrix as perhaps one vehicle that may be used, certainly it can be flushed out for the Board to look at. I think a number of the parameters that are up there give an indication of the kind of problems that we would like to see the Board discuss with the biologists. For example, one of the parameters is cross-channel gate closure and this is an issue on which most of us, I think, have thought we had some degree of consensus that it provides some benefits to anadromous species on the Sacramento site, although we will admit that the degree of benefit, I think, has always been an issue.

Today there seems to be a growing school of thought that closing may be detrimental. We would like to see that discussed as to what people think and what the consensus view is, where the uncertainty lies.

Pulse flows is another issue. A few years ago we were thinking it was a good sounding idea to transport fish to Suisun Bay by the mechanism of pulse flows. I think we even recommended trying pulse flows in our D-1630 recommendations.

Now, I think the idea is greatly in question not only because we wonder how the management size of releases could overcome the effect of huge tidal flows slushing back and forth in the western part of the Delta, but also, because of our recent experience with Delta smelt.
Pulse flows were provided. It seemed that either the flows were inadequate, or which seems to me to be more likely, that the smelt did not respond to flow as a cue to move west.

QWEST is another one, which is another parameter that I think raises a lot of questions and a lot of uncertainties which we would like to see the scientists address.

What is QWEST really trying to accomplish? Is it intended to protect organisms from reverse flow in the lower San Joaquin River? Does it even stand for reverse flow at all times in this portion of the river? Is it a surrogate to control reverse flow in other portions of the channel? Is it really a mechanism for export control, or is it a mechanism for entrainment control?

We would like to hear these issues joined.

Another issue on QWEST is do the swimming fish, anadromous out-migrating salmon even recognize or respond to differences in QWEST, much less benefit from them.

We have a category there called Delta habitat and it lists a number of factors under that. Are those really habitat factors or is what is being described or attempting to be controlled there really an issue of direct loss as opposed to alterations of habitat?

Then, of course, there is X2. I am not going to say anything more about X2. We have talked at great length
about what it is really intending to accomplish. It looks for the most part that it is intending to be an outflow mechanism for transport or for removing organisms from the influence of diversions, but again, we need to make sure that people who propose X2 have a common view as to what they are trying to achieve by it.

We propose that at the workshops that the Board will be conducting, that parameters of this matrix if the Board chooses to use such a vehicle as this, be discussed with reference to at least these following points:

- The nature and degree of biological benefit that the parameter is purported to confer;
- The certainty of that biological benefit;
- The ability to model or predict the benefit and/or cost of that parameter;
- The existence of agreement or consensus of scientists on the scientific justification for the proposed parameter and how it is intended to work;
- The impacts on water supply reliability of using a particular parameter;
- And the efficiency of water use for the proposed benefit; that is to say, may we select a parameter that is less water costly than one which may perhaps be proposed.
This is all by way of addressing this question about certainty, an unenviable task by the Board but a necessary task.

It is also true that if uncertainty is central to the Board's arriving at standards for fish and wildlife uses, it gives reasonable protection based on best scientific understanding of the estuary, an absolutely equal concern, and one we have heard today already in your discussions with the federal representatives, is that the regulation of the Delta provide the greatest degree of certainty and reliability to other users of water in the Bay-Delta system.

This is one of the key themes of Governor Wilson's water policy statement of April, 1992, to restore stability to Delta water supplies.

We think water supply is an equally key point in the recently signed Federal-State framework agreement, and as Mr. Stubchaer noted, most recently Interior Secretary Babbitt sounded this same theme in regard to endangered species regulation. He announced a federal policy of no surprises, which we have heard discussed here. This is the cornerstone for agreements reached on habitat planning for endangered species. This policy recognizes the critical need for certainty and predictability for private, State and local decision making.

Finally, it embraces, first, the virtue and
importance of federal agencies actually entering into an 
agreement, planning agreement, with nonfederal interests, 
and then, it declares that the paramount rule to govern 
these agreements is that a deal is a deal, that federal 
agencies should not disturb but should respect the 
expectations and autonomy of nonfederal parties to the deal. 

We believe that what the Board should now be crafting 
is an ecosystem management plan, and we see that phrase 
being used by CUWA and others, for the estuary, which will 
constitute a sensible and reliable deal with the federal 
interests which will allow California to resume fundamental 
control over its natural resources and its social, economic 
and environmental future.

To provide certainty and reliability for water users 
of the State, the deal must include the following essential 
features with respect to the role which is to be played by 
water users and the water angle of this recognizing, of 
course, that there are factors in parts of this deal that 
are broader than those things which may come directly under 
Board regulation.

First, it must allocate a specific quantity of water 
by water year type to the fish and wildlife resources of the 
estuary so that other users may plan based on the most 
reliable indices of water supply.

Second, it must have multiyear shelf life or freedom
from new restrictions attended, of course, with reasonable
review and the possibility for minor real-time
modifications, but shelf life.

It must satisfy us that as an ecosystem management
plan, it will produce no jeopardy biological opinions for
the water project in the Delta, the imposition of no
quantitative take limits in the incidental take statements,
and the assurance that new species listings will not impose
new regulatory constraints on Bay-Delta water use.

We think those are the essential elements of what
ought to be produced at the end of this process which ought
to give us those benefits.

In closing, I would underscore the fact that we
strongly support the Board's announced intention to hold
further sessions to discuss and critique the parameters that
appear in the various sets of proposed alternative
standards; and second, I want to assure everyone here that
it is our view that there should be no backing off the time
frame the Board is currently working under.

We see these future sessions that Chairman Caffrey
announced as not being an added step, but certainly an
integral part of the Board's deliberation and consideration
of planning objectives for the estuary.

Those are my comments. Thank you.

MR. CAFFREY: Thank you, Mr. Anderson. That's an
interesting matrix.

I think Mr. Stubchaer has a question.

MR. STUBCHAER: I want to thank you for the matrix. You have one column there called EPA Proposals, December '94.

That's three months in the future. How do you know that?

MR. ANDERSON: Obviously, this is a living document and something which we hope will get filled in.

MR. STUBCHAER: There must be some basis.

MR. ANDERSON: I am not sure exactly what the state of EPA's proposals is currently, but we understand EPA is in the process of making some new proposals, or as Patrick Wright said, modifying the ones that they have. That is what we intended by that.

Maybe that's not the best way to describe these proposals, but that's what is intended by it.

MR. STUBCHAER: Thank you.

MR. CAFFREY: Any other questions from Board members?

Mr. Del Piero.

MR. DEL PIERO: I have one question, Mr. Anderson.

In terms of the proposal that you put forward, you indicated the necessity for a degree of certainty, and you articulated the number of criteria that you felt were appropriate to be incorporated.
This Board is obliged to do a balancing act. The Department of Water Resources is obliged to represent the Department of Water Resources.

What would you consider to be the other criteria to be incorporated into your so-called proposal that would be sacrosanct and from which no deviation would be allowed in terms of environmental resources.

MR. ANDERSON: This is in terms of the ecosystem management plan?

MR. DEL PIERO: I'm talking about in terms of -- we are going through this process underlying the 1992 water policy statement made by the Governor in San Diego. It included a lot of things. The most often quoted line from that presentation is that the Delta was broken.

That's a reflection of the precipitous declines in the specific species.

In your proposal you articulated a series of criteria that you thought should not be allowed to be deviated from as part of your proposal. What criteria does the Department of Water Resources propose in terms of the environmental resources in the Delta so as to help this Board decide from a balancing standard what we should do?

MR. ANDERSON: I think that the word balance is exactly it. Maybe at this point it precludes the identification of hard and fast criteria.
MR. DEL PIERO: It didn't preclude you from those hard and fast criteria you articulated.

MR. ANDERSON: The reason I am a little bit confused is I had two sets of criteria, one with respect to the parameters and the other with respect to conditions we would like to see in the ecosystem management plan, the deal, and I am simply using that because a deal is a deal was the phrase that Secretary Babbitt used. We will stop using it.

I certainly agree and I don't disagree whatsoever with the idea that the Board must balance, balance and achieve reasonable use which implies balancing. Obviously, there are a number of policies which have been announced by the Legislature and other sources which influence and which weight the factors in that balancing.

MR. DEL PIERO: I am looking for specific criteria. Has the Department of Water Resources established specific criteria in regard to species?

MR. ANDERSON: No, sir.

MR. DEL PIERO: Thank you.

MR. CAFFREY: Any other questions? Anything from staff?

Thank you, Mr. Anderson.

Our next presentation will be by David Fullerton and Gregory Thomas. I believe these gentlemen are here.

Wait a minute, I am out of sequence here. I
apologize. I have got two stacks here and we are still on the public agencies.

I apologize to Mr. Thomas and Mr. Fullerton.

Our next speakers are Dave Whitridge and Alex Hildebrand. We will get to you other gentlemen.

MR. WHITRIDGE: Good morning, Mr. Chairman.

I am David Whitridge on behalf of the South Delta Water Agency.

We have commented at previous workshops on the implementation and the objectives, and I am not going to repeat those or further elaborate on them.

Today I just had one comment relating to the alternative standards which the Board has asked DWR to evaluate. And our concern with these is the fact, and we have confirmed this with your staff, that the model runs that are being done apparently place a 70,000 acre-foot cap on water quality releases from New Melones.

This, unfortunately, will result in overstating the amount of water that's available for fishery objectives which you are considering.

As you know, the Bureau this year has released well over 70,000 acre-feet for water quality from New Melones and will continue to do so, and in fact, is required to do so by your Decision 1422.

Mr. Del Piero mentioned earlier concern with losing
lawsuits. I don't know what he was referring to, but there
is one which you won very convincingly.

MR. DEL PIERO: Take your pick.

MR. WHITRIDGE: One which you won very convincingly
and rightfully is the one concerning Decision 1422, which
the Board felt compelled to take all the way to the United
States Supreme Court at great effort, and one of the
conditions, as you know, in Decision 1422 is the release
requirements without any 70,000 acre-foot cap to maintain
500 parts per million salinity at Vernalis for agriculture.

MR. DEL PIERO: I was thinking about the inland
surface waters plan. That was one that was sticking in my
mind.

MR. WHITRIDGE: The United States Supreme Court
overwhelmingly confirmed this provision and the Board's
authority to impose it, and this certainly predated the
CVPIA and many of the other statutes that we are analyzing
now.

Our concern then relates to assumption No. 4 in your
modeling handout which assumes then that water necessary to
meet the pulse flow requirements on the San Joaquin River
should be released from New Melones, so we would just
cautions the Board there's an error in the modeling, or at
least are aware of the modeling with that limitation on it,
and we don't believe that the modeling should entertain
studies that seriously violate Board standards and rely on that to determine the amount of water that's available.

Mr. Hildebrand would like to comment, I think, in regard to some of the discussions on drainage control this morning.

MR. HILDEBRAND: Good morning.

MR. DEL PIERO: I thought Alex was going to say something about drainage.

MR. HILDEBRAND: Before I get to that, let me comment a little further on the analyses that were requested by the Board staff of DWR.

It is our understanding that the studies do not provide Vernalis flows in June, July and August, that are sufficient to supply the riparian and other superior pre-1914 water rights in the South Delta. To the extent that these flows are not provided, the studies then overstate the availability of water in the watershed to meet the proposed fish flows, and this, of course, is superimposed in part at least on the error caused by the 70,000 cap.

Furthermore, it is our understanding that no New Melones water is assumed to be delivered to Eastern San Joaquin County for replacing groundwater overdraft in accordance with the Bureau contracts.

We believe that the assumption of noncompliance with these contracts for this purpose should be clearly
acknowledged and the consequences addressed.

If we are going to provide or is it proper to provide fish flows by continuing an unsustainable overdraft of groundwater in San Joaquin County? I think it is a question that should be recognized and not just swept under the carpet.

Now, on the question of drainage, in your discussions with Mr. Wright a while ago, you discussed this business of implementing a requirement that the salt load be kept in the valley, in effect. And Mr. Brown addressed the question are we going to give up all that food production down there as the only way to stop it, and Mr. Del Piero addressed some of the permit problems.

It was suggested by Mr. Wright this was a matter of implementing the interagency drainage program, but that program itself talks about retaining the salt in the valley. It doesn't address the question of how to create a salt balance. Neither does it address the effect of the measures in the drainage program on the salinity of the river.

Actually, I think it is pretty clear that if you carry out the proposals in the drainage program, you will actually increase the salinity in the San Joaquin River, not decrease it. It will decrease the load but increase the salinity. So, it works counter to the objective here.

Now, the opportunity is not just to hang on to that
salt or somehow fly it out to the ocean. There's another way to get around the problem at least in part, and that is to insist on more multiple use of water.

We previously testified that more than half of the annual water quality release requirement for New Melones typically occurs between March 1 and the late April start of the fish flows which are now proposed to be further increased. This need is almost all in order to dilute drainage entering the river from Salt and Mud sloughs during that time. That drainage comes in partly because of draining the wetlands down there of the material they have been holding through the winter, and that comes into the river at about 3,000 parts per million.

And then, at the same time you have the drainage that is mobilized from the other drainers which comes as high as 4900 parts per million.

And now, in 1993, which was a wet year, it would have taken, according to the Bureau, about a 100,000 acre-foot addition of New Melones release to meet the standard in March and April if the standard had been met, which it was not.

If the salt in Mud Slough drain was retained from release during the spring fish flows, the annual New Melones water quality release requirement would, therefore, be very substantially reduced.
In view of the overcommitment of available water in New Melones and in the entire San Joaquin watershed, we believe it is important to adopt a requirement that drainage and fish flows must be managed so that fish flows serve also to dilute drainage flows.

If you use that approach, you will get rid of some of the salinity problems without exacerbating the problem of retention of salt in the valley. You may actually improve that situation.

So that's all I wish to comment.

MR. CAFFREY: Thank you very much, Mr. Hildebrand.

Ms. Forster.

MS. FORSTER: Alex, to do that, to try to manage the drainage and the fish flows so that the fish flows help drainage, it seems that the alternatives that are proposed are different months.

What months are you talking about?

MR. HILDEBRAND: You would only have to hold it up for a few weeks. Later in the year you still have and it is not as easily corrected then. But during this period of six or seven weeks in the spring, if you hold up that material for that short period, it is not going to cause the problems of evaporation ponds because it won't evaporate very much during that period, so that the material you drop in the river will be almost identical six weeks later than it is
when they do it at the present schedule, and it would come
down then with ample dilution.

We have more dilution than we need during the fish
flows by quite a bit. There are various ways to go about
that, but it shouldn't be insurmountable or extremely
difficult to just pond for that long a period and since
there are no concentration problems and there are also
opportunities which are a little less flexible than a
discharge rate of hanging onto it subsurface and then
discharging so far as the preirrigation mobilization is
concerned.

In the case of the drainage off the wetlands, I don't
know of any easy solution other than to either pond it or
pump it back up to the DMC and hang onto it by recirculation
during that brief period, but that's also a possibility.

There are various ways you might go about it, but it
is a very different problem to merely hang onto it a few
weeks in order to make these flow releases coincide than it
is to have evaporation ponds or to get it out to the ocean
some other way.

This would be much simpler, so it would seem to me
that it is something that might be accomplished without all
the permit implementation problems that Mr. Del Piero
mentioned.

Somebody might have to put up a little money, but the
1 benefit would be very substantial.
2     MS. FORSTER: I'm trying to think what does it mean
3 to planting cycles, but we will have to talk about it more.
4 I mean, it sounds so reasonable to say, let's fix two
5 problems with one slug of water. I just don't know all the
6 other parameters to know how it works and when it works, but
7 the --
8     MR. HILDEBRAND: I understand your reluctance that
9 anything is reasonable nowadays.
10     MR. CAFFREY: That is our goal.
11     MR. HILDEBRAND: I don't really think it had anything
12 to do with the planning schedule. The primary problem
13 actually would be whatever you have to do to keep from
14 draining off the wetlands during that period, and if you
15 don't want to sacrifice a piece of the wetlands for six
16 weeks or so to impound it, then they have the recycling
17 alternative to get by that short period. It's the period of
18 year when the total demands on the
19 system are not totally high, so there is a lot more
20 flexibility than you would have in the later part of the
21 season.
22     MR. CAFFREY: Mr. Brown.
23     MR. BROWN: The idea is very sound. I hope staff
24 will take that under consideration and it may mean that we
25 have to continue the evaporation ponds or something similar
thereto in the wetlands or someplace for a short interim period, but that might be more acceptable to the environmental concerns than the way it is being done now.

Certainly with drainage issues in the San Joaquin Valley, this is a good idea but we are to the point now that even bad ideas count in trying to figure out something.

MR. CAFFREY: Let's say less popular ideas, not bad ideas.

MR. BROWN: That's good, thank you.

MR. CAFFREY: Thank you, Mr. Brown.

Anything else from Board members? Anything from staff?

Thank you, Mr. Whitridge and Mr. Hildebrand.

Good to see you both.

Let me just say that there is one public agency left to speak and that's Kern County Water Agency, and they have asked to speak after lunch.

That, then, takes us up perhaps to the presentation by the panel of Western United Dairymen.

Is the panel here, Mr. Conover and the others?

Please come forward and make your presentation. We have Gary Conover, Jay Gould, Dwane Paul and Linda Wear.

While we are setting up for this panel discussion, let me announce to the audience what the schedule appears to be for the afternoon. We will try to break for lunch no
later than 12:30, which is about half an hour from now.

We have asked Mr. Del Piero to represent us at a
meeting this afternoon for a while, so he will be leaving at
that time and be back later.

In the afternoon there will be a panel discussion led
by Kern County, I believe, and then we will go to Mr.
Fullerton and Mr. Thomas, Mr. Bishop and Mr. Wodraska, Mr.
Haroff and then Mr. Krautkraemer, Mr. Bobker, Mr. Hall, Mr.
DuBois, Mr. Nelson, Dr. Brown, Mr. Vogel and Patrick
Porgans.

That is the order of the cards we have thus far, to
give you all a feel for what the breakdown is this
afternoon.

Good morning, ladies and gentlemen. Good to see you.

MR. CONOVER: Mr. Chairman and members of the Board,
my name is Gary Conover. I am Vice President for the
Western United Dairymen.

We appreciate your allowing us to speak today.

When I spoke before the Board at your last workshop
on July 13, I indicated that we were in the process of
retaining an economic consultant that would provide us with
a document that we do submit into the record which would
assist the staff and the Board in their deliberation of the
economic impacts of your decisions.

We feel there is an obligation by the Board to go as
deep as you can in securing that data. We are pleased
today to present that document.

Western United Dairymen is a 1400-member milk trade
association. We represent dairymen basically from
Bakersfield to Humboldt. We represent 70 percent of the raw
milk produced in the State. Therefore, we are the largest
trade association in the State.

We have had concerns all along regarding the
treatment of some of our many commodities within the
discussions of the Board, certainly within some of the
bulletins provided by the various departments, particularly
alfalfa, the treatment as the lowest economic value crop,
and we hope to present evidence that would throw away that
concept.

We in the industry look at it not as a commodity but
as a resource for our animals, which is really our link to
our commodities which is the milk.

We have with us today Mr. Jay Gould on the far left.
Jay is the Executive Vice President of Western United
Dairymen. He has over 35 years in the business and has an
immense amount of information.

Our presentation will be made by the economic firm
that we retained, Northwest Economic Associates, and we have
with us today Dr. Dwane Paul and Dr. Linda Wear.

MR. CAFFREY: Welcome to all of you.
MR. CONOVER: Dwane will carry on the conversation.

MR. PAUL: Thank you, Gary.

My purpose in being here today is to discuss the effects of the proposed Bay-Delta standards on the California dairy industry as a large representative part of California agriculture overall. In doing so, I would like to start with an overview of the California dairy industry, follow that with a review of our analysis of what the standards announced last December mean for agricultural crop production, and then, relate these to what this means for California dairy producers, both in general and particularly in the San Joaquin Valley as a regional example.

My objective is to demonstrate to you that decisions on water quality standards as they affect water availability will have major effects on the viability of regional crops and regional dairy production.

We believe that sound decision making in California water allocation requires more detailed rather than less detailed analysis. We believe that analyses which focus on very large geographic regions without regional considerations, or that generalize about an industry as large as California agriculture without realizing its diversity miss many critical institutional, social and economic issues that we feel have to be part of the water decision process.
Let me start with a brief overview of the California dairy industry. It is the single largest sector in California agriculture with annual farm-gate receipts of approximately 2.9 billion dollars. It represents about 14 percent of California's agricultural cash receipts overall.

Employment in the dairy industry is about 42,000 people considering both production and processing.

And annually the industry overall contributes approximately six billion dollars to the State economy and supports more than 80,000 jobs.

There are about 1.2 million milk cows in California. They produce annually about 22 billion pounds of milk. Milk cow productivity in California is the highest in the nation and near the highest for many reasons, but key among them are climate and availability of high quality feed.

The demands for California dairy products has grown dramatically in the last two decades because of the very rapid population growth and increases in consumer income.

The University of California in a recent study estimated that by the year 2010 the demand for California milk products will increase to about 36 billion pounds annually, about a 60-percent increase from current levels.

Feed costs represent about one-half of the total production costs in the dairy industry. The feed to go into the dairy rations include both roughages and concentrates.
High quality alfalfa is by far the most important roughage feed to dairy cows in California and is valuable because of its energy, protein, and vitamin and mineral content. It is one of the most important factors that account for high cow's milk productivity in California.

The California dairy industry uses more than half of the alfalfa grown. The dairy industry also uses large amounts of agricultural by-products that would otherwise have limited use. For example, approximately one-fourth of the State's cotton is processed into cottonseed meal, and virtually all of that cottonseed meal is used in the dairy industry.

The industry also uses large amounts of sugarbeet pulp, citrus pulp, vegetable wastes, and brewery and distillery grain waste products.

In the past, dairy producers in California relied on pasture for much of their forage requirements, but as the number of cows has increased per herd and as the cost of water has increased, the use of pasture for dairy cows has decreased, the notable exception being the Del Norte and Humboldt region of the State where herds are relatively small and where pasture will be maintained with little or no irrigation because of high rainfall.

Because there are many linkages to the crop production side of agriculture, the dairy industry has a
real interest in the California water situation and the Bay-Delta standards.

The standards have some very disturbing implications for crop acreage and crop availability, particularly south of the Delta.

One scenario in the U. S. EPA analysis concluded that the economic impacts of the standards on production agriculture would be relatively small and would be limited to a permanent idling of approximately 138,000 acres of hay and pasture.

The analysis assumed that those acres would be spread uniformly throughout the Central Valley and that water could be traded freely throughout the Central Valley. The analysis also assumed any cutbacks in surface water would not lead to increased groundwater pumping.

Our company did an analysis of standards and our analysis indicates that there would be much larger impacts spread across more crops but in a smaller geographic area, primarily the Southern San Joaquin Valley where the alternative water supplies are the most limited. Our analysis is, we believe, reflective of what actually happens in water shortage scenarios for at least three reasons.

First, water shortages affect different regions in different ways. As I mentioned before, California agriculture is so large that it can't be characterized as
one large homogeneous sector.

Secondly, not only is hay affected by water shortages, and in fact, in 1991, more than 250,000 acres of crop land in the San Joaquin Valley were idled, and this included 160,000 acres of cotton, 13,000 acres of vegetables, as well as substantial acres of hay and other crops.

Third, under the proposed standards, we believe that the occurrence, duration and magnitude of water shortages would all increase relative to the current operating requirements, and we believe as a result, impacts in agriculture would become increasingly worse over time.

Our estimated acreage impacts based on the standards show that State Water Project contractors can expect at least a 40 percent shortage four and a half years out of ten, and that's versus two and a half years out of ten now.

Central Valley Project contractors can expect at least a 40 percent shortage four years out of ten versus one year out of ten now, and at 65 percent shortage, which we call critically dry years, it can be expected two years out of ten.

When these water supply scenarios are incorporated into the analysis of impacts of standards on agriculture, the results are much greater than those indicated in the U. S. EPA analysis, and we estimate that instead of merely
identifying 130,000 acres of hay and pasture land, the standards would cause an idling of nearly 200,000 acres, including 21,000 acres of alfalfa, 104,000 of cotton, 41,000 acres of vegetables, and 10,000 acres of permanent crops with a combined production value of approximately 250 million dollars per year.

In a critically dry year much more land would be temporarily idled and total land idled would increase to about 460,000 acres, and this would include 78,000 acres of alfalfa, 227,000 acres of cotton, 43,000 acres of vegetables and 109,000 acres of grain.

These acreage impacts have onerous implications for farmers throughout the Central Valley, and for the many smaller economies in the valley where agricultural employment makes up to 40 percent of the total employment.

The acreage impact, I think, also has disturbing implications for the California dairy industry, particularly in the San Joaquin Valley where most of this idling would occur.

Because of the alfalfa acreage restrictions in that area, delivered alfalfa prices to dairies would increase by an estimated 15 to 20 dollars per ton in normal years, and up to 30 to 50 dollars in critical years as more alfalfa is shipped in from outside the area.

We estimate that alfalfa grower prices would increase
by anywhere from $2 per ton in normal years up to about $7-1/2 a ton higher in critically dry years.

Dairy production costs would increase, there would be a resultant decline in dairy income ranging from 5.1 million dollars in normal years to 18.6 million dollars in critically dry years. Those figures are for the San Joaquin Valley.

And for a typical San Joaquin Valley dairy, the reduction in annual net income could range from 25 to 95 thousand dollars, or roughly 15 to 57 cents per hundredweight of milk.

The dairy and production cost data from the California Department of Food and Agriculture showed that many peak dairy producers in the area under this environment would be marginal at best and nonviable at worst.

One additional note: Because of higher grower prices for alfalfa, all users of alfalfa would feel the impact. We considered only the dairy industry throughout California, but we estimate because of these increases and because of the increases in the San Joaquin Valley, the income and job impact would range from 20,000 to 20,000,000 and 250 jobs in a normal year up to an income effect of about 71 million dollars and a thousand jobs lost in critically dry years.

As you read through our report, you will see our analysis, our assumptions and our conclusions. We feel that
the estimated impact of water shortages on agriculture will be much greater than those typically believed.

While the focus of our report is in particular on the San Joaquin Valley, as an example of the importance of regional considerations, many other regions of California agriculture, we feel, are vulnerable as well, including the Sacramento Valley, the mountain regions and the coastal regions.

We tried to build reality checks into our analysis by looking at the types of adjustments that occurred in the last drought, by looking at differences in agriculture up and down the State, and by talking directly with water districts and growers to glean some insight into the ways they have adjusted to water shortages in the past.

We believe that the Bay-Delta standards will have a much larger effect than those originally presented and we believe that crop and livestock production will be both adversely affected; and finally, we feel that there's far more at stake than the idling of 100,000 acres of hay and pasture land.

There are, instead, entire subregional areas of the Central Valley that are looking at severe setbacks to both their regional economy and to their standard of living.

I thank you for your time.

MR. CAFFREY: Thank you. Does that complete your
MR. CONOVER: We are available for questions.

MR. CAFFREY: We do have questions. We have Mr. Brown, then Mr. Stubchaer and then Mr. Del Piero.

MR. BROWN: Bulletin 160 of DWR estimates there's about 9.5 million irrigated acres in California. I believe that there are about 800,000 acres of irrigated pasture within the State. I don't recall the irrigated acres of alfalfa.

What is the payment capacity of alfalfa today?

MS. WEAR: About 800 to 1100 dollars.

MR. BROWN: And cost run?

MS. WEAR: It runs about, I think, 85 or 90 percent of that, so you are talking about margins to ownerships.

MR. BROWN: Alfalfa has a payment capacity in the neighborhood of 100 to 150 and maybe if you get six or seven cuttings, maybe up to $200 an acre.

MS. WEAR: That would be returns to ownership land management, right.

MR. BROWN: It is a pretty good crop in California. I agree with what you are saying.

What would you estimate the payment capacity of 800,000 acres of irrigated pasture on a per-acre basis?

MR. CONOVER: I really don't know. I guess it depends on the animal unit.
MR. BROWN: Maybe $50 an acre on irrigated pasture if you have a good year?

MR. DEL PIERO: Why don't you tell him it is more than he gets paid.

MR. CONOVER: I don't know.

MR. BROWN: Consumptive use of water on pasture is about four acre-feet?

MR. CONOVER: It used to be when it was much more prominent.

MR. BROWN: Alfalfa is maybe five?

MR. CONOVER: Two and a half to five up and down the valley.

MR. BROWN: If the State is short of water two million acre-feet today out of a 35 million acre-foot water usage referencing prior Bulletin 160 with projections going to five to seven million acre-feet of shortage by 2010, if we intend to pay our own way in water resources, do you think that water would probably come from agriculture -- pay our own way and quit mining groundwater basins?

MR. CONOVER: I think that obviously this is one of the whole issues of discussion in the Bay-Delta standards, is the reallocation of water between agriculture and the environment and urban. I think there probably will be more coming from agriculture.

MR. BROWN: Most people, unfortunately, think and
probably believe that we will eventually be making up the shortfalls out of the agricultural community.

Three major water groups in the community --

Three major water groups in the State, environmental needs, the domestic, M&I water and agricultural community needs make up the total combined 35 million acre-feet we use annually.

So, if there is a plan some day in the near future to pay our own way in water resources, many believe that would probably come from the agricultural community. If it comes from the agricultural community then, would the payment capacity of crops or on a per-acre basis be a good indicator of where to take that water?

MR. CONOVER: I think there are two ways to look at that. One, I think if you look at statewide averages, that probably gives a ballpark range of where things should come, but I also believe that the ultimate decision has to reflect as well regional considerations.

MR. BROWN: An acre-foot saved in Imperial Valley is one acre-foot less you have to export from the Delta.

MR. CONOVER: Right.

MR. BROWN: You made the statement here that the cutback in surface water would not lead to greater groundwater mining.
MR. CONOVER: That was one of the assumptions in the U. S. EPA analysis of the Bay-Delta standards they released in connection with that.

MR. BROWN: Do you think that was a good assumption?

MR. CONOVER: No, I think the drought has proven exactly the opposite.

MR. BROWN: If we were to make up some of the shortfalls existing and projected from the lower payment capacity crops and if that would be starting with the irrigated pasture, I think alfalfa, and I concur with your statement -- if we were to make up some of the shortfalls existing and projected from the lower payment capacity crops and if that would be starting with the irrigated pasture, I think alfalfa, and I concur with your statement that it's a higher payment capacity crop than some people believe it to be, but if we were to make it up with some of the hay, irrigated pasture and such, how much of the hay that we grow in the state right now is exported out of the state.

MR. CONOVER: Not very much actually.

MR. BROWN: Ten percent?

MR. CONOVER: A ballpark, probably 10 and roughly 85 percent of the hay produced is alfalfa.

MR. BROWN: Can we buy hay?

MR. CONOVER: We can, although the last ten years average hay production in the states from which we buy has
averaged five to six million tons a year and not all of that is dairy quality alfalfa hay, and most of that hay is being used in those states for their own milk production sectors. So, we don't feel that the California dairy sector can look at imports from other states as a gross part of the total supply.

MR. BROWN: That's important to know. Thank you very much for your presentation.

MR. CAFFREY: Mr. Del Piero.

MR. DEL PIERO: I have one question. You indicated during the course of your presentation that the impact, the average economic impact of the various proposals on the Bay-Delta decision would have greater effect on certain subareas, but you didn't indicate which of those areas of the San Joaquin Valley those subareas are located in. Can you articulate where those are, where the greatest impact would be?

MR. CONOVER: I apologize for that oversight. We have it included in our analysis.

MR. DEL PIERO: I haven't had a chance to read it yet.

MR. CONOVER: We feel that the greatest impacts are going to be in the southwestern part of the San Joaquin Valley.

MR. DEL PIERO: Kern or Tulare County?
MR. CONOVER: Probably more towards Kern. We feel the main issue there is that many of the lands down in that area, particularly in that part of Kern, don't overlie a groundwater basin so they wouldn't have the option of using groundwater to fill the need.

Assuming that surface water shortages could not be made up long term from other surface water supplies, we feel those would be the most vulnerable areas.

MR. DEL PIERO: Can I ask one more?

MR. CAFFREY: Go ahead.

MR. DEL PIERO: You would not recommend then permanent reliance upon imported water for permanent water uses in that area?

MR. CONOVER: Let me get through that -- permanent --

MR. DEL PIERO: From the standpoint of reliability, given the context of what's going on in terms of the Delta, in relationship to those areas that are mined or absent any groundwater resources readily available, you would not then from an economic standpoint recommend relying on imported supplies given what the potential consequences of this decision are for permanent uses in that area?

MS. WEAR: You mean for permanent crops?

MR. DEL PIERO: I mean for any uses, including urban, and maybe more importantly, specifically urban uses.

Mr. Brown was talking about converting water use from
agriculture to urban and one of the implications that we have seen is whether it is done directly, intentionally or negligently is probably the inappropriate term, probably the appropriate term is inadvertently.

There has been a transfer of water resources from ag to other uses. This process and the Club Fed process and the CVPIA process has redirected water from ag primarily to environmental uses. Less direct but more permanent is the redirection of water from agricultural uses to urban uses.

The question I have for you is in the event that transition is taking place, as Mr. Brown indicated, from an economic standpoint, is it a smart or not so smart thing to do to rely upon imported water supplies for alternative permanent uses in those areas of Kern County?

MR. CONOVER: I will be honest with you, I don't know how to respond in totality to that.

MR. DEL PIERO: Can you respond in part?

MR. CONOVER: I think one of the issues that comes up again is regionality, and I guess when you look at the regional economics in that part of the San Joaquin Valley and the fact that the economy that was created there was initially set up resolving around agriculture and continues to revolve around agriculture, I personally have kind of a difficult time in terms of potentially saying go ahead and turn the water off, and we allocate it to other places. I
have a hard time to do that.

I understand the difficulty that you all face in terms of making these decisions with what is a limited supply and almost an unlimited demand. I am appreciative of that.

I think, again, and not trying to be redundant at all, the --

MR. DEL PIERO: The wedge of cheese is getting smaller for us to carve off.

MR. CONOVER: The regionality issue, I think, is probably the most important and I think when you look at any one subregion of California agriculture, undoubtedly there are going to be certain crops that look less favorable in terms of their use of water and the value that can be imputed to that water than in others, but again, I think it has to be in the perspective of if the water is diverted away from an area that is so heavily dependent on agriculture, then what happens to the area?

I am not trying to beg your question, but --

MR. DEL PIERO: Other than Southwest Kern, is there any other area that is going to be hit, Southwest Tulare?

MS. WEAR: In the CVP the Westlands area because they have less access to groundwater.

MR. DEL PIERO: Thank you so much.

MR. CAFFREY: Mr. Stubchaer.
MR. STUBCHAER: I have a simple question. Is there any methodology in your report that would enable our staff to evaluate the cost, the economic cost to your industry at various levels of shortages?

MR. CONOVER: I think our method is generalizable, if that's the right word, and we would be happy to share that with you.

MR. STUBCHAER: Is it stated in the report in enough detail to be applied? Would it have to be obtained separately?

MR. CONOVER: There's enough detail in the report, although any questions you or your staff have, we are in Sacramento and we would be glad to provide any information you need.

MR. STUBCHAER: You have an address on Capitol Mall as well as Vancouver, Washington? Is that a full-time office?

MR. CONOVER: Our Vancouver office has been in place since 1977. We have been in Sacramento since 1991.

MR. STUBCHAER: Thank you.

MR. CAFFREY: Ms. Forster.

MS. FORSTER: I had a cost question to ask you. When you estimate your costs, do you estimate direct costs or do you throw in indirect costs when you are doing this analysis?
MS. WEAR: We did it both ways and we tried to be real clear which was which. There is only one table in there that estimates what we felt to be the linkage effect to the rest of the California State economy.

The bulk of the numbers that are in there are direct impacts to the dairy industry.

MS. FORSTER: I just ask because doing economic impacts on environmental issues is sort of on the cutting edge and I have been reading different papers and I just finished one from Harvard, and in reading there were 11 recommendations they have.

It is my own feeling that to be able to get a layman's understanding of the economic impacts, we have to be more focused on direct costs so that people can understand and compare because the indirect costs just get you going in all different ways and they are pretty subjective in some ways.

So, that's why I was interested.

MR. CAFFREY: I believe that completes the questions from the Board members.

Anything from staff?

MR. HOWARD: No.

MR. CAFFREY: All right, Dr. Paul and Dr. Wear and Mr. Conover, Mr. Gould, we very much appreciate --

MR. CONOVER: Mr. Chairman, if I could make a
concluding remark, I think the purpose of the industry as a commodity and the submittal of the document is to insure that while there are many other commodities that you look at, cotton, rice and so on and so forth, the commodity here we want to make sure you pay attention to in addition to alfalfa is our commodity, which is milk, and milk is much like rice and cotton and other groups. Milk is a substance that both State and Federal legislators have identified as a substance that is needed by the Merced County people, so we want to raise that Merced County flag and have you look frequently at that product when you look at alfalfa.

MR. CAFFREY: We very much appreciate your efforts and we have copies of your report which we will look at with interest, and we also appreciate the local availability and perhaps you will be participating further in Mr. Pettit's public meetings on the various alternatives.

Thank you all very much.

Let me say we will now take a lunch break and we will resume the workshop at 1:30 this afternoon. Thank you very much.

(Noon recess)
MR. CAFFREY: All right, we will resume.

Are the representatives from Kern County -- have they arrived yet? They were scheduled to go first. They are not in the room, so let's go with Mr. Thomas and Mr. Fullerton.

MR. GREGORY: We are actually here to praise Caesar rather than bury him. We wanted to respond to the CUWA recommendations.

MR. CAFFREY: Would you prefer to go later on?

MR. GREGORY: If that's convenient for them.

MR. CAFFREY: Okay. Let's go then with them. That would be Mr. Bishop, Mr. Wodraska -- why don't you gentlemen come forward.

Good afternoon, welcome.

Even though you are famous individuals, please identify yourselves first for the record.

MR. BISHOP: For the record, I am Wally Bishop, General Manager of Contra Costa Water District, but I am here today speaking on behalf of the California Urban Water Association which you probably have seen us at many meetings. We are comprised of 11 agencies that constitute service to over 20 million customers in the State of California and a large portion of the commercial and
industrial activities.

With us today on our panel will be the General Manager of Metropolitan Water District, William Wodraska, who I will introduce later, and inform the Board as to what we will be covering, and also, we have with us today Attorney Kevin Haroff, who will be making very specific presentations to the Board on our plan.

We have prepared for the Board for your consideration what we consider to be a coordinated comprehensive plan. That plan is dealing with a wide range of the issues before the Board.

We heard comments this morning and I thought I would address them up front, of concern about specifics.

We completely understand the scope which CUWA and the team of consultants have undertaken is a very comprehensive approach to the problems of the Bay-Delta. Consequently, we will as we present the plan, even though we have attempted where possible to provide specific comments, that in some areas with respect to, say, the standards, we are very specific, even to the point, if you look at the attachment, we have drafted a draft resolution the Board might want to consider for the standards.

MR. CAFFREY: We noticed that.

MR. BISHOP: We just want to be helpful, and in other issues that we have dealt with such as the operational
controls, you will see that we have proposed outlines and
requests for some time for more information, all of this
trying to be helpful, but giving the Board a full sense of
the wide range of issues we want to deal with.

I will give the Board an overview probably in the
next five minutes. Woody will be talking to the Board and
what you are seeing is a phrase used often in our plan,
ecosystem management plan, and we will also be talking about
various management strategies that we see as ways to
approach this both in terms of not only what to implement,
but how to phase it, and the timing for that.

And finally, Kevin will follow and take the Board,
depending on your time and how much you want to get into
very detailed specifics, and really, at that point when
Kevin makes his presentation, we will rely on the Board --
if you feel we are getting too much into the details and you
want to move on, by all means let us know.

At the last workshop CUWA expressed accord with the
State Board's efforts to develop standards and other
requirements. We stated that progress had been made for
developing recommendations for the State Board but
additional time is needed to make those recommendations more
specific.

We think we have made considerable progress since
the last workshop. Our scientists and staff have met not
only among ourselves but with other interested parties, both in the environmental and agricultural communities.

As you may have heard this morning, at least in the EPA presentation and others, the CUWA process at least with respect to the standards is getting mentioned in many cases as the approach that's being at least used as the baseline for others to consider.

We think that is a measure of success. Our recommendations contained in the plan incorporate several interrelated elements, what we call the coordinated estuary protection plan.

There are three components of that plan. The first, what we considerable to be the fundamental baseline, is the recommended estuary habitat standards to be adopted by the Board in lieu of standards previously proposed by EPA.

While you may have heard various members of the testifiers this morning talk about consensus on that plan, we think there is consensus on the broad concept, what is referred to as the sliding scale. There are two ways to measure.

We are not here to tell you there is absolute consensus across the Board on very specific elements of that plan. So, we have consensus, we think, in areas particularly among the urban community that the way we are proposing the standards be implemented with the sliding
scale and the two ways of implementation, but we are not here to tell you all parties agree with all the aspects of that.

The second part of the plan is a recommendation for development and implementation of the operational requirements.

I am here to tell you we have a very broad approach in the report.

We are also asking that the administrative record in this particular area be kept open until the end of October.

We have a commitment inasmuch as we have spent considerable time on the standards and development of that because that was the original focus of this with the EPA proposal, that we would like to now turn our attention to looking at the various recent proposals that have come forward, both from the State Water Contractors as well as the agricultural community and DWR for various operational constraints for the operation of the Bay-Delta. We consider that to be an integral second part of this plan.

We do not have a specific plan for you today, but we feel if we could work in our consensus-building mode with our scientists at some time by the end of October we would be able to make a specific proposal to you.

And finally, a third part of our plan is a series of recommendations for the regulation of additional
biodegradational factors that have adversely affected the species abundance in the estuary.

Such things as poaching, you talked this morning about land-derived salt pollution discharges, restoration of habitat wetlands. These are all issues that we think need to be dealt with in the comprehensive plan.

In implementing CUWA's proposed coordinated program, we believe that a high priority should be given to the near-term adoption of standards. While standards alone are not sufficient, they would provide a necessary baseline against which the success of the other actions proposed can be measured.

CUWA supported the adoption of a broad estuary habitat standard and incorporates key aspects of the water quality standards proposed earlier this year by EPA. This includes the two parts per thousand salinity criteria. At the same time, CUWA is making very distinctive changes and modifications to the EPA proposal that will allow the standard to be applied in a biologically more appropriate manner.

We have objected to the application previously at three locations in the Delta. After further analysis and discussion with EPA and others, CUWA's current position is that standards should be imposed at Rowe Island if implemented in the way that we have described with respect
to the sliding scale and three ways to measure compliance.

CUWA's recommended estuary habitat standard is designed to reflect actual conditions in the estuary while using the sliding scale approach and determining compliance on a month-to-month basis.

It also incorporates biological equivalent flow criteria, applied flexibility in achieving, and compliance has been measured as well as habitat protection.

We believe that the recommended standards should and can be adopted by the State Board in the near future. In doing so, however, the State Board needs to move forward in the identification of the operational requirements and we are committed to help you in that, and that's our request, that we be allowed to present by the end of October what we feel to be a consensus plan that can be derived from those requirements.

Without a determined effort to implement the full range of strategies identified by CUWA, it is necessary apart from the coordinated Bay-Delta plan that the future health of the estuary will continue to remain in doubt for years.

The second part of our proposal today is also dealing with the issue the Board was questioning this morning. We have a plan. There's clearly components of that plan that can be adopted now and there are still areas
of particularly the ecosystem management approach which need to be worked out. There has been a considerable amount of time in our testimony talking about how to phase in this plan.

We deal not only with the preparation, but the timing for phasing in various components. We start with a process for identifying criteria that the Board might use for identifying on an interim basis where the water would come from to meet the initial standard requirements. We talk about an approach that would implement a water impact cap using a restoration fund, and we also talk about an approach in which the Board would set up a banking system for logging mitigation credits.

In the beginning mitigation credits would be for water for the ecosystem plan, the overall plan to come together and it can be used for habitat restoration as well as water costs.

We urge the Board to consider the comprehensive nature of this plan. We will acknowledge that we need to come back to you with more information, particularly what we call the second part of the plan.

At this time, I would like to turn it over to Woody Wodraska, who will talk to the Board about the ecosystem plan approach and some of the strategies of both.

MR. CAFFREY: Thank you, Mr. Bishop.
I would just have one observation at this point. Certainly I don't want to jam your good work or stifle anybody, but the schedule that we are about at the Board and how long it takes to properly write and document a plan is problematic for us, and to the extent that you could maybe have this good work done even before the end of October, perhaps more in keeping with the series of meetings that Mr. Pettit is going to be conducting, it would be extremely helpful if you would go back and maybe take a look at your schedule and see if that's a possibility.

Hopefully it will be, and if it is not, we need to know that, too.

MR. BISHOP: On the operation requirements?

MR. CAFFREY: Yes.

MR. BISHOP: Maybe Woody can speak to this also.

We discussed how long it would take us. The key for us is not so much our putting together a plan and putting it before you, but trying to find a way if we can have some consensus between the various approaches we have seen up to now.

If the idea is for us to move as quickly as we can with our scientists to carve out what we think and maybe use another process, either at Walt's meetings or whatever, to bring consensus from that, I am sure we can move quickly.

We have not missed a schedule. We put our minds and
our money where we need to go so we can do it as quickly as we can, but we may not be able to build this consensus we are hoping for.

MR. CAFFREY: Some of this timing may be based on the success of the meetings where we discuss the alternatives.

MR. BISHOP: I would think so. If the parties are far apart and we are coming in with another plan that may not be in the envelope, then it may not help, but if we can come up with something that moves everybody to one position, it may help you.

But if the challenge is for us to try to get something in earlier, I can't speak for all the Board members, but I think we will consider it very strongly.

MR. CAFFREY: I appreciate that very much.

Good afternoon, Mr. Wodraska.

MR. WODRASKA: Thank you, Mr. Chairman and Board members.

It is good to be here and I will pick up on the point that you raised about where do we go and how do we put this together.

The last time I appeared before you was in April of '94, and I shared with you the Standard & Poor's, kind of described it as the morning shadow of doubt for California on how we have to come out of this gridlock that is
strangling the Bay-Delta and our future economy according to Standard & Poor's credit rating.

The other point I tried to make then was what I have come to learn is pretty unusual in California's recent history, and that is the urban interest, Northern and Southern California coming together and presenting a joint position through CUWA.

And the third question that I have been asked quite a bit, and I want to make the Board understand why CUWA did this. Why didn't we just wait and see what EPA comes up with and under the Clean Water Act had the CUWA alternative not been put on the table in response to the December 15 federal proposal, there are restrictions on what the Federal Government can do and what they can consider, and the bargaining position that the State of California gained by having this alternative out there really gave us a lot more flexibility as we have gone forward, and I think in retrospect all those were right things and really put us in a key position today to move forward.

And the reason I am here before you today, I think I see a plan coming together, and under your leadership I think I see a way to get there.

Since my April testimony, three significant other events have occurred, all of which I would classify as very positive in helping us move in this direction.
The first was signing of the Federal-State framework agreement. Critical, and actually I want to change that around. I view that as a State-Federal agreement with State primacy, State leadership in this, and I see that coming together and I'm very optimistic about everything we hear in that regard.

The second thing, on June 30, 11 of the top businessmen in the state, in response to the Standard & Poor's letter, sent a letter to the President and the Governor, and they said two things in the letter. They said, Mr. President, you have to do something about the Endangered Species Act. It has a stranglehold on the future of California and you have to provide some relief and some predictability and certainty in the Endangered Species Act; and they said Mr Governor, you need to provide leadership. We are looking forward to the State to assume the leadership role necessary to solve this problem.

On August 11, just less than a month ago, Bruce Babbitt announced in a press release in dealing -- we had several meetings with the Department of the Interior Secretary Babbitt on ESA related issues, and with the White House. The memo was called a deal was a deal.

Now, I have got to tell you that we were concerned in reading that press release.

It could be argued it was a terrestrial base and
more of a private property, which certainly is a problem with the ESA, but the question came up, does it apply to aquatic systems. Will this be applicable in the Bay-Delta related issues?

We received assurances, and I wrote a letter on August 18 to Secretary Babbitt saying I was planning on testifying on September 1 before the State Board, and it sure would be nice if I got the concurrence from the Secretary that his August 11 proclamation on ESA applied to the Bay-Delta.

We are assured by the Department of the Interior that this pronouncement on the deal is a deal, and in providing flexibility under the existing law under ESA, was intended to apply to aquatic systems.

Let me spend a moment and tell you why I think this is so important. As you know, the Federal Endangered Species Act was up for reauthorization. I believe the State of California should heighten this, and in the deliberations that are going to take place, and obviously it is not going to happen in this Congress, but it is going to happen at some point in the future, and if the Endangered Species Act can work, I would say, let's use the Bay-Delta as a litmus test.

I think we ought to say, here is the perfect example for the administration to show us, indeed, that the ESA has
the flexibility that they say is included in it as Congress
goes through their deliberation about what should be the
future of the ESA.

I think it is in our best interest to elevate it to
that issue. It's a key part of the strategy that I think
California should embrace.

Let me close by saying I have tried to put myself, as
if I was sitting on the Board and I was listening to all the
testimony and going through the different hearings, what
would I do or how would I take all this information that you
have gotten and what would I do with this? And although a
clear plan hasn't emerged as to what is the clear path and
everybody will tell you, by gosh, here is the right thing to
do, but I think what is emerging, particularly using the
standard as the starting point, I think there's a plan that
you are going to hear or have heard from people in the
environmental community. We are going to say, no, it is not
the best plan, there are faults with it, but it is something
we can work with, the sliding-scale concept, and how we can
protect the important estuarine habitat. It forms the
basis.

I think you will hear from people in the
agricultural community who will say, no, there's still a lot
of questions unanswered, but in looking at the science
that's driven this and what we have come up with so far,
maybe represents a kind of a beginning point or foundation as we go forward.

And on the question of the time frame, Category 2, and how we deal with that, I think if we start coming together and rather than having a CUWA initiative and having an agricultural and environmental and various State agencies all working on alternative plans, if we can start narrowing down and saying, without making a commitment, but saying this is the direction we think will get us where we need to be, I think the proposal that Kevin is going to go through in some detail, and I want to tell you I have spent more hours than I care to, and we have details that will bore you to death, and we are prepared to go into them to any extent you want to.

My purpose is really kind of to lay out a strategy and we have challenged the people in the environmental community, agricultural, State agencies, tell us where the fatal flaw is in the plan CUWA has developed, and I think we can present to you a plan that would be the basis for where we go from here, and that would be my recommendation to the Board.

In closing, I am a newcomer to this, but one of the things that was really exciting and what brought me to California was the rest of the nation is looking at California for really deciding how we are going to deal with
these tough problems. It is happening in the water resources or natural resources management, it is happening in California. It can be part of making history. This is an exciting time.

You have a chance to seize control of California's future in the actions that are going to be coming out of this.

There's a game plan that I hear people who have been frustrated by this for more than a decade saying, I can see a light in this tunnel, but it is going to require what the businessmen ask of the State, show leadership, start channeling our efforts and attention on the focal point of where we end up, and I'm convinced we can do it.

Thank you very much.

MR. CAFFREY: Thank you, Mr. Wodraska.

MR. BISHOP: I should mention before Kevin gets up we also have Austin Nelson here, who was one of the primary authors of the sliding scale and the three components, so if you have any questions on that, he has also modeled the water costs relative to our position, so he is also here in case you have any questions.

MR. CAFFREY: Thank you, Mr. Bishop.

Mr. Haroff, good afternoon, sir.

MR. HAROFF: Thank you very much, Mr. Caffrey.

I think my presentation has been a bit overbilled in
terms of level of detail I am going to be going into.

What I will try to do is to go through some systems.

MR. DEL PIERO: I was looking forward to asking you questions.

MR. HAROFF: I think it might be more useful for us to skate through given our time constraints a little more quickly with some level of detail what we put together in the package of recommendations that we have submitted to you in the last couple of days, and I will be here, as well as a variety of other people who have participated in the working group that developed our recommendations, to respond to any questions that you may have.

Mr. Bishop, in particular, did a pretty good introduction and overview of the package which is why I hesitate to repeat too much. A lot of focus in that presentation really related to one of the key elements in the recommendations that we have prepared and that is our proposed estuarine habitat standard.

I'll talk about that standard a little bit, but one of the things I want to do is give you the flavor of the theme that runs through the recommendations that we propose, which is that standards alone are not the only answer. We have characterized our package of recommendations as a series of coordinated, or rather, as a coordinated estuarine protection program, Bay-Delta protection program, and we
think the different program elements that we have identified in our recommendations are all equally important to the success of the program.

After all, standards are important but they are not the only answer.

Walt, you can indulge me by putting on the first of several overheads. Walt is with the Santa Clara Water District. He should probably be doing this and I should probably be sitting there.

Again, the first component of the recommendations that we put together in our package is the estuarine habitat standard. That's set forth in detail in Appendix 1 of the materials we submitted to the State Board last week.

A couple of guiding principles have motivated us in thinking about estuarine habitat and putting together a standard. The first is an overall emphasis on the standard itself on general estuarine habitat protection, which is protection directed at the Bay beneficial uses to which the estuary is put, both fish, wildlife and other beneficial uses.

Second, a motivating principle is to recognize the natural hydrological variability of the system and not attempt to put together a regulation that ignores the variation on an annual basis and an interim basis.

Third, we have been guided in putting together our
recommendation by the desire to insure that the regulation allows for operational flexibility. The single focus on salinity that we have seen people look to in the past, we don't think is adequate.

I was at least encouraged to hear this morning some of the remarks from Mr. Wright recognizing that equivalent flow ought to be part of a regulatory standard. That is part of our standard and it is an important part of our standard.

As Mr. Bishop pointed out, our standard incorporates the EPA X2 approach with the three compliance locations, including compliance location at Rowe Island, which is not part of the original comments that we had submitted to you earlier this summer.

We do include within our regulation standard alternative salinity and flow criteria and we do include as an important part of our standard to recognize hydrological variability in the estuary, the use of the sliding scale approach.

On individual species protection, we are not recommending a specific standard to address a salmon smolt survival or striped bass as EPA has. We don't think an individual standard for individual species protection is appropriate.

We think that our estuarine habitat standard will go
a long way toward protecting individual species, plus we also think it is important to focus on the adoption of operational requirements which will also go a long way towards protecting a variety of different species that depend upon the estuary, which leads to the next overhead.

We have proposed in our package of recommendations a second program element for our coordinated program. This would address the water inflow/outflow in other management measures that people have talked about during the course of the testimony earlier today.

Again, we have been motivated by a couple of guiding principles in our thinking about this issue because we don't have as much of a specific recommendation as we do with respect to a habitat standard.

The guiding principles we believe are important in developing these management requirements are minimizing adverse impacts to water users consistent with biological requirements that will be reflected by and large in the estuarine habitat standard that we are proposing.

In addition, we think it is important to recognize the need for coordination with other agencies, other agencies like the projects that will be required to be involved in carrying out some of these activities, not just simply a process alone, although we think it is important for the State Board to exercise leadership in this issue and
As we have already discussed, our proposal on this aspect of the program is not specific. We think we have made a lot of progress. CUWA scientists and staff have been meeting with representatives of agencies of organizations over the last few months. We think we have made a lot of progress in identifying specific management requirements we think will be part of the answer long term, but we do think additional work is required on that issue.

I think our plan is very much consistent with the schedule that the Board proposed earlier this morning in terms of allowing parties to get together to try to develop consensus, to work with State Board staff and try to get something that is specific and concrete by way of proposals to the State Board in accordance with the end-of-October deadline.

The third component of our coordinated estuarine action program is what we have called regulation of biodegradation factors. We had a hard time coming up with a good term for this part of the program. We started out by saying regulation of other factors. People didn't really like that because that suggested that some of the factors that we think need to be addressed in this component are, in fact, secondary in importance to salinity, flow and some of the other things we have talked about in the first two parts
of the program.

We don't think that. We think these are very important factors that need to be considered up front by the State Board.

Not all of the actions that may be required to address these factors can be done in the very near term. Some can. We think it is very important as part of the overall coordinated program to keep in mind the need to deal with some of these factors and move forward on that basis.

Again, the guiding principle behind what we propose in our recommendations is a recognition that salinity and flow are not the only factors that affect species abundance in the estuary, a recognition that estuary protection requires a multipronged and multiagency effort with the State Board exercising a leadership role, but recognizing the fact that other agencies will have to be involved in carrying out some of these requirements.

We have in our package, and I won't go into a lot of detail on what we set out in our written materials, but we have various recommendations, some with greater specificity, some with less specificity on a number of different factors we think are important to be addressed over time.

I have listed some of these up on the slide; unscreened diversions, pollution prevention and additional requirements on waste discharge, enhancement, control of
fishing, both legal and illegal, on the issue of land-derived salt which was an issue discussed at some length already this morning, control of exotic species and habitat control and restoration.

Again, in the interest of time, I think if the Board has specific questions about any of these, we do have myself and others who can respond to those questions and get into some level of detail.

The last part of the package of recommendations that we have submitted to the State Board has to do with implementation. Several guiding principles that motivated our thinking on this issue are.

A need for shared responsibility of all users whose use of the watershed have contributed to some of the problems the Bay-Delta is facing, a need for coordination among the different program elements that we have identified in our package, including standard, but also, operational requirements and the regulatory approaches to address biodegradation factors;

A need to facilitate water transfers in order to minimize impacts on individual parties;

And finally, consistency with the framework agreement to reflect, again, that the different regulatory strategies that will be required here
will involve different agencies at both State and Federal level, and will also require some phasing implementation approaches.

The phasing is an important concept of our recommendations. We think some things can be done earlier than other things. We think the adoption of an estuarine habitat standard can be done at an early stage as part of a water quality control plan adopted by the State Board in the beginning of next year.

We endorse the concept of the framework agreement to have the Board enter into negotiations with the State Water Project and the Central Valley Project to develop agreements about their contribution towards achieving estuarine habitat protection.

We recognize that in the long term there will be required a water rights proceeding in order to make sure that all parties are brought into the process in a fair and reasonable way.

The actions to address biodegradation factors, this will require, again, a range of regulatory strategies, but we think many of those strategies can be identified and addressed up front by the State Board, provisions adopted by the State Board to address some of these factors and specific recommendations the State Board can make to other agencies that may have more direct jurisdiction to deal with
those matters.

The last two items on the slide deal with a variety of issues that we have endorsed conceptually in the package of recommendations that we submitted to you. These relate to implementation and to issues dealing with the relative impacts to users that will have responsibility for implementation as time goes on.

We have included some discussion and recommendations on water impact caps, mitigation credits and mitigation funds. I think there might be a little confusion about what we are at least suggesting in terms of impact caps. What we are talking about here is a level beyond which other mechanisms may be required to allow individual users to meet obligations that they would otherwise be required to meet through purchase of water.

The concept of mitigation credits, we think, would be an important part of implementation initially to allow individual users to meet their obligations through money, but ultimately possibly also through other mitigation efforts.

That, basically, covers my quick and dirty overview of the recommendations that we put together. I appreciate the opportunity to appear before you this afternoon. I think the package of recommendations that have been put together is a good one. It reflects a lot of hard work by
CUWA's technical staff and others, and we are ready to answer questions.

MR. CAFFREY: Thank you, Mr. Haroff and thanks to the other gentlemen.

Let me ask the Board members if they have any questions.

Ms. Forster.

MS. FORSTER: Your submittal was outstanding, very thorough, very thoughtful, and I can tell you entailed lots and lots of hours of work.

MR. HAROFF: By a variety of different people.

MS. FORSTER: Very well done.

Did you pick up this table, I think it was a summary of comparative water supply impacts that was out on the front table?

MR. HAROFF: I noticed there was a table out there. I haven't personally had a chance to look at it.

MR. BISHOP: The way CUWA is organized, we have used the Contra Costa Water District modeling water resources group, using our Fisher model for most of the water costs.

I will give you two numbers we are using. The particular X2 standard that we are proposing has an average year water cost of 160,000 acre-feet and a critical year water cost around 300,000. Now, clearly that's not equivalent to some of the other numbers that you have heard
in the millions of acre-feet because the operation requirements are not plugged into that, and that's why it is critical we get the operational components, but you have heard water costs for some of the EPA X standard initially in the millions of acre-feet of water, so that's why we think the variability and flexibility of this particular approach with the 160,000 acre-foot on average and the 300,000 on critical is something that we think the Board can look at in your balancing approach.

MR. CAFFREY: Mr. Brown.

MR. BROWN: Mr. Bishop, I also compliment you and your associates on the product that you presented and thank you for your interest and help.

I notice on the drainage issue that you also address that in the San Joaquin Valley and you have considerations in there for what some call the short-term solution, which is controlling the salt accumulation and releases into the streams and such, but there's nothing in there right now for the long-term solution which probably will require a salt balance of some sort.

Do you have some consideration or ideas that you might be able to submit in the final document to address that issue also?

MR. BISHOP: We can elaborate on what we have put in and Roger James, who at one time was Executive Director of
the Regional Board, participated very heavily in, but the Board has various tools available to them right now. You do have a nonpoint source plan which talks about a series of ratcheting it up, again the voluntary type program.

It is not the solution but it talks about how you start moving.

The Coastal Zone Act requires a revision of that and more ratcheting up, if you will.

There have been other techniques used in my old days. On the pollution side the Board has strong powers with respect to reimposing monitoring requirements on various people as part of either permits or other issues. You have a waste-to-land discharge permitting process which is not an NPDES process. There are various tools out there.

I think the issues that were asked about this morning, which is what is the solution, that's a little more difficult, but I can recall in days when water quality management plans were put in place and objectives established where people were building secondary, tertiary or whatever treatment plants, and the solutions came from goals, objectives, standards, but you do have tools available to start moving this problem forward without saying we have to know whether it is going to be an evaporation or trucked to the ocean or whatever.

MR. BROWN: I was wondering if you were going to
address it in your document?

MR. BISHOP: We have addressed what tools are available in terms of the solution, what the Board ought to do. We could go into more detail on how we see a scenario using available plans you have now in a phased approach. We could do that if you would like. We have touched around the edges. If you would like us to pull that together, that is something we could do.

MR. BROWN: I think the long-term solution needs to be to see what options, if indeed there are any, that are reasonable that might be available to you.

MR. BISHOP: I think we could provide that, say, in a technical memo to the Board.

MR. CAFFREY: Any other questions from Board members? Anything from staff?

MR. HOWARD: I had a question.

These X2 standards have generally been established at various levels of development. What was the level of development that's presently incorporated in CUWA's proposal?

MR. NELSON: This was based on the level of development that represents conditions in the late 1960s to early 1970s.

MR. HOWARD: I notice that you said that the X2 standard alone costs 160,000 acre-feet of additional outflow
between the February and June period on average. Is that correct?

MR. NELSON: That's on average based on the historic period 1968 through 1991, yes.

MR. HOWARD: It just seems that would imply that there has only been between the late sixties and early seventies and the present approximately 160,000 acre-feet of additional water development between February and June. That seems to be what that number implies to me.

Is that your characterization?

MR. NELSON: I had not thought of it in those terms.

MR. HOWARD: Okay, thank you.

MR. CAFFREY: That seems to conclude the questions.

I want to thank you gentlemen for all your continuing efforts. We very much look forward to your participation in the meetings Mr. Pettit is going to hold with all the parties and the involved public agencies, and we think that you can be a very important integral part of forming some kind of an alternative that we can perhaps identify as a preferred alternative in our efforts here at the Board, so we commend you and all the other parties who are working in this way.

We appreciate very much your coming here. Thank you very much.

I think what we will do now, because Mr. Fullerton
and Mr. Thomas asked if they could follow the CUWA presentation, they have asked for ten minutes and we will do that next, and then we will go the public agency presentation of Kern County and Tulare Lake Basin right after this presentation.

Good afternoon, gentlemen.

MR. THOMAS: Good afternoon, Mr. Chairman.

MR. FULLERTON: I will start off. I am Dave Fullerton of the National Heritage Institute.

Greg Thomas, and Greg Thomas, my colleague.

We appreciate your willingness to hold another workshop to take more testimony on standards. We have already provided extensive comments in previous workshops, and what we want to do today is talk about the CUWA document which we have had a chance to review over the last couple of days, and we would like to give the most attention to the elements which we think are most pressing for you today, which are the standards.

But we also have a couple of words to say about implementation strategies.

The Bay Institute and the Environmental Defense Fund are also here today and I think that they will want to discuss some other elements of the other recommendations.

Over the past several months, the urban and environmental communities have worked diligently to narrow
our differences over the appropriate form of Bay-Delta standards and how those standards should be implemented, and we have made a great deal of progress.

In particular, we have achieved substantial, albeit not total, agreement on the details of an estuarine habitat standard, and we seem to agree in principle on how to set and implement a salmon smolt survival standard.

In general, I have to agree that we are very pleased and impressed with the CUWA recommendations.

The urban agencies have acted in good faith to provide scientifically based, proactive recommendations designed to help solve the problems in the estuary, and this is a major step forward and we are very appreciative of what they have done.

We don't agree with everything in the document, but we seem to be talking now more about how best to achieve a goal which is estuarine protection than whether or not it should be achieved.

We believe that this convergence provides a firm basis on which to erect standards. And in this regard, we particularly note the CUWA endorsement of the Rowe Island standards.

However, while acknowledging CUWA's constructive contribution, we would like to point out several areas where we have some differences with what they have put forward in
this document, and that is what we would like to turn to
now.

With respect to the estuarine habitat standard,
which is the \( X_2 \) standard, we agree with almost everything
which has been suggested by CUWA on the \( X_2 \) standard and, in
fact, we worked with CUWA to develop the methodology upon
which the sliding scale was based.

We have basically two concerns that we would like to
bring out with the standards.

One is the level of protection which is imbedded in
the standards. CUWA proposes that the standard should seek
to replicate salinity conditions at the three control points
based upon 1968 to 1975 conditions, which in terms of the
mathematics, natural setting days, our understanding is that
translates into 1971.5 conditions. That's what you plug
into the mathematical equation.

We believe that under the State's antidegradation
policy, that the State Board cannot seek to replicate
conditions based on any time later than the 1968 level of
development, and that it may need to go to an earlier date
in order to protect the resource, and we provided a great
deal of testimony on this at length in our comments to the
EPA, and those were provided as an attachment early on
during these hearings; therefore, we don't support the
numbers in the CUWA appendix, Tables 1, 2 and 3.
We think that the equations need to be rerun using a target date of 1968 or earlier. I don't think this would provide a major difference in the outcome, but it would, I think, put the State Board on firmer ground.

The second point on the estuarine standard is the question of the trigger, the Rowe Island trigger. We are not convinced that a trigger is needed to the extent that correlations are accurate between unimpaired flow conditions and the number of X2 days of Rowe Island. It is not clear to us that a trigger is necessary.

But if a trigger is necessary or warranted, we would like to see the Board move toward a standard which is based upon the natural hydrology, and then they cannot be manipulated through project operations.

The trigger as currently proposed could be untriggered. In other words, if you are on the borderline, it is possible to hold the water back in storage and, therefore, insure that the Rowe Island standard is not triggered, and this doesn't seem to be right. It should be independent of the project operations.

The second area that we would like to discuss is the striped bass standards. CUWA does not support such a standard, arguing that such a standard could have significant impacts on various native aquatic species.

We don't read the evidence this way, and in
addition, we think that there's an important regulatory principle at stake here in that discharges of agricultural drainage in the lower San Joaquin very clearly impair water quality in this reach and in the estuary, and that, therefore, to prevent impairment, we believe that the standard should be set at the levels suggested by EPA, not through dilution but through control of saline discharges into the river.

MR. DEL PIERO: Will you repeat that last thought? I am going to ask you the same question later on.

MR. FULLERTON: Yes, I ask time to prepare my answer.

The last point that I would like to bring up before I turn it over to Greg is the question of the salmon smolt survival standard proposed by EPA. I think we have agreement in principle with CUWA on how to go about that, which is to set a goal and then to set a standard -- well, the standard is a set of management practices which is designed to meet a goal, and compliance with the standard is compliance with the management practices.

Our provisos on our support for this formulation are the following:

That the management prescriptions should be calibrated to attain a preproject level of abundance of anadromous fish and should at least be sufficient
to attain the doubling goals of the Central Valley
Project Improvement Act;
And secondly, that the goal and the management
measures should encompass the needs of all salmon
runs, no just any one run, but should work for all of
them. And in this regard, I would note that we
presented a proposal for a spring-run standard in
July, at the July workshop;
And the third condition that we think is important
for such a formulation of a salmon standard is that
the State Board should make clear that consistent
failure to meet the abundance goal will trigger the
development of performance standards at the next
triennial review.
Those are basically my comments. We are certainly
interested in participating in the workshops that have been
suggested, both by CUWA and by the State Board. I think
they have been very successful over the last several months
and we would like to keep that ball rolling.
Now, I will turn it over to Greg.
MR. CAFFREY: Good afternoon.
MR. THOMAS: Good afternoon.
As you know CUWA has been giving some thought to an
implementation strategy for State Board standards as have we
at NHI.
I just wanted to trip lightly through some of our thinking, not by way of critiquing what you heard from CUWA earlier, although I do think some of their proposals have some practical difficulties with them, particularly the idea of the mitigation credit bank, but I do think it is important to begin now to look at implementation alternatives and strategies because the standards ought to be designed obviously in such a way as to lend themselves to ready implementation, and we have been quite interested at NHI in thinking through along with the water users a less cost approach, a less economic cost approach to implementation, on the theory that if a way can be found to put meaningful standards in place without significant economic relocations, we may finally be able to bring this standard-setting process that has been going on for so long to closure, and that's in everybody's interests to accomplish.

Our notion on how to do this was presented to you previously by Dave Sunding, our staff economist, who did an analysis, as you recall, of how implementation could be accomplished using market mechanisms whereby the water that was needed to comply with either EPA standards or State Board standards would be acquired through voluntary and compensated transfers from existing uses looking to those uses in California that are now providing the least economic
value, if you will, and indeed, one would expect the market
to, first of all, tap exactly those uses and, as you recall,
the numbers were pretty dramatic looking at the cost to the
California economy of complying with EPA standards as a
marker and with the ESA add-on, the numbers that we came up
with were in a normal year less than 4 million dollars in
lost economic activity in the State, and even in periods of
sustained drought, less than 45 million dollars a year.

What I want to think out loud with you about just
briefly this afternoon is how to get there. Can this be
done? Is this a practical suggestion?

We have built on the notion that you, the Board,
developed in 1630 the idea of establishing such a purchase
fund through assessments of water users on some kind of a
formula, and then using those moneys as you proposed, both
to finance the technical fixes such as those that are
envisioned in the Central Valley Project Improvement Act,
but also, then, to have this funded money available for
meeting the environmental water demands of these standards.

We support that approach very much.

The problem is engineering that around a legal
barrier.

We believe from our research that it is permissible
for the State Board to put in place an assessment program of
a sort and to create a fund. The problem is controlling
those funds should you do so, and that's a function of a
section of the Government Code that essentially provides
that money coming into State hands from any sources has to
be turned over to the general fund, and then appropriated if
they are to be used for a particular purpose.

So, the narrow question is how to engineer around
that. One obvious solution is to legislate around it, if
the State Legislature could be induced to provide that
authority specifically to the State Board, but let's not
indulge in charitable assumptions here. Let's assume they
won't do that. Are we dead in the water? We don't think
so.

What we are playing around with conceptually at this
point and wishing to invite the water users and State Board
staff into a dialogue on is a process that would work
approximately as follows: In a water rights phase, the
State Board will of necessity need to make decisions as to
how to apportion their responsibilities, the obligations,
for meeting the estuary standards among the water users
using whatever formula you may in your wisdom decide to use.

Once those individualized responsibilities are
fixed, we think it should be possible to allow water users
to either provide the water or an in-lieu payment of money
instead into a fund. But that fund, of course, could not be
a fund held by the State Board or any other governmental
entity as we view it.

Instead, it would appear to be necessary to create a nongovernmental agency to hold the funds and to actually engage in acquisition of the compliance water, if we can use that term.

We would think that this would be a nonprofit corporation, that it would acquire water per instructions from the State Board so that water could be acquired when and where, and in quantities that would be necessary to comply with these standards. And it might be called something like the environmental water trust or some such term.

Why do this? Can't the water users themselves, once they have this responsibility, go out into the market and pay somebody else to meet their share of the responsibility? Yes, they can, but a centralized approach might do two things that otherwise would be a problem. It can avoid the possibility that the price of the compliance water will be bid up through competitive attempts to acquire by water users, so this could be a lesser cost approach.

Secondly, it is important that this strategy be coordinated with the federal restoration fund that was created under the Central Valley Project Improvement Act. Again, a centralized entity would be a more practical way to do that.
Let me close with just a couple of design implications if we were to think seriously about an approach like this. One would think that it would be appropriate for those that contribute into this fund to have a measure of control over the entity that uses the funds to acquire water, so if it is a corporation, some number of seats on the Board of Directors it would seem ought to be set aside for the regulated community, if you will.

Secondly and maybe most problematic, what to do about the risk of failure of an alternative compliance scheme like this working? If it doesn't perform as expected, as advertised, whose problem should that be? We think that as a matter of both law and practicality, it has to remain the problem of those who have the regulatory obligation. In other words, this would not alleviate them of regulatory liability. But that may not be a show stopper.

Why couldn't this be set up in such a way as to carry with it something in the nature of an insurance premium where the funds would be initially set up through contributions that were designed to be more than adequate to purchase the necessary water, with the understanding that if that does end up being more than necessary, that premium could be rebated, if you will, to the contributors?

These are all just rough ideas at this point, but my
point in mentioning it to you at this stage is there does not seem to be a show stopper, practical show stopper in setting up an approach like this.

The benefits would be, indeed, to permit you to put in place a very aggressive program without concern about the economic dislocations in California, and we think that it is not too early to begin playing around with these kinds of alternatives and opening the dialogue.

End of message.

MR. CAFFREY: Thank you, Mr. Thomas and Mr. Fullerton.

Are there questions from Board members?

Ms. Forster.

MS. FORSTER: This is for Mr. Fullerton.

In reading different documents that have been sent in to us there is a little bit of lack of understanding about X2, or outflow, and I wonder if the outflow meant the same as X2, if you had problems with that, and the reason is I think outflow is a more understandable term than an X2 isochaline sign standard, and one of the things that I hope when this process is done is that it is understandable to Californians.

I run into so many people who don't understand any of the lingo, so they don't even pay attention to what's going on.
To me, in reading it, the intent is there. It's the wording.

MR. FULLERTON: I like X2. In some ways I think it actually has advantages over flow as a management tool in that it allows you to essentially get credit for flows that come in in excess of a standard. A pure water flow standard doesn't allow you to do that.

This is a tidal estuary and my understanding is that it's really the salt gradient, it is the movement of water back and forth that really drives what happens out there. It is very difficult to even measure a flow in the areas that we are talking about.

I can understand the desire to look at flow because it is in a sense something people are more comfortable with. It is something that modelers like better because it is easier to put into your equations, but I think as a management tool X2 may end up being a superior approach.

MS. FORSTER: Thanks.

MR. CAFFREY: Other questions?

Mr. Del Piero.

MR. DEL PIERO: Mr. Fullerton said he wanted me to ask and he is just ready to deliver it.

MR. FULLERTON: It doesn't matter because I am going to refer to Greg anyway.

MR. THOMAS: Maybe we should put Marc to the trouble
of asking the question.

MR. DEL PIERO: Do you have an opinion on that?

MR. THOMAS: Yes. There are a number of ways to address it. One is, sure, you should be worried about it and why don't we have a workshop where we can all address it. We didn't think through just what we wanted to say about this for this workshop, but, of course, it is a problem.

As you know, some 60 million dollars and 5 years was spent looking at it by the Federal/State San Joaquin Valley Drainage Program. As you may know, we had a role in evaluating the legal and institutional opportunities and barriers. The result was a rather weighty tome, some 1100 pages of analysis on both the problems and potential solutions.

I don't think you need to be thinking necessarily in terms of a permit program that has to be administered with, you know, several thousand discrete dischargers as a target.

MR. DEL PIERO: Pardon me, but I have to tell you, you know, I am sitting here talking to Ms. Forster after some of the comments this morning, and historically we have received advice that in order to resolve the salinity problem in the Delta, fresh water releases were necessary to meet the requirements, and then EPA comes in this morning and says they are going to back off what their recommended
flows are because they are recommending the State Board address the salinity problem on site at the source.

And when I raised my questions, then Mr. Hildebrand got up and said there's an easy solution. All you have to do is to reach 150,000 acre-feet of fresh water and you will resolve the salinity problems, and I sort of thought we went around in a circle on that.

That takes care of the problem for six weeks, and then the rest of the problem identified by EPA and everyone else in terms of salinity either is dealt with by more fresh water or desal plants at the end of Mr. Anderson's discharges.

So that's the concern that I have and I have had three people so far tell me you don't need to be concerned about the permitting process, except no one is really capable of giving me a guaranteed implementation schedule that is going to achieve the goals, and truly what, in effect, is taking place here, if we establish a goal and it is not achieved, we have a problem.

And all the proposals for voluntary compliance in the world won't save us from that problem if there's not voluntary compliance and if the goal is not achieved.

MR. THOMAS: It has been some years, really, since I have looked at this very much, but a couple of thoughts:

One is what may be needed here is some enforcement
action, not unlike the role that regulation played in
developing technological solutions to automobile emissions,
for instance.

In other words, perhaps you should purposely set
standards that you are not sure can be met with current
technology or institutions to force the development of them.

But having said that, I do think that a focused
workshop on ways to approach that problem would be in order
and, you know, talk about things like constructing a
regional drainage management entity which could be the
single recipient of a discharge permit, for instance, for
the State Board.

MR. DEL PIERO: There are a number of statutes, as
you well know, that are on the books that effectively
preclude that.

MR. THOMAS: You may know more about that than I do.
Without trying to figure out what the solution is, the so-
called rainbow report that the drainage program produced,
laid out a spectrum of fixes, some technical, some land
requirements, some regulatory, some source control, and we
probably ought to just feed that all into a more focused
session on this subject.

We would be delighted to engage with you on that.
We have never been chary about offering gratuitous advice,
and we will be glad to do it on this subject as well.
MR. CAFFREY: Other questions from Board members?
Anything from staff?
Thank you, gentlemen, very much. We appreciate your input.
Then, Mr. Clark, Mr. Moss and Mr. Nordstrom, representing Kern, Friant and Tulare Lake Basin.
Good afternoon, gentlemen.
MR. CLARK: I am Tom Clark, General Manager of Kern County Water Agency, and appearing together as a panel today is Dick Moss, the General Manager of the Friant Water Users on my left; Mike Nordstrom, General Counsel for Tulare Lake Basin on my right.
I think you recall at your last workshop we all presented testimony separately, that type of thing. We had a meeting earlier this week where a number of San Joaquin Valley ag agencies met and discussed the various issues related to the State Board process. I can report to you that there's a community of interests now among the group.
I have got a written statement that I think should be in front of you, and we are working on a pretty short fuse in the ability to take these things through our Board of Directors. For example, the day we met, I followed the meeting with a meeting of my board, so I was actually able to get specific board action. Some of the others, for example, Mike and I think Dick, have not had board meetings
yet, so you have to take that into consideration.

What we would like to do today is I will start with
the written statement that's prepared and in front of you,
and then I will be followed by Dick first, and then, by
Mike.

One thing so that you understand, we are three
agencies, but yet, among the three we represent 47 different
water agencies, public agencies, and that should be on a
separate 8-1/2-by-11 sheet. Mike will probably elaborate on
it, but you will notice with Tulare Lake is Dudley Ridge,
Empire, Westside, County of Kings, Oak Flat Water District.
They are not an organization per se. They are all San
Joaquin Valley State Water Contractors, agricultural
contractors, and I think they share a lot of work among
themselves as a group, so Tulare Lake as a group, for
example, works very closely with these other agencies.

With that, I will get started. I am going to try to
make it quick because, frankly, I drove up this morning and
I am trying to go camping. I've got a '76 Dodge parked out
on the street with a car carrier on it. I have five kids
and a labrador in the back seat, and the air conditioning
just broke.

Okay, I don't want to leave it but that's a lie. I
am by myself. I am going camping and I have got lots of air
conditioning.
What I would like to do at this time -- sometimes I jump around too much, but I would like to start you through this written statement and then I will try to ad lib as I go.

But as I mentioned to you earlier this week, we did meet. I think there is a community of interest among the agriculture agencies, the urban agencies, and environmental groups, to try to come together with some type of common plan between now and December.

I see this is where I am going to get into trouble trying to read some of this and talk to you at the same time. I am not going to read this thing. I am just going to talk to you.

MR. CAFFREY: We will read it.

MR. CLARK: Okay, thank you.

We generally believe that there has to be a coming together. One thing I would like to clarify for the purpose of the Board, because I don't know if you are a party to all the same outside discussions that I am, but --

MS. FORSTER: No, we are not.

MR. CLARK: There has been some sense of -- I don't want to call it a debate, but if you will recall the last time Kern appeared in front of you, we didn't talk about a technical plan, and again, I am going to emphasize what I call the policy issues, but I would like to address for a
moment the technical plans.

CUWA gave you their presentation of what that group has put together. Without addressing specifics, I am certain there are many good points to the CUWA plan as well as holes in the CUWA plan.

I have representations out there and this is a rumor now, the so-called Hansen/Bratovich is what it is referred to, but basically Dave Schuster is kind of the sparkplug in the whole thing of trying to develop a plan that might gain acceptance by the Board, and ultimately EPA. I think some people are starting to perceive these things as competitive plans.

That is not the position of the Kern County Water Agency, nor do we, however, reject the work Dave is doing, and I have heard some statements that, well, Kern County Water Agency doesn't even support Dave's work. Absolutely wrong.

I think it is well known, and I don't have to repeat it in here in terms of Dave's technical expertise in the Delta. He is widely respected by everyone, but I would like to make it clear that although we think that it is good science and we have reviewed it with Dave and others, we didn't feel that it was appropriate or conducive to the process for us to come in and hang our hat on that plan and say, here is the answer, folks.
I don't think that CUWA is doing that even with their own plan, so I think most everyone is going in the same direction, and I did hear, I guess this morning, you are going to do something on the 21st which we actively support.

I would like to see a forum where the scientists get together and there is an open critique in front of the Board. I don't know if that's part of the plan or not, but I think you need to hear the debate so that ultimately what comes out of this is whatever everybody is talking about.

MR. CAFFREY: If I can interject, what we did say, I read in the statement, that on the 21st of September, Mr. Pettit will start a series of public meetings which will be announced in the next few days by public notice for all the parties who want to participate. Hopefully, all of them will come in and look at all the alternatives and features of alternatives for comparison, for modifying, combining whatever needs to be done, and we are very hopeful that that kind of process will maybe be the impetus for what several of the parties who have come this morning and this afternoon are talking about, as are you.

The Board will come back in a public workshop after that for presentations on, hopefully, a coming together to some degree, if not just one alternative, but a winnowing down of the universe so we will be back into it, and we see
that happening in the second half of October.

You understand and I know the other parties understand our problem with the timing it takes to draft a plan, so we don't want to jam you all, but we think all the work you have been doing is really outstanding and we appreciate your comments today, and if we can bring that all together by, say, mid-October, there is a chance and I feel strongly that the Board can put something out there as a draft that not only we and you, but the U. S. EPA and the members of Club Fed can hopefully embrace.

MR. CLARK: Just as an additional comment, take the National Marine Fisheries Service and the Fish and Wildlife Service, they are very clearly players in the process. They have their own technical people again with respect to their plans. Even though ESA is destroying us, I think they should be part of the process in terms of the feedback on the technical aspects so that hopefully, and I don't propose this necessarily myself as a negotiation, you know, among these people, but a technical critique so that hopefully out of that evolution comes the best plan.

So, I think that's great.

So, enough said about the technical aspects and Dave is authorized by our board to work in this process with you any time you want to access him or any of our other consultants, please feel free.
Now, I will go to the issues we had discussed at your last workshop, and I really kind of ad libbed from a list of items then and I felt it was really important to follow that up in writing so that you know specifically what we are talking about.

But again, where our Board of Directors are is that any plan must insure that the ESA will not be a wild card that continues to ratchet the amount of water even higher, and to create certainty as to the future water supply that will be available to use throughout the state.

Mike Nordstrom will talk a little more about the certainty.

One thing I would like to add to the issue of certainty, I don't want somebody in the process to get the idea that certainty is taking two million acre-feet from the water users and telling us what's left is pretty certain. I think you should be governed by Secretary Babbitt's statement that we should be meeting fish and wildlife needs with the minimum amount of water, so we are looking for certainty with the minimum amount of water, not the maximum.

Let's see, I will just read through a few of these.

Furthermore, on the issue of certainty, in Kern County we believe to all California water users certainty is a mandatory component of the Bay-Delta plan.

As I stated earlier, we recognize whatever the State
Board does in these proceedings and the water rights hearings to follow, California's consumptive use of water supplies will be significantly reduced and the economy suffers. Any Board decision will be unacceptable if it is treated by anybody else as merely another floor from which the next increase will be demanded.

The amount of water reallocated from consumptive uses to the environment would be treated as a specific allocation of additional water to meet all fish and wildlife needs, including ESA requirements. Once the extent of this new allocation is known, water users will know prior to the start of each water year, the specific obligation for fish and wildlife protection.

The concept that's being thrown out here is that if our objective is to really get certainty, as long as we have got take limits, in particular take limits, we view that as a real wild card in the process and I think you have had some discussion about it this morning.

Somehow you have got to develop allocation of water for fish and wildlife purposes, and once you have identified that block, whatever it is, then as we go into a water year the project will know how much water must be used for specific purposes.

Frankly, I don't see a way you can get to that point of being able to tell our water users what their water
supply is as long as the take limit issue is out there. And I would encourage you to develop mechanisms so that the take limit aspect is not governing in terms of operation with the federal agencies.

I point out here that both the Clinton and Wilson administrations have stated that their policies are to implement the Endangered Species Act on a multispecies, ecosystem-based approach.

We believe both groups are sincere, but in reality, Delta operations are currently controlled by single-species approaches for winter-run salmon and Delta smelt. According to the Department of Water Resources, that approach is costing the State Water Project and the Central Valley Project more than 800,000 acre-feet per year.

I might add and I think I reported at the last meeting, this year take limits alone prevented 1.4 million acre-feet from being pumped at Tracy and Banks. That translates not directly into a water shortage because some of that water could not necessarily have been used because it may have been in January, but I have got to think the shortage created this year and maybe this is something your staff could look into, is at least on the order of a million acre-feet.

So, so far take limits have been a footnote to everybody's plan. It's got to become dominant.
In going on, we believe that if the State Board's comprehensive plan passes muster as good science for a multispecies plan, the ESA agencies must agree that water project operations consistent with that plan will eliminate the need for jeopardy opinions and take limits under the ESA.

In addition, as to other identified species for special concern, the fishery agencies must provide assurance that no additional quality, flow, or operational constraints, in addition to the State Board's plan, will need to be imposed to protect such species.

If, in the future -- everybody has been asking the question, you know, let's assume that the ESA agencies don't weigh in on the State Board process and they say, well, ESA is there and we've got to do what we have got to do, how do you deal with it at the State Board level?

One possibility is that, as we say here, if, in the future, in spite of these assurances the ESA regulatory agencies mandate the reallocation of more water for listed species, the Board should immediately adjust those elements of its Bay-Delta plan that are unrelated to endangered species so that the total water allocated to fish and wildlife does not exceed that amount determined through these current proceedings.

So, in other words, the allocation doesn't change,
but in terms of your standards, you adjust them to accommodate any new listing that comes in that might require more than the total allocation. I think that is worth looking into.

MR. DEL PIERO: I don't understand what you mean.

MR. CLARK: Let me give you an example. Let's say that --

MR. DEL PIERO: Why don't you go ahead and finish your presentation because I have a question to ask you. It will be the same question that I asked the representative for the Department of Water Resources. You are being real specific in terms of what Kern County Water Agency wants in terms of specificity, in terms of what the Board ultimately decides.

What are you prepared to accept in terms of specificity as to what this Board is advised to do in regard to its balancing?

MR. CLARK: How much water would we be willing to lose?

MR. DEL PIERO: No, what standard are you prepared to agree to meet in terms of sustainment of the endangered species? It is not only what are you prepared to lose, it's what are you prepared to do if the standards for the protection of the endangered species don't work?

MR. CLARK: I think if you had a situation -- let's
I assume we all sit down in good faith and we develop a plan and let’s say five years down the road -- what I am thinking is that the plan ought to include an allocation, specific quantity of water by year type so that you have this certainty.

And despite all our good faith and good science, it doesn't work. Then, what do you do? I think the whole program is blown at that point and to come back, and I think the Board will have to rebalance and address it, but I am saying if it happens in a major way, I personally don't think it is appropriate.

I think there is a lot of flexibility in ESA and, in fact, the agencies are saying that. So, let me give you a specific example. If, despite --

MR. DEL PIERO: I heard EPA say it today, the flexibility is there, but then, the tough decisions were left for the State Board to make.

MR. CLARK: Right. I just think what I would hope -- as far as the weigh in by the ESA agencies, that you have a basic working relationship with them, where if you set the allocation, that somebody has a wild card isn't going to come in, let's say, on the splittail, that you have got a plan that truly has Delta protection in it.

If Fish and Wildlife Service comes in after the fact and says, sorry, we need 400,000 more acre-feet, I think the
first step for the Board is to look at the existing allocation that you have got to fish and wildlife and see if you can accommodate the demands for this new species within the existing allocations.

If you can't --

MR. DEL PIERO: But I don't understand how that would work. If they are coming in demanding an additional 400,000 acre-feet, they aren't doing that unless something is going very wrong in terms of the ecosystem, so where is this water that you are talking about going to come from?

MR. CLARK: I think what the ESA does is forces compromises that none of us wants to make. So far the compromises, and this is probably my bias, have come from the water users. Every time there is a new listing, every time there is a new action, it isn't, don't look at the existing uses of fish and wildlife water, let's take another block from the water users.

What we are saying here is, listen, the Board within its power to balance; in fact, your obligation to balance --

MR. DEL PIERO: This is why I keep asking what is the standard in terms of species.

MR. CLARK: I think it is scientific personally.

MR. DEL PIERO: I don't mean to interrupt your presentation, Mr. Clark, but --

MR. CLARK: You are struggling with an issue here.
MR. DEL PIERO: We are obliged to balance and we're having a group of people coming in telling us what they want one side of the equation, and sort of like my old algebra class, there has to be something else on the other side of the equal sign and I am having real difficulty discovering what that is that the parties --

MR. CLARK: Actually, if we can talk about this maybe when we get through, but I honestly believe that this isn't just a one-sided proposal. I think there is honest and sincere effort here to try to deal with the very difficult issue, which is ESA, and in discussions I have had even with federal agencies, they are all struggling with the same thing, and I think -- and I am not proposing this as an adversarial thing at all. It is to engage the federal agencies and try to make sense out of it.

MR. DEL PIERO: My concern is I saw a series of charts yesterday where some of the species declined that aren't even listed and are even more significant than those that have been listed. That's the problem we are going to be confronted with.

We are being faced with a situation where pursuant to the environmental evaluation that we are going to be doing, we are going to have to be doing a balancing act, and I really want to know. I just haven't been getting -- I know what you all want, but I am not hearing what anybody is
MR. CAFFREY: Can I interject something? I haven't seen this list, but I think what you are saying really argues for the ecosystem-approach solution, and if I could for my own clarification try to understand your answer, I think when you were answering Mr. Del Piero's question about where is the water going to come from, I presume you were answering from the context of your supposition that we would have a block of water for the environment.

MR. CLARK: Right.

MR. CAFFREY: And you would look at that block and say, is it being properly managed?

MR. CLARK: Exactly.

MR. DEL PIERO: I thought that was the answer, too, but then, if the answer is yes, and the system is not working, and God forbid we end up with something listed going extinct, then what's the solution? Where does this Board find itself?

MR. CLARK: I think at that point in time, again I think you better talk to your lawyers and these people, but I would assume where you are is that you have got to reopen hearings and rebalance.

MR. CAFFREY: We are required to do a triennial review. That means every three years.

Although a lot of people don't like to probably hear
this, this isn't the last time this Board is going to establish standards for the estuary. We are here for the duration. And the point is that we have a process that we all understand and are parties to, and that is somewhat predictable, and that we set up a framework so that we can operate, and as some of the discussion centered around here today that if we put something in place and if we expect it to do something and it doesn't do that, then we have to look at it again and rebalance.

MR. DEL PIERO: Mr. Clark, I am asking, because hopefully over the course of the next several meetings that are held either by Mr. Pettit or the last meeting this Board has, we will be able to hear at least some suggestion as to what the other side of the equation ought to be.

MR. MOSS: If I might take a shot at that. It seems to me that all we have ever asked for is on the other side of the equation being good science and supportive of what Mr. Caffrey said.

If the best science that we have that we are willing to support isn't working, then we have got to go back and look at the good science again, and then rebalance.

But that's consistent with what we have always asked for. Tell us what is needed to fix the problem.

MR. DEL PIERO: I think the problem that we have is that there are a variety of opinions as to what good science
MR. MOSS: True.

MR. DEL PIERO: And those choices that this Board has made in the past when this Board has chosen to make choices, have obviously not worked as effectively as some people would have hoped, and so the question as to whether or not good science really means the same thing to everyone remains to be seen.

I am trying to figure out what that definition is.

MR. MOSS: And that, quite frankly, is what has impressed me, what has gone on here over these last couple of months in these most recent proceedings is I see a coalescing, a convergence coming together of opinion as to what that good science constitutes, and that, to me, is very exciting and presents, I think, this Board with a unique opportunity to make some real progress in this debate.

MR. CAFFREY: I don't think that we can define what good science is. I think science is the interpretation of data. We hope the data is good.

I think the key here is the Board is going to have to act, and hopefully, the Board can do it in a way based on some developed consensus.

If we have all the parties and interests in this agreeing to accept some interpretation of the data and call that science, that is what we will implement and live with
as long as it works. If it doesn't work, we will be back here again all going through this process, hopefully in good faith again, but I think it is that process that if we stick to it, will allow us to protect the estuary and the beneficial uses.

I didn't mean to make a speech, but we are having a bit of a colloquy, if not a debate, up here about these issues and I think there's a lot of good faith in this effort, and we don't want to lose sight of that.

Ms. Forster, did you have a comment?

MS. FORSTER: Well, I just want to inject something that I think brings some optimism.

When the first Club Fed meeting happened when EPA was ready to come out with their December 15 standards, I remember several people questioning the attorney for one of the federal fishery agencies about this take formula and how it was developed and how sound it was, and she admitted that it was the best they could come up with.

They didn't know if it was perfect, one of the discussions that I thought was very valuable is every time a fish is in decline it doesn't mean you have to add another block of water. The goal would be to find that magic block of water mixed with when the Delta is fish friendly for spawning and looking at the habitat to make it work better.

So, even if there's charts out there today showing
things aren't doing too well, this whole process is moving
towards how to make it measurably better.

MR. DEL PIERO: Maybe we ought to design a better
screen.

MS. FORSTER: I just think that we are going to do a
lot of work on how to make this whole process -- you have
fish and wildlife and we're not even talking about the other
beneficial uses because everybody agrees that they are
pretty okay.

So, I think that a lot of work will be done and
that's what we were talking about with Patrick today -- does
their standard need this magical block of water that would
show great increases in ecosystem productivity, and we will
keep moving that way.

MR. CAFFREY: We are not trying to keep you from
camping here.

MR. CLARK: Well, I appreciate that. I wasn't doing
well in my talk anyway.

MR. CAFFREY: You were doing very well. We have
taken a lot of your 20 minutes.

MR. CLARK: Maybe this is one of the congressional
rules, can the gentleman from Kern County have another extra
five minutes?

MR. CAFFREY: We have been stopping the clock for
all interruptions in the presentations anyway.
MR. CLARK: I think we have actually had a very good exchange on this particular issue because I think it is fundamental to the whole thing and why we came in to talk about policy issues and not the technical merits of all the plans, because we want that debated in the right forum, is that our folks down there are taking, you know, Kern has a 50-percent shortage this year, the federal agencies a 65-percent shortage. We have people that are going out of business, and I have to sell them the concept of taking shortages, taking even greater shortages for the sake of trying to settle the Delta issue.

MR. DEL PIERO: No wonder you are going camping.

MR. CLARK: It is up on the North Coast, by the way. But I think it is really important that you focus on how you can provide this certainty to the water users because if we can't tell our water users that there's going to be certainty that comes out of this, what have we got to sell, because I will tell you that this take limit thing is absolutely something you can't operate with.

DWR, as they go into the water year, they don't know how many of these fish they are going to take and the scientists are continually surprised. If you take the counts on smelt earlier this year, the projects are wiping the smelt out. Remember that?

And then, they did the silver tow net surveys and
found out, my God, there's smelt everywhere, you know, and it wasn't a matter that the projects were wiping the smelt out, there were just a hell of a lot more of them.

So, I think that as long as we have those take limits and the take limits are governing, then I just reach the conclusion in reviewing all of this, we just don't have certainty, so those of you that are sitting as the regulators, including EPA and the others, if you can't deliver on certainty, say it, because everybody has been saying it.

So, anyway, it's just an important issue and the time, I think, supports that.

I'm on page 4 now, but I am going to try to make this quick. I just got a report the dog passed out.

The linkage to a long-term solution, I know that BDOC is going to be involved in something else, but I have seen a few letters from some of the environmental groups that are already admonishing us that this proceeding is merely going to be the floor to the next step, and on the long-term plan it is going to go up.

We don't buy that. We think that ultimately when we get to the long-term solution that there should be a standard-setting process for long-term standards that are co-terminus with that, and those standards should be set objectively in a process based on the conditions that are
occurring at that time.

On the upstream Delta participation issue, I have got an upstream interest sitting here with me today in the form of Dick Moss. The Kern County Water Agency's position has been consistently that everybody that is tributary to the Delta does, in fact, contribute to the problem one way or another, and we do, however, continue to support the area of origin statutes, but we do not believe that those statutes absolve upstream and Delta interests from mitigating their own impacts.

In addition, we believe that water rights should definitely play a role in whatever decision-making process there is terms of the relative contributions by the parties.

On project flexibility again, I emphasize again that we are going to be losing a lot of water during the dry period, and those of us that operate projects are going to need to do everything we can to mitigate those impacts by moving water south of the Delta and moving it south during periods when it is not environmentally damaging, and moving it in such a way that we can store it in our groundwater basins and south of the Delta storage.

I don't know exactly how the staff is going about it, but I don't know if there are things you can put into standards where you can create some flexibility so if we get, let's say, we get a freshette during February, there is
a big slug of water, we have got tons of outflow, water is coming out of our ears, I would caution you not to have operational constraints that prevent us from pumping and moving the water. Somehow there should be flexibility in those standards.

South of the Delta facilities -- I brought this up before -- I am hearing from DWR in terms of their engineering experts and even our own, south of Delta facilities which were paired with standard setting by the Governor in 1992, are becoming increasingly important as the existing pumps become constricted.

As far as their pumping pattern, it becomes extremely important to be able to pump as much water during these short pumping windows as we can.

I realize the Board can't merely approve South Delta facilities, but I would ask you to use your influence in the standard-setting process to advocate 'construction of South Delta facilities and possibly consider marrying South Delta facilities with any kind of EIR/EIS process you might do here.

I see South Delta facilities as being an emergency project for water users in the same way I see standard setting before the Board this year to protect fish and wildlife.

Funding and monitoring -- we have not bought off on
the idea that it is an automatic given that you are going to set standards and an allocation for fish and wildlife where automatically there has to be a fund generated to go out and buy more water. Most people have seen this mechanism as a way to minimize the water impact to water users under standard setting while tipping our hat to the fish and wildlife people and saying, you can buy more water. If that's absolutely necessary, then maybe look at it, but so far it has just been a negotiating chip in a big puzzle.

Talk to the Miller/Bradley people, the CVPIA and find out how well they are doing with their fund. I have heard actually from one of the environmental groups that 80 new federal positions have been authorized using that CVPIA money that is supposed to be for environmental restoration. Maybe their idea is getting people off the street and working.

MR. CAFFREY: Mr. Clark, Mr. Brown has a question.

MR. BROWN: You've got to say that again -- 80 new positions have been authorized to the CVPIA environmental fund?

MR. CLARK: I won't identify my source and you have to consider it hearsay, but I definitely heard it from an environmentalist that is reviewing what they were doing with the CVPIA money in Washington. The exact number that I
remember was 89 positions, is what they found were authorized as a result of the CVPIA.

MR. DEL PIERO: They are hiring former CVP recipients.

MR. CLARK: Probably farmers.

MR. BROWN: We will check into it.

MR. CLARK: It is kind of a secondhand type thing.

MR. MOSS: It's a common thing between the environmental community as well as the CVP contractors and we are actually working together on beginning an overview and review of how the money is being spent.

MR. CLARK: Continuing on the funding, we do, on the other hand, see a need for a comprehensive monitoring program. We think you ought to conduct an across-the-board review of all the money that is being spent currently in the Delta.

I know that I have been working on the State contractors side. I can give you numbers on how much we spent. We are going to provide you a report on it. We are spending a lot of money already, more than 200 million dollars today on specific project type things, but why don't you review that, review how CVPIA money is being used, what money does EPA have and the ESA people, and let's see if we can get people together to decide how best to use the money we have got rather than immediately going out with another
funding source.

From the point of view of our water users we are paying 70 million dollars a year for our right to entitlement from the State Water Project, but we are only getting half of the water, and we have to pay the full bill. We are in bad shape.

If you come out with a plan that takes more water from our users, and then adds to our bill, I will ask you to come down and announce it for me.

On my last issue, voluntary compliance, after talking with you at the last workshop, we really gave this a lot of thought. I wouldn't take this statement in an absolute sense, but you are asking the question, will the Central Valley Project and the State Water Project contractors voluntarily comply for immediate implementation of standards.

I think my answer at the last workshop was, well, really, that depends on what are the standards. It's a hard question to answer right now, but having given it more thought, I believe that what there should be is a program for voluntary compliance commencing January 1, but that voluntary compliance include everybody across the board, not only the Central Valley Project and the State Water Project, but also include the upstream interests. The upstream interests have got to come into this process.
I mention at the end of this issue, I think if you can actually use this as a way of bringing in the upstream people on a voluntary basis, I'm sure that the upstream interests are very nervous about a water rights hearing, and I know that it will be controversial and bloody, but maybe this is a way of bringing people in so that they will agree.

MR. DEL PIERO: I will move down to Kern County and make that announcement if you want to come up here.

MR. CLARK: But the other thing about voluntary compliance is that you have got to have the ESA agencies, Club Fed, weighing in on this plan.

For us to agree in January to a State Board plan without any commitment from the federal agencies, then we are setting ourselves up to be doubled up by two regulatory agencies. So, voluntary compliance, I think it's great, we should all do it, and now is the time to pull it off and bring it together, and I honestly believe we are on the cusp of really putting something together that may mean something.

So, that's what I have got.

MR. CAFFREY: Thank you, Mr. Clark.

Do any of the other gentlemen have a comment?

MR. MOSS: Yes, we do.

MR. CAFFREY: I know Mr. Nordstrom was here this morning. I'm not sure about Mr. Moss, but we did have some
discussion about the positioning and the importance of the
shelf-life issue, and you may want to consult with your
cohorts on that and to give you an update on what some of
the discussion on that was.

Mr. Moss.

MR. MOSS: Thank you very much, Mr. Chairman and
members of the Board.

I very much appreciate the opportunity to appear
before you today, especially alongside such distinguished
company, I think.

My name is Richard Moss and I am General Manager of
the Friant Water Users Authority.

I have not heretofore appeared before you in this
most recent set of hearings and workshops, but that's not to
say that our agency and our members are not very much
interested in what is going on here.

Quite to the contrary, we have come to view this
current set of workshops and the actions that this Board
will take within the next couple of months as being quite
critical to returning the State to control of its resources,
critical to establishing some certainty in the State's two
largest water projects, critical to answering some of the
nagging questions that the bankers and others who would
otherwise want to invest in California's future have been
asking, and critical to halting the decline of the
biological resources of the State's most important estuary.

We have been impressed with the Board's effort to
provide a forum for technical as well as policy-related
exchanges of ideas, and more importantly, I think, your
apparent desire to make interim standards work and work for
everybody.

I speak today without the formal endorsement, as Tom
mentioned, of my Board of Directors but I am confident, and
I think this goes without saying, that what I will say today
will be supported by all of our 25 member agencies; and Tom
mentioned that it was only earlier this week that we got
together and determined that it would really be of value to
you and to the overall process to come collectively in front
of you here today, and to tell you that we think we are
getting close, close to a plan that truly makes some sense.

That is not to say that we have a plan or that we
support anyone's particular proposal. It is to say that the
differences we see between the various alternatives are
growing smaller and smaller, thus allowing the Board to have
a greater and greater confidence that they can select from
all or part of the various alternatives and prescribe a plan
that will be acceptable to a large number of Californians,
and thus, enjoy a higher likelihood of being successfully
implemented, because after all, implementation is where the
true success of this effort will lie. We have no plan if it
can't be implemented.

It was interesting to listen to the discussion this morning of a deal is a deal. While I know everyone disdains the idea that there is a deal to be had, it clearly is an easy way for my constituents to understand what's going on here and, in fact, I often get asked when discussing the Bay-Delta issue, okay, what's the deal? In other words, what does the San Joaquin Valley get in exchange for agreeing to reduce water supply to a region that we know is critically and chronically overdrafted and water short, knowing that the water that we do get is going to be more expensive, and the bottom line, knowing that during this period there's going to be some people that end up going out of business.

If I respond to them that we get nothing in return, then I can tell right now as far as we are concerned there is not going to be a deal.

However, if I respond to them that we see some true scientific validity to what's being asked for, that there will be a reprieve in the water wars over the Bay-Delta, that there will be some certainty and timely predictability about our water supply, and that that will immediately happen, and that there is some clear linkage to a long-term solution to meet our existing and future needs, I believe that then they will agree that there is the basis for a deal
In order to provide the kind of guarantees that I just spoke of, it is clear that the deal, as Tom has mentioned, must extend to other entities that regulate or influence the operation of these projects and the diverters of water tributary to the Delta, in particular the Federal Government. Those agencies that are responsible for implementing endangered species protection must agree that project operations consistent with your plan will not jeopardize the continued existence of current and potential endangered species.

Additionally, it seems to me that you must be able to guarantee to us that if other regulators impose additional requirements on our projects for related fish and wildlife activities, adjustments will need to be made by you to the plan so that no more water will be allocated to fish and wildlife than is determined necessary as part of these proceedings.

As Tom has said, to state it another way, the agreements reached as part of these proceedings cannot become the new floor which subsequently will be used as a base to reach for additional water to be reallocated away from our region.

To speak a little bit about this allocation of responsibility -- as I know, you are well aware that
developing a plan is the easy part, and as you mentioned, the difficult part is going to be the allocation of the responsibility to the respective parties.

While this phase is not immediately in front of us, I think it is important to talk about it a little bit because it clearly does constitute part of the deal, if you will.

I have yet to hear any one of our constituents say that they would not be willing to contribute their fair share of scientifically sound fish and wildlife requirements for the Bay-Delta. Of course, the definition of a fair share is the difficult part and everyone has a little bit different idea of what exactly that is.

The implementability, if you will, of your plan will ultimately rest with your ability to be abundantly fair in your allocation of that responsibility. That includes the requirement that everyone who stores and diverts water tributary to the Delta be included as a responsible party and involved in its management.

It also includes consideration and acknowledgment of the legally established priorities of all water right holders. It further requires that consideration be given for the water and financial contributions that are already being made by the various parties.

In this regard, let me speak to one potential deal
breaker that I see on the horizon here that I haven't heard a lot of discussion about, and in some respects, this is out of your control, yet it clearly will have a major effect on your ability to find a fair allocation responsibility to the plan.

This concern lies in the Interior Department's determination as to how they are going to account for water that is provided by the Central Valley Project as a result of these proceedings. The Central Valley Project Improvement Act provides 800,000 acre-feet of Central Valley Project yield for wildlife purposes of the Act and to assist the State in its efforts to protect the waters of the Bay-Delta.

The Central Valley Project also provides that the new obligations of the Central Valley Project that arise out of this and future proceedings of the Board are to be credited against that 800,000 acre-feet.

As I am sure you are well aware, there is active debate within Interior as to whether or not this credit is going to be provided as we believe it should be and as we believe it was called for in the law.

The ability of the CVP contractors to evaluate the fairness of any additional allocation of responsibility is going to be directly dependent and tied to that final determination as to how this 800,000 acre-feet of water is
going to be accounted for.

It would seem to me it would be clearly in your best interest as well as ours to have a final interpretation of this part of the law prior to finalization of your plan.

One other important --

MR. DEL PIERO: I seem to recall a provision for that in D-1630. Isn't that correct, Mr. Caffrey?

MR. CAFFREY: I seem to recall such a thing.

MR. MOSS: One other important note relative to implementation: I believe the success of the implementation of the plan will also depend on your ability, quite frankly, our ability to be creative and flexible in meeting these allocated responsibilities. Some regions could face tremendous difficulty in meeting their fair allocation of this responsibility. Consideration of alternatives must be provided for these cases. There must be reasonable ways for meeting these new obligations.

In summary, again we are getting close. The unique opportunities to make some historic progress in developing an implementable plan for the Bay-Delta are clearly before all of us. There are a number of reasonable conditions that I think we have collectively brought to you here today, and we acknowledge that all of these things may not be in your direct control, yet we believe that you will be instrumental in establishing the basis for a balanced solution to all of
It is our sincere hope that we can return control of California's water resources back to California by helping you develop a plan for the Bay-Delta system. We are here to help and I think that's perhaps the most important message that I bring to you today.

MR. CAFFREY: Thank you very much, Mr. Moss.

MR. NORDSTROM: Thank you, Mr. Chairman.

As Tom mentioned, I am General Counsel for Tulare Lake Basin Water Storage District.

The District has been coordinating our efforts with other districts that are listed on that sign-in sheet.

I won't reiterate everything that Tom and Dick said. We have been coordinating our efforts with the Kern County Water Agency. I will highlight just a couple of issues mentioned in his presentation:

One, there is not a lot of discussion on certainty and reliability, and highlighting that fact, we desperately need that in the valley. As the water attorney I am getting more and more calls not only from the farmers trying to give answers to the banks, but now I am getting calls from the banks asking what kind of assurances can you give us as far as water reliability and what their supply is going to be, and with these take limits, it is becoming very very
difficult to give them any type of assurances, and all I can
give them is a best estimate with a number of caveats on it.
I mean, that just highlights that we have got to
move forward and get some type of certainty and reliability
on the water supply.
The issue I really wanted to touch on a little bit I
know is important in Kern, and also, Dick's clients and in
Tulare is these long-term project effects that CUWA referred
to as biodegradation factors. The projects have been
bearing most of the brunt of these things and it is going to
fall on the shoulders of instream users also as they start
contributing to some of these outflow standards.
For instance, the poaching issue, we need to get a
better handle on that. The State Water Contractors have
been contributing money to the Department to buy a couple of
boats, and also, funding wardens.
We need the help of both the Department of Fish and
Game and U. S. Fish and Wildlife Service to get a better
handle on this. These exotic species, introduction of them,
such as the Asian clam, that's definitely going to have a
continued effect in the Delta. And all the diverters from
the Delta are going to have to solve that problem if we
don't get a handle on it.
So, I believe that you ought to urge the Department
of Fish and Game and the U. S. Fish and Wildlife Service to
do further studies on that, if there's some control mechanism to implement, or perhaps eradication programs that can be implemented.

And then, the last issue was the pollution and toxic issue. I believe we need to push forward to continue upgrading the water quality plans as far as discharges in the Delta for the pollution. It is definitely having an adverse effect in there, and again, all the diverters are going to bear the brunt of that if we don't get a handle on it.

That is all I have to add.

MR. CAFFREY: Thank you very much, Mr. Nordstrom. We appreciate your comments.

Are there questions from the Board members?

Mr. Brown.

MR. BROWN: Not a question so such as recognizing what I call an attitude which is very pleasing to see coming forward as groups have today with ideas and suggestions of how to agree and resolve the problems, and we are very appreciative of that.

I do have a question here. I heard, I think it was Mr. Moss, say 800,000- acre-feet of Central Valley Project water. It is actually probably closer to 1.5 million, which I am sure you recognize -- 200,000 acre-feet out of the Trinity, plus I think they are required to develop 120,000
acres of wetland, which would be about 400,000 or 500,000 acre-feet.

MR. MOSS: Pretty close to that.

MR. BROWN: So, it could total a significant figure, as much as one and a half million, and did I hear you say that the 800,000 would be a portion of those requirements? Is that what I heard you say?

MR. MOSS: The way we understood it to work when the CVPIA was passed, there was 800,000 acre-feet provided for fish and wildlife purposes of the Act, as well as for helping the State with improving the Bay-Delta estuary.

And it was our understanding that there would be a crediting that if additional requirements are placed on the Central Valley Project after the passage of the law, additional requirements additive to what existed at the date of passage of the law, that the water to meet those requirements would be taken out of the 800,000 acre-feet for both endangered species as well as for additional water quality requirements.

What we are concerned about is the potential for Interior to take that 800,000 acre-feet and use it solely for fish doubling and allow the requirement under these State Board actions, or as a result of additional endangered species actions, to become additive to that and that would be very difficult for us to manage.
MR. BROWN: Have you received any feedback from the Bureau of Reclamation or ongoing EIS as to how that is going to be treated?

MR. MOSS: It has been a subject of active discussion within Interior. The Bureau, I believe, has a position very similar to what we see in the law, but we also hear that Fish and Wildlife Service has the exact opposite opinion, and it's been somewhat of a struggle for them. I know they have been intending to have some workshops and have tried to have some workshops.

It is a very complicated issue and a lot of times it gets wound up in a particular year's operations.

Again, it is very critical to our analysis of how big an additional impact would be suffered by the project as a result of any requirement coming out of this Board.

MR. BROWN: Thank you.

MR. DEL Piero: The language of the Central Valley Project Improvement Act is ambiguous so there is a real question as to what the intent of the Congress was.

The reference I made to Mr. Caffrey, earlier before you were on the Board was that the order indicated all 800,000 acre-feet was to be credited for the Delta. That, obviously, didn't happen and the Federal Government allocated a large chunk of that water for wetland purposes, and at this point, there is a question as to whether or not
that can be credited to the Delta.

MR. CAFFREY: Other questions from Board members?

Anything from staff?

Gentlemen, thank you very much. We look forward
certainly to your continuing participation.

MR. CLARK: I just want to apologize for the length
of our testimony. I just got a report from my street that
the dog died.

MR. CAFFREY: We do hope you have a nice camping
trip.

We will now have a very brief break, five minutes,
and then we will hear from Mr. Bobker and Mr. Krautkraemer.
(Recess)

MR. CAFFREY: If you would please take your seats,
we will try to get as much of this as possible today. There
is a possibility we may have to come back tomorrow.

Good afternoon, Mr. Krautkraemer. Thank you for
your patience.

MR. KRAUTKRAEMER: I think I can confine my remarks
to 45 minutes or so.

MR. CAFFREY: That will be helpful compared to some
of the other presentations.

MR. KRAUTKRAEMER: My name is John Krautkraemer. I
am Senior Attorney with the Environmental Defense Fund and I
have submitted a written statement to the Board, and I will
do my best to be as brief as possible.

In fact, I think I will just refer you to the written statement based on what I have heard here today.

It is interesting to come to these things and end up talking about things you never thought you were going to talk about, such things as drainage.

MR. CAFFREY: You are entitled to 20 minutes and to make a showing if you need more time than that.

MR. KRAUTKRAEMER: I think I can make it in ten minutes.

I would just like to make a few key points:

The first is that I would agree with some of the other speakers today that I really do see movement toward at least some agreement on some of the key standards that are being discussed. For the first time, I have to say I am hopeful that this process will actually lead to State standards.

You know, having gone through or been involved in this process now for eight years and having gone through the 1988 draft and D-1630, maybe I am crazy to say this, but I really do see that maybe things are coming together and we can finally get the State re-engaged in the standard-setting process.

I think one of the major potentials that has occurred is that recognition, I think, of a need for Rowe
Island standards.

In many ways we are very close on complete agreement with CUWA. Now, there are some details that we are not in complete agreement on and those have been talked about in some of the other statements.

I would say the key difference probably between where we are and where CUWA is on the estuarine standard is at the confluence, something that hasn't been talked about too much. But CUWA would propose a sliding scale at the confluence which would result in fewer than 150 days during the applicable period, whereas in our view, that 150 days is an essential override for any kind of concern about variability that is needed in order to move fish species, including certain endangered species, downstream of the Delta channels.

But as far as the sliding scale, we have always said we agree with that in concept and we haven't seen anything in the sliding scale used so far that would cause us to have a problem with that.

So, I think we have a lot of common ground with CUWA on that aspect of this proposal.

There is a major hole remaining in the proposal which I think they acknowledge and that is the management measures that would be developed for fish migration and other fishery protection measures.
We have been involved with the urban agencies in ongoing discussions for some time now. We have had the technical meetings that have been discussed and we hope to continue and plan to continue the dialogue with them on these management measures over the next couple of months, and I am hopeful that we can come to some agreement on those.

I would also note there has been a discussion of good science, at least in terms of estuarine standards, that we are starting to coalesce around the science that was presented to this Board back in 1987. It was a little bit different. The knowledge has been refined, but I think really the problem has been not so much the lack of good science, but too much bad politics, and I am hopeful that people will start coming around and recognizing it is good science and has been good science.

There are also a lot of areas of agreement among ourselves and the urban agencies at least, and I think perhaps some of the agricultural agencies, on some of these issues. Certainly one of the areas where we have agreement with the urban agencies is the concept of this restoration kind of approach. We see that as a mechanism for reducing the economic impacts on water users in allocating more water to the Bay and Delta.

Certainly, there are a lot of issues that need to be
worked out. The problems with the CVPIA restoration fund have been discussed, this rumor that 80 full-time equivalents have been hired with that money.

MR. DEL PIERO: Have you been talking to the same people as Mr. Clark?

MR. KRAUTKRAEMER: He works for our organization, I think, but we don't know for sure that that's the case, but the point I want to make is that last week we had a meeting that included representatives of the Central Valley Project Contractors, representatives of urban agencies and other stakeholders that have come together to try to make the restoration fund work, and there's a letter being put together. I don't know if it's gone out or not, and it is going to ask the Federal Government, what gives here, what is going on with this money, and identifies some of the other problems we see in the administration of that, and my point is I think this fund is something that various interests can coalesce around.

It's something that everybody has a stake in making work. We want to see it work because we want improvement in the environment. Water users want to make it work because they are paying the money and they want it to do environmental good because they are going to pay the money anyway, and they would rather it go to fixing the environmental problems than pay for bureaucratic salaries.
So, you know, there's a lot of common interest here and I think that's one of the major positive aspects of this kind of approach. I think it helps bring people together to try to identify how to make this fund work and how you are going to put the money where it will do the most good.

Another aspect of the implementation that I would like to mention that hasn't been talked about today is this immediate implementation, the notion that is embodied in the framework agreement that there's going to be some kind of immediate implementation in the coming water year. If you can get a voluntary agreement on that, it would be great, and certainly, I think you should strive for that.

The question is, if you can't do that -- we view this as a very important part of the overall framework agreement between the State and Federal Governments, and indeed, I think the prerequisite to an effective long-term process where people can say, okay, we've got something in place now, let's start doing short term at least with the problems of the Bay-Delta, so I think we need to start and you need to start giving some attention to what happens if you can't get the voluntary agreement.

Are there other mechanisms out there for agreement in the immediate implementation by the State and Federal projects?
And I also urge you to focus more attention even on the longer-term implementation.

The Federal Government is going to have final standards in the middle of December. Your standards are going to lag several months behind that at best. I think you have got to be thinking about how we are going to implement these standards, putting in place the processes, the planning processes that have to go in place for the interim water rights allocation and the longer-term water rights allocation. You can't focus just on the standards.

In fact, I think your immediate priority should be how are we going to get things implemented as we move down the line? That's going to be a critical element of all this.

Certainly, there's a lot of discussion about certainty. You know, I'm sympathetic to the concerns that the water users have expressed. On the other hand, I am also hearing that, well, we want certainty, but we want to limit the amount of water we give up front. We want you to do the best you can with the amount of water we are willing to give, and in my view, that is not the way it works. You determine what is necessary to deal with the problem and you can't cut corners on the front end. You can't cut corners and say this is all we can live with.

If you are going to start talking about something
that is certainty, I don't think you will ever get complete certainty because you need to comply with the Endangered Species Act. You can't let species go extinct.

But at the very least, you have to make sure that your front-end plan is as comprehensive as possible.

I am going to steal an analogy that Gary Bobker made which I think is very good. Since he comes after me, I get to say it first. It's sort of like the difference between an adjustable rate mortgage and a fixed-rate mortgage. If you want an adjustable rate mortgage, you pay a little bit less at the front end, but you have a lot less certainty. If you want a fixed rate mortgage, you pay a little more at the front end, and I think that's not a terrible analogy.

If we are going to be talking about trying to put in place a plan that is going to avoid having to go back and revisit the plan in the future as much as possible, you've got to try to make it as complete as possible at the front end. You can't say, well, we have got to fudge here a little bit, and then be surprised when it doesn't work later on.

Finally, on this biodegradation, the other element of the CUWA approach, we would endorse the idea that certainly the adoption of the standards that are being contemplated here isn't all that's needed to be done by the Bay-Delta estuary, but we also stress and I know this is
consistent with what CUWA is saying, that there's an immediate need here for standards and you can't delay those standards while you are dealing with those other problems.

Let me say something specific about one of the factors that's listed in the CUWA document and that is drainage. First of all, there is a difference between land-derived salts in the San Joaquin River that come from drainage and the salt-water intrusion problem which I think is appropriately dealt with by flow.

The second point, I think, is a response to Mr. Del Piero about the problems of permitting all the drainage discharges. EDF has just come out with a report, maybe a month or so ago. I was not closely involved in the production of that report, so I am only generally aware of its contents, but one of the key parts of that plan would be to create a regional drainage district so that you create an entity that is charged with coming up with a plan for how you are going to address the drainage discharge problem. That then becomes the permanent entity.

We are cognizant of the administrative problems of having to permit every individual farmer out there. So, the Board or the Regional Water Quality Control Board would permit this regional entity which would then have an obligation for meeting whatever the requirements were of that permit, and they would be the accountable party.
It would be a party that the Board dealt with in terms of compliance and enforcement and those kinds of things, but that regional entity would be responsible for working with the landowners within its district to come up with a plan that's going to meet the requirements that are written into this regional permit, and you can do that.

With a drainage problem, it is somewhat easy to do that because the discharge points are consolidated. You may not be able to do that with every nonpoint source problem that exists.

And another aspect of that part of the analysis is the use of economic incentives such as effluent fees and allowing trading of allocations within the regional entity among the drainage dischargers. Those who can afford to do more might do more if we can sell part of their credit to other users who can't do as much, and it tremendously brings down the cost of compliance.

In this case, the cost is targeted on selenium. That's another key point. You've got a problem out there that's independent of the salt problem, and I think probably more important, at least as a first priority, is the selenium problem and the report is targeted towards how you address the selenium and other toxic contaminant issues, how you meet the water quality standards in the San Joaquin River for selenium, but I think the same kind of approach
would apply to the salt-loading problem as well.

That's really all I have and I would welcome any questions you might have.

MR. CAFFREY: Thank you very much, Mr. Krautkraemer.

Before I ask my fellow Board members, I would certainly agree with you that the voluntary implementation aspect of all this is critical. Otherwise, we look forward to being able to work out some kind of arrangement on that as well.

Are there questions of Mr. Krautkraemer from Board members?

Mr. Del Piero.

MR. DEL PIERO: Mr. Krautkraemer, I am going to ask you the same question I asked Mr. Anderson, and I want to know what the other side of your equation is, what commitment you are prepared to make to water contractors as to the issue of reliability.

MR. KRAUTKRAEMER: Well, under the Endangered Species Act, I don't think you can say a deal is a deal, that we are never going to revisit this if there is a problem. I think what you can do is sit down and try to come up with a package that you think is going to address the problem, and then do the best you can to try to develop a process and procedure for monitoring and identifying how things are working, maybe give some time period to see how
things are working, and then sort of contingent mitigation approaches if it doesn't work, so at least the process doesn't seem to be quite as ad hoc.

In other words, part of your plan includes, what are we going to do if this doesn't work? How are we going to adjust things? What might the impacts be?

Frankly, I think that's the best you can do because if the plan doesn't work and you have got species that are going extinct, you have got to do something, you know.

First of all, you can't ignore the Endangered Species Act. But beyond that, you don't want that to happen, so you can't ignore that problem.

I guess I would be as optimistic as I can and say that you really must sit down and try to put together a comprehensive plan that deals with the problem, and I think it is incumbent upon the environmental community to make the best use possible of water that they can, to figure out a sliding scale as an example of that.

I think it is a concept that we have come to accept because we acknowledge that it fits the hydrology better and avoids some of the anomalous kinds of year type that would lead to. It is incumbent upon us to try to do the best we can with the water we have, but you can't offer a 100 percent guarantee that if this isn't fixing the endangered species problems, you are not going to do something else.
I think what you can try to do is think ahead as far as possible and find out how you are going to determine and what kind of steps you are going to take if it doesn't work.

Another idea I had, and this is only an idea, is you can get a restoration fund up and working, and you might be able to target some of those moneys as a priority or set aside for that if the plan doesn't work. Your first call is going to be on the restoration fund to try to buy additional water, try to pay users to reduce exports, so at least further steps would be compensated for by voluntary kinds of transactions rather than additional regulatory approaches.

But in order for that to work you need a restoration fund that was up and working and functioning in a way that it could be called upon quite readily.

Those are just my ideas and that's really the best I can do.

MR. DEL PIERO: "What is your reaction to a comment by Mr. Moss in regard to credit on the CVPIA?"

MR. KRAUTKRAEMER: First of all, I am not quite sure why Dick is raising that, but there is a difference of opinion on that between the environmental community and the water users.

Our interpretation of the CVPIA is that the primary purpose of that 800,000 acre-feet of water is to meet fish doubling requirements. Now, the reality, in my view, is there
is going to be a substantial overlap between what is needed for the doubling program and what is needed to protect the endangered species and what is needed for the Bay-Delta, and so, if you sit down and really put together a doubling program that incorporates the Bay-Delta needs, there is going to be a huge amount of overlap, and I am not sure that the problem ultimately is going to be as serious as people make it out to be, but assuming in terms of legal priorities, I think the priority is to put that water to be used as part of the doubling program.

MR. DEL PIERO: Thank you.

MR. CAFFREY: Mr. Brown.

MR. BROWN: Mr. Krautkraemer, on the issue of a deal is a deal, and I like your analogy on the fixed rate and variable rate mortgage. I think it is a good analogy. The problem is when you drive through Firebaugh and Mendota and towns like that through the valley, they have 40 percent unemployment and it is going higher.

If more water is taken away from the current contractors and that causes more consternation and environmental problems in those areas, would you be receptive if a water quantity was identified on the lower end for your variable rates, and that's going to take water away from existing water users at a real financial cost and burden, would you be supportive of maybe the State's next
best program to build a project if additional water was needed beyond that, a new project like Los Banos Grande Dam?

MR. KRAUTKRAEMER: It would depend on the project and the conditions on it, but I am not opposed to any new projects. There are certain ones we wouldn't want to see.

MR. BROWN: You don't want to see any new projects happen?

MR. KRAUTKRAEMER: No, there are certain projects -- Los Banos Grande south of the Delta we support in concept if it could be done consistent with sound environmental standards. They have been talking about building Auburn Dam to supply flows to the Delta and I don't go for that.

But there may be other projects out there, yes.

MR. BROWN: Once these decisions are made to take water away from existing water users, which is one kind of consideration that has a negative impact associated with it, it is a tremendous hit if you live in those communities and if you rely upon that water for your job, to put your kids through school and pay the bills -- that quantity of water we are talking about identifying and using to meet the requirements environmentally that are needed, if there is a quantity of water beyond that, I guess the question is, could you identify a project that would not take water away from existing users that you could help support in order to meet the additional water requirements?
MR. KRAUTKRAEMER: If I understand your question, it is actually something I was going to talk about and didn't, and that is that I think what you are suggesting is not unlike what was originally in the Governor's water proposal, and what I actually see playing out here is that you develop interim standards and then while those standards are in place, you start this long-term solution process that has been talked about, and in my view, one of the things that should be thrown in there is longer term protections and maybe there are projects that could provide water for consumptive use as well as provide additional water or additional protections for environmental uses, so I don't think I disagree with you in concept, but a lot of it depends on the specifics.

It depends on what are the standards that are put in place while we are going through this exercise. It depends on what the project environmental consequences are that are attached to that project.

MR. BROWN: Using your variable rating -- it's a good one -- going to the variable rate standard recognizing that there may or may not be additional water requirements, the point I am making is if you go into and you use your best science and come up with the best program we can, and we go into it in order to give some certainty which is really important to the water users right now when they are
having to go to the banks to get refinance and such, but if
something then is needed beyond our best efforts today, if
it could come from a new source, that could have a different
kind of impact on the water users.

MR. KRAUTKRAEMER: That is very possible. I think
there are certain minim requirements. I think these
standards that you are setting now are going to have to meet
minimum requirements of the State and Federal law, but --

MR. BROWN: Say that's done.

MR. KRAUTKRAEMER: The goal of this Board, the
predecessor Board, the goal set back in 1978, was to fully
mitigate the effects of the State Water Project in the
short term and ultimately to go to recent historical levels
-- my point is the longer-term goal was beyond what is being
contemplated today.

We are just looking at the 1968 or before, but
roughly that period of time. To go beyond that, it might
entail some kind of facility. It might entail certain kinds
of storage.

To my mind, it is going to work best if those are
facilities coupled with strategies that are going to benefit
everybody, provide more supply, enhance reliability of water
supply, and also, provide additional environmental benefit.

Something like that could fit with the kind of
ecosystem approach that CUWA has proposed where you are also
tackling other problems.

We have some concerns about their mitigation credit approach where you would allow credit for non-water kinds of approaches to substitute for flow or salinity. There are a lot of concerns about that, but yes, I see with this longer-term solution process that is being talked about, I see that as the kind of thing that would be on the table, not just the facilities but the whole range of management measures, you know, reclamation, a whole range of things. That's part of the whole plan, the setting of more protective standards now so we can get to the point where we are talking about those kinds of things and trying to find those longer-term kind of answers.

MR. BROWN: That would help.

MR. CAFFREY: Anything else from Board members?

Anything from staff?

Thank you very much, Mr. Krautkraemer. I hope you are going to participate in the future discussions with Mr. Pettit and back to the Board. Thank you.

Mr. Bobker, good afternoon.

MR. BOBKER: Good afternoon. My name is Gary Bobker. I am a policy analyst at the Bay Institute of San Francisco.

I think I will start by anticipating Mr. Del Piero's question to everyone, sort of approaching the balancing, by
saying that looking at what all the interested parties bring
to the table as a balancing act relies on a premise that I
am not sure I agree with, and that is the premise in the
Governor's water policy of two years ago, and that is that
every interest group and every part of the affected parties
in the Bay-Delta arena can't have gains at the expense of
others, they all need to be linked together, and I think the
flaw there is that it presents an even playing field.

The point of the regulatory process that we are
going through now, I think, is to make sure that one of the
players stays at the table, and when we get to the point
that we have a process of standards and other protections in
place so that we have stabilized the Bay-Delta environment,
then that's the point at which we can look at a broader and
more rational approach as to how we manage water in the
state using both broader water management measures than we
have heretofore used in the state, as well as looking at
physical solutions that may include both facilities as well
as physical restoration of habitat.

There's a lot of things we can do, but I am not sure
we are at the point where we are able to do those. What I
want to do is summarize some of the concerns that we have
presented in the past that are in a lot more detail in the
written comment, and I will try to breeze through some of
them.
But rather than do the old song and dance about continuing deferral by this Board of action and our continuing support of the federal standards, what I want to do is take this opportunity to say what should the Board do and not do with the resources that it has. What are the opportunities that are available in this process?

And as I have said before, I think one thing that I don't think that the Board needs to do is duplicate the very expensive process EPA went through in proposing criteria. Those criteria are based on the extensive technical record before this Board, the science that was presented to the Board, as Mr. Krautkraemer pointed out in 1987, the estuary project, workshops, and the other components of that process, and EPA has invited the comment participation of all stakeholders.

What I think is the most appropriate use of the Board's resources is to supplement EPA's proposed criteria in the water quality objectives and measures that aren't addressed by EPA which will, therefore, assure we have protection of the estuarine resources, and to do it in a way that it doesn't delay the adoption of standards that are more important than the implementation process that follows.

The core element, as we and other groups have said over and over again, of any comprehensive water quality standard package is the provision of low salinity habitat in
Suisun Bay. The scientific basis for the standard is strong. I think that is reflected in the growing consensus that we are seeing among many different water users to support the standard.

There is a lot of agreement that the standard provide an adequate mechanism for the protection of the resource and we appreciate the movement of some of the water users that we have been talking with in the urban sector toward coming to a greater consensus on it.

We obviously will have to disagree on some of the details which were talked about by one or two other speakers, and I would just detail a little more some of our concerns on the issue of the two parts per thousand salinity isohaline in the Sacramento and San Joaquin.

We believe that it is necessary to have that standard in place for the full period for protection of the aquatic organisms, and especially to protect the endangered species from unsuitable habitat that's upstream of the confluence.

It's been suggested by some of the parties that we have dealt with in our meetings and negotiations that that requirement would unacceptably limit variability in the estuary. We agree that variability is a key objective of standards, and a lot of the scientific work that was done, including the estuary project workshops, included that
variability on the seasonal, annual and interannual variability in salinity and other properties is characteristic of healthy estuarine ecosystems.

On the other hand, it was also concluded that while you shouldn't have constraints to the downstream position of your salinity isohaline, you did need upstream limits.

We believe that the confluence requirement is, therefore, consistent with the findings of the estuary projects and other scientific processes that have led to the standard.

We also have some concerns that the Rowe Island criterion may not be invoked adequately enough. I believe that NHI made some comments about that also. I am not going to go into the reason why we feel Rowe Island is particularly important. We have said again and again our concern is simply that periods of attainment of low salinity habitat at Rowe Island and downstream will be reduced in occurrence and duration under the proposed criterion.

We also have concerns, and this sort of relates to Rowe Island criterion, about the lack of direct protections for other important estuarine habitat areas such as the brackish tidal marshes of Suisun Bay and San Pablo Bay.

We are very encouraged to hear that EPA is considering narrative criteria to protect the brackish tidal
marshes.

I would like to point out that there is a foundation to build on to work towards numeric criteria both for the marshes and the downstream areas. Starting back in 1987 environmental groups and urban agencies made a number of detailed recommendations on salinity and flow criteria to protect all these estuarine areas. Those recommendations for Suisun Bay were, in fact, the foundation for what has eventually become the X2 standard.

I believe that EPA and the Board need to go through the same process to develop a fully refined set of numeric criteria for these other estuarine habitat areas.

Another area of agreement that I am really pleased to see is over the nature of the kind of mechanisms that we need to protect fish migration. There seems to be pretty general agreement on the set of measures, closure of the Delta cross channel gates, minimum flows on the Sacramento River and the San Joaquin, and in my comments we provided some of our specific recommendations based on the Fish and Wildlife Service's submittals to you in the past and on our subsequent meetings with agency staff and with interested parties on what the specific levels for flow and periods of closure should be.

What we want to emphasize is that those protections should include protections for all salmon runs; otherwise,
you are postponing the day of reckoning.

Also, the use of the salmon smolt survival index as modified by EPA is an important way of measuring the success of a package of standards, and failure to achieve the index values should automatically trigger review by this Board.

I also want to make another point that CUWA and others have raised about the species, specific standards that address the needs of only salmon. There are a number obviously of other species whose eggs, larvae and juveniles are subject to diversion in the Central Delta entrainment. Chinook salmon represent the best data that we have in terms of protecting those fish.

So, salmon provide an adequate basis for standards which will protect overall fish migration.

The last time I was before the Board and just about every time environmentalists have participated in the workshops, we have mostly focused on the estuarine habitat, and the salmon standards. As Mr. Caffrey pointed out, you haven't heard much from us about striped bass spawning habitat, so I want to say a few things about that, especially as I know Mr. Del Piero is interested in this as well.

Number one is that I think the evidence remains uncontroverted that there is a salt-loading problem to the river which presents a spawning limitation for striped bass.
I haven't seen any data that suggests that is not the case. The concerns that have been raised about that really relate to the other issues, not a scientific basis for standards themselves. Number one, there has been a concern expressed that enhancing the striped bass population will result in predation of the San Joaquin fall-run chinook salmon.

I believe, after looking at the data, that bass will prey on salmon in tributary waters or the scene of hatchery production, but generally you will find that salmon are not going to be a significant food item for them in the Delta. And there doesn't seem to be, therefore, a reason to think there's just going to be a major impact on native species.

We agree that if there were a conflict, the native species and the estuarine habitat would take a higher priority. I don't think that conflict is there and given the absence of such a conflict, this sport fishery resource represents a secondary beneficial use equal in importance to offstream water uses and should be protected.

I also think that akin to the salmon protection, the protection for striped bass also serves as an umbrella protection for other estuarine and fresh-water species in the South Delta.

One thing I want to focus on is that obviously the
problems that are associated with selenium and other trace elements to the San Joaquin River is well documented. We know the bioaccumulation properties of the trace elements and the biological problems they cause.

However, studies that have been done to look at the impacts of drainage water throughout Western water projects have shown that even when you take the trace elements out, the other constituents in drain water can be toxic to salt-tolerant organisms, so we are looking at a form of pollutants that's probably affecting a wide range of Delta fish.

We don't have data on those other Delta fish. We do on striped bass, so striped bass spawning habitat really serves as a surrogate for a number of other species, and I hope that we will be able to develop that data over time so we can, in fact, make sure we are protecting those other species as well as we are protecting striped bass.

The Board has included in its consideration of alternative water quality standards and their water supply impacts new outflow requirements, export restrictions and caps on the percentage of Delta inflow diverted and this would be operable during the summer, fall and early winter period not covered by EPA's proposed criteria.

We think that is a real important direction for this Board to go. The feeling is we are paying a lot of attention
to what we agree are critical winter and spring spawning and migration periods. We can't squeeze it all out of the rest of the year. It is hard for us to make specific recommendations about what the new restrictions for summer and fall ought to be, but I encourage you to go in that direction.

I think the idea of using percentages outside of the spring and winter periods is really a good one.

The final point I want to bring home is the ecosystem versus species specific protection. Kind of a very common theme that we hear is the preference for ecosystem management over protection of individual species.

I agree that ecosystem management is the highest priority. It certainly has been the position of the environmental groups that standards that protect overall estuarine and wildlife habitat and protect the needs of a range of different species in which you address ecosystem functions, are the highest priorities for a standard-setting process.

However, sometimes for an estuarine habitat standard we have science to be able to base standards on those kinds of habitat ecosystem-wide protections, sometimes we don't. When the data is not available to set water quality standards that incorporate the nonhabitat requirements for a range of different species, we have to base them on what is
the most sensitive understood use of the Bay-Delta waters and the measures to protect those species serve, as I said before, as an umbrella for protection of other species.

I believe that it is appropriate, therefore, to use striped bass in these formats to reach other species that are affected by Delta water project operations and salt loading.

And I have to emphasize that the failure to do either ecosystem or species specific standards is going to continue to lock us into enforcement of the Endangered Species Act, and we are going to continue to press for rigorous enforcement of the Endangered Species Act until these kinds of protections are implemented on the ground and I am not sure how long that is going to take, but right now the Endangered Species Act is what we have to rely on for protection of these species.

Having said that, let me also say that we are committed to a comprehensive ecosystem management. We are extremely encouraged by the sincere commitment that we feel comes from some of the other water users, especially the urban water users, and in our talks with them we know they are very serious about going ahead with comprehensive ecosystem management.

We look forward to working with both them and the regulatory agencies on that kind of management, and I think
that's all I have to say.

MR. CAFFREY: We appreciate your comments, Mr. Bobker, and your willingness to work with all of us in this very important process of standard setting.

Are there questions from the Board members of Mr. Bobker?

Anything from staff from Mr. Bobker?

Thank you, Mr. Bobker. We appreciate your being here.

Let me just say that depending on how the presentations go, we need to adjourn sometime between five and five-thirty. Some of the presentations that remain are somewhat lengthy. We will hear from at least the next two presenters, hopefully three, Steve Hall, Dan Nelson and Bill DuBois.

Good afternoon, Mr. Hall.

MR. HALL: Good afternoon, Chairman Caffrey and Board members.

I know the energy level is low and I will --

MR. CAFFREY: You are entitled to the same amount of time as anybody else.

MR. HALL: I appreciate that.

MR. DEL PIERO: I have a whole series of questions to ask.

MR. HALL: Actually, against my better judgment, I
am even going to mention a couple of things about which you
have been asking questions while trying not to reignite the
drainage debate.

For the record, I am Steve Hall, Executive Director
of the Association of California Water Agencies.

I appreciate the opportunity and appreciate your
endurance. I have noted, however, that Ms. Forster in
particular, has been a little bit lower, a little bit lower
as the day has gone by.

I will try not to make her disappear entirely.

I need to begin my presentation with an update and a
clarification. The update goes back to your July 13
workshop wherein we presented a rather comprehensive
economic analysis of the EPA standards and we promised at
that time to deliver to you at this workshop an analysis of
the impacts of those standards, and frankly, all of the
alternatives that were on the table; on the ability or the
capacity to generate hydroelectric power within the state.

We continue to believe that's a very important
component in the economic analysis. Unfortunately we are
not able to present that today because that relies upon the
hydrologic computer model runs that DWR is doing for the
State Board and we don't yet have enough data to run our
computer models to simulate what the hydroelectric impacts
will be.
We expect to have that data very shortly and as soon as we have it and can run our runs, we will provide you with that information either at the September 21 technical meeting or at the workshop that you scheduled.

Next, the clarification of the record on the drainage issues. The U. S. EPA, I guess, started in this morning by alluding to factors such as land-derived salt discharges to the Southern Delta and we all know the discussion that has ensued. This referenced the Association of California Water Agencies as supporting that approach.

I just want to say that in the documents that we presented to the Board at the July 13 workshop we did include a list of what have now been called biosystem degradation factors, a fancy term for all of those nonwater factors.

Well, in the list that we presented is an item called land-derived salt discharges to the Southern Delta, and, in fact, we do favor looking at that.

We do not, however, favor a new regulatory process to somehow insure compliance with that because, frankly, this Board took a very thorough look at the Western San Joaquin Valley and the San Joaquin River specifically, and adopted a regulatory plan that, frankly, is working quite well and is being administered by the Central Valley Water Quality Control Board and we think if the State Board looks
at the results of that regulatory regime, what has happened
is that the salt load and the selenium load have been
substantially reduced primarily through BMPs on the farm and
within the water agencies that serve that area.

So, we don't think you need another regulatory
program to insure compliance. We think you are already
seeing good results because the farmers and the water
districts out there are doing their job.

So, let me, if I may, just add that clarification to
the record about what we think on the issue of drainage.

Now, let me get to the main topic for the day. I
was very pleased to hear what the Chairman said about
continuing to keep the record open, and continuing to keep
the process open and encouraging technical discussions about
the merits and demerits of various alternative proposals.

We think that's an excellent way to go about the
business of adopting this comprehensive plan about which
there is an emerging consensus, and you have heard it over
and over again today. People want to see a plan that's
comprehensive.

In fact, let me anticipate -- I don't know that you
plan to ask this, Mr. Del Piero, but let me anticipate the
question by saying I don't believe, and I want to make this
very flat-footed statement, I don't believe water quality
standards will do the job. In fact, we have made that
pretty clear from the outset. We don't think water quality
standards and operational constraints will do it either.

What this requires, in our view, and there is an
emerging consensus, not just within the water communities
but even the Secretary of the Interior has said what you
need in these complex ecosystems is a comprehensive
 multispecies approach, and that's what we are supporting.

Certainly water quality standards and operational
constraints will be components of that, but it cannot stop
there. In fact, we believe that if it does stop there, the
plan will fail and, in fact, we think this estuary is the
perfect place to adopt the approach that the Secretary of
the Interior outlined in his press release, that we have to
know that a deal really is a deal.

A deal can't be one sided, as you and Mr. Del Piero
have pointed out. It's got to require something from each
side.

What we need, and we have said this repeatedly, is
certainly not complete certainty, but a much higher level of
certainty than we have today.

We are prepared to work with the Board in developing
standards and operational constraints that we know up front
will require some water, and we are going to leave it to you
to decide who gives up how much.

We don't want you to prejudge that, but we know that
you will have to address that issue.

But on the other side of the coin, we must get ourselves out of the ESA trap we find ourselves in, and frankly, I think it is as much of a trap to the biologists as it is for us because we have dedicated enormous quantities of water to protect single species. It simply has not worked to preserve the habitat, as again, you have pointed out, Mr. Del Piero.

Species other than those listed have been declining in numbers. We are not getting the job done and a comprehensive plan is the kind of umbrella approach that we need in order to finally accomplish that complete protection, while at the same time, providing some water supply reliability.

Let me just tick off what we think needs to be in the Board's plan in order to accomplish this. First of all, we all agree it's got to be based on sound science. It's got to provide some shelf life.

I am just repeating some of the common phrases now, but I want to simply reiterate what others have said about them.

Finally, and the Chairman mentioned this earlier in the day, it has to be compatible with the comprehensive plan. It may or may not be possible within the window of time that you have to work between now and the end of this
calendar year, it may not be possible to fully develop a comprehensive plan, but we can certainly begin the process of developing that comprehensive plan and put the early stages of it into effect.

That means, though, that those early stages have to be compatible with the long-term plan. We believe that that can be done, that we can take some first steps that we know are not by themselves the comprehensive plan. What we need to do, though, is design them well enough so that they are compatible with that long-term plan.

Now, as I said before, we know that there will be, or are reasonably confident -- I don't want to put words in your mouth, but we are fairly confident it will include some standards, and when I say standards, that could either be a salinity standard or outflow requirement. We expect operational constraints will be a part of it.

But the clear goal of these requirements, in our view, must be to protect the habitat rather than focusing on single species. It needs to pre-empt the need for additional ESA requirements to the extent possible and as much as possible it should reduce the need for take limits at diversions.

Let me just say we are putting a lot on the table, we believe. Is it any wonder why we are willing to do that, when take limits have created so much uncertainty as other
have said today? They have cost so much water in such a short period of time.

We are willing to do this because take limits to us are simply an unacceptable way to manage this ecosystem, and certainly, to manage the water projects.

Obviously, we want to see it limit water costs and my job is fairly simple. I represent all of the water interests, most of the water interests you have heard from today. Most of them are members.

I, somehow, have to agree with all of them and still say something meaningful. Fortunately, that isn't all difficult because there really is this converging of ideas. There is an emerging consensus about the elements of this plan.

Not all my members would agree, but this is advice from ACWA that represents not only the exporters but those upstream. We think you should avoid prejudging any water rights allocations as a part of the water quality phase. It's tempting because you need to figure out what comes from where and things like pulse flows may be included in that water quality plan, but to the extent that you possibly can, we advise you to avoid that until you get to the water rights phase. It will be difficult enough then. We think it would be nearly impossible to do now.

MR. DEL PIERO: No, Tom Clark is going to do it for
MR. HALL: Oh, that's right. But with as much faith as I have in Tom, I have to say even he should wait.

Now, I have made this point before, let me repeat it. We believe, and there is really no equivocation here, we believe that if you adopt water quality standards or outflow requirements and operational restraints and stop there, you will fail.

We want you to succeed, we need you to succeed. You have to look at all of the factors affecting the Delta because if you fail to do that, we believe you will not fully protect beneficial uses in the Delta and that that failure will lead to political and legal chaos where water interests seek to protect their legitimate interests, and I want to be careful in saying that because it could sound like a threat.

I don't mean it that way. It is an observation based on what I have heard from the water user communities, that if standards and constraints dedicate a lot of water, and we believe they are likely to do that, that once that water is dedicated, water users will resist further taking until those other factors are addressed and a list of those other factors laid out.

It may not be all inclusive, but they must be examined, those and any others that get added to the list as
a part of the overall comprehensive plan, or we believe the plan cannot fully be successful.

The Board is the central figure in this. You alone have the authority and responsibility to orchestrate the activities of all the parties, including the federal agencies, and you alone have the authority and the responsibility to balance the competing needs within the Delta.

You are fortunate in one respect because there is this emerging consensus that I spoke of. The recently signed State/Federal framework agreement and the broad support of that agreement is evidence of that, but the Board should not merely hope that the parties to that agreement carry it out.

We believe the Board should direct the parties to carry it out by directing them to do the various things that we and others have outlined that should be part of the comprehensive plan. It must be comprehensive in scope, focused on the habitat and balanced in the approach. If it is, the water community will support it.

But we are also going to be looking for the Board and the other parties to do their part in building this comprehensive plan.

I thank you and I trust I have responded to your questions before they are asked. At this late hour, I don't
imagine there will be all that many anyway, but I am happy to --

MR. CAFFREY: Don't presume too much, Mr. Hall. Let me see if you are right or wrong, only because of the thoroughness of your presentation.

Anything from staff of Mr. Hall?

Thank you very much, Mr. Hall.

Dan Nelson. Good afternoon, Mr. Nelson.

MR. NELSON: Thank you for this opportunity, Mr. Chairman and Board members.

The San Luis Delta Mendota Water Authority is comprised of 41 water agencies with contracts with the Federal Government through the Central Valley Project. These districts include nearly all the water users south of the Delta that receive water pumped through the federal Tracy pumping plant and represent over one million acres of prime farm land predominantly on the west side of the San Joaquin Valley from Fresno on the north to Kettleman City on the south and San Benito County.

It serves up to 150,000 acre-feet to urban users in the Santa Clara Valley Water District and over 100,000 acres of wetlands in the Pacific Flyway.

There probably isn't any group of water users in the State that has been impacted more through the current situation in the Delta. Because of this, we understand that
until Delta resource issues are addressed comprehensively and improved, we will continue to experience unworkable restorations in our water supply without real benefits to the Delta resources.

It is in this context that we submit these suggestions and ideas. As we have stated in previous workshops, we recommend that the State Board take a very broad and comprehensive approach to the Delta. Generally, what this means is that you should do as much as you can under your authority and that you weigh in or make recommendations on the rest, in general, continue to take a leadership role.

We suggest that we need to develop a package. This package needs to include three general components:

One, standards;

Two, Delta flow, flow and other requirements, and we commonly refer to these as operational stuff; and

Three, other factors such as storm drainage runoff and industrial pollution, poaching, et cetera.

The California Urban Water Agencies or CUWA has included as part of their comments the specific proposal for standards. We think there is a lot of merit in what it is that CUWA has proposed, but at this point in time, we can't commit to those standards until we see how they fit into the other components of the package.
We agree with the Association of California Water Agencies that there appears to be a strong potential developing for water users coming together to put together this package on a consensus basis. We will continue to strive for this comprehensive consensus approach prior to the October workshop with the goal of developing a complete and specific package.

As to the objectivity of the package, we believe that the package needs to include protection for Delta resources and needs to use a multipurpose habitat approach emphasizing the needs of endangered species.

The package needs to also include flexibility for project operations to maximize the ability to manage water through the Delta while meeting resource objectives.

Last, but not least, it must result in certainty for water users, certainty through shelf life, certainty through a better defined reliable and reasonable water supply, and certainty through a sustainable and healthy habitat.

Finally, we would like to thank the Board for their patience, and I would like to re-emphasize and thank you for your patience. This has not been an easy process. It's taken a lot of time, and as you know, it's been a struggle but I think we are making some real progress, and we believe that a consensus package can be achieved.

And, again, we remain committed to continue to work
with you and all other water users to accomplish this in a
timely manner.

Thank you again and I remain open for any questions,
and also, I have B. J. Miller with me, who has done a lot of
our technical support.

MR. CAFFREY: Thank you, Mr. Nelson. Good to see
you.

Are there questions from Board members?

Anything from staff?

Mr. Nelson, I realize you represent a public agency
and you did have a long wait, and we apologize and thank you
very much for your patience.

Bill DuBois. Good afternoon, Mr. DuBois.

MR. DUBOIS: Good afternoon, Mr. Chairman and Board
members. Thank you very much for affording me the
opportunity to appear before you.

I particularly want to compliment the Board because
I have been monitoring these hearings since 1970, and I
think this is the first time that I have heard the Board so
obviously aware of the dangers of regulating the drainage
from the San Joaquin Valley.

In my opinion, it won't be a shortage of water that
does agriculture in. In the long run it's going to be the
shortage of drainage, and I very much appreciated the
questioning done by the Board members of EPA when they were
before you.

My purpose in appearing today is to present a long-held conviction that part of the fish problem is caused by overfishing.

A couple of weeks ago Stan Barnes gave me a copy of a book on the subject of ocean fishing resources. After I read it, I circulated it to several others and in the process became convinced it should be made a part of the present Delta proceedings. It is a study by World Watch Institute, Paper No. 120 by Peter Weber. It is titled Net Loss, Fish, Jobs and the Marine Environment.

My point in asking that this paper's conclusions be considered is that as I read it, it claims the fish problem will get worse in spite of what we do here on land to help the fish, unless much is done to implement a moratorium on fishing worldwide.

Our fear is that unless this is done and Mr. Weber's paper is correct and fish supplies continue to worsen, agriculture could be clubbed to death so that even more of their water could go to raise fish that cannot survive the fish harvesters.

We think that ocean fishing limits are one item that should be on the other side of the equation, as you have frequently asked the witnesses.

Thank you very much.
MR. CAFFREY: Thank you very much, Mr. DuBois. It is good to see you, and thank you for waiting.

Any questions from the Board members?

Mr. Brown has a question.

MR. BROWN: It is interesting, Bill, that you bring that up. I have just come from up in Washington where salmon fishing is usually very great, and it hasn't been for the last number of years, and they credit the loss to the 30 miles of gill nets out in the ocean, and a lot of the blame is in that direction, so you bring up a very interesting point.

MR. DUBOIS: This book says that there is twice the fishing capacity than there is harvesting supply. There are twice as many fishermen in fish boats and equipment as the world supply of fish can satisfy.

MR. CAFFREY: Thank you, Mr. DuBois.

Let me say that we have a bit of a dilemma up here. We have certainly all day scheduled, but we are down to three presenters, all of whom are entitled to 20 minutes each. The Board has got about 15 minutes and we have other commitments that we must make tonight.

I will make an offering to the remaining three individuals that if they can limit their presentation to five minutes and supplement those presentations with a handout to be submitted later or now, we can give you each
five minutes now, or we would be happy to come back tomorrow.

What time are we scheduled for tomorrow, Mr. Howard?

Is it ten o'clock?

MR. HOWARD: There is no scheduled time.

MR. CAFFREY: There has been no notice of the time, so we could state whatever the time is.

The third choice is probably not very attractive. I am speaking specifically to Dr. Brown, Mr. Vogel and Mr. Porgans. I don't want to give any --

MR. PORGANS: I can do mine in five minutes.

MR. CAFFREY: You can do yours in five minutes -- why don't you come on up.

DR. BROWN: Dr. Brown and Mr. Vogel cannot do theirs in five minutes.

MR. CAFFREY: We will have to see them tomorrow because we are out of here in about 15 minutes.

MR. PORGANS: I appreciate being here. I am Patrick Porgans. I am an independent regulatory specialist and I am participating in these hearings as a member of the public. I am not representing anybody but myself.

I heard a lot of good things today and this word comprehensive is really coming home. I can remember talking comprehensive back in the seventies. I don't want to date myself, but nevertheless, I want to bring you up to date on
I talked with Bob Stackhouse over at the Bureau. He's the Chief Fiscal Division person, and what he says about those 89 positions, or how many positions, he said if anybody wants to volunteer for them, he is open -- his door is open and he is not hiring anybody.

As a matter of fact, they are talking about downsizing over there.

MR. BROWN: That's not true then; is that what you are saying?

MR. PORGANS: That was as of 4:10.

MR. BROWN: So that's a bad rumor that's going around?

MR. PORGANS: According to him. He said they are reorganizing the Bureau, but in the end they are going to have less people.

The other thing that I talked to him about, the 800,000 acre-feet because I was in another meeting this morning and I went to bed at 4:30, got up at 7:30 and attended that meeting until at least 10:30 on the CVPIA on the 800,000 acre-feet, and that's still up in the air, and I had brought up integrating the 800,000 into everything else everybody else is doing because we are not going to need 800,000 plus 800,000 plus 800,000.

MR. DEL PIERO: Is that meeting over now?
MR. PORGANS: According to my sundial, yes.

Getting back to the issue at hand, I looked at the framework agreement and I am all for agreements, believe me. I have them with my wife every day. It's been going on 30 years.

My point is, I have little faith in the agreement because the bottom line, this agreement has less teeth in it than I have in my mouth. It's a good concept and I think it's a framework, but it doesn't have any real -- you know, I am from the old school, I have to have teeth. They charge me with being a junkyard dog. Once I bite in, I am in there.

At any rate, I want to suggest to you, there were several issues brought up here today bout a comprehensive plan, but we need a transitionary implementation plan in order to fulfill whatever the objectives are. By that I mean it would be very difficult for us to go out and get everybody in the counties and areas of origin to voluntarily come up with their share of water in order to meet the standards, whatever they may be.

That's going to take a little bit of time. Nevertheless, I suggest that under Federal and State law, and according to a document signed by Mr. Robert Potter, it says here that one of the reasons, and I am talking about the coordinated operating agreement, and it states that the
purpose of that proposed agreement and, of course, we know
that's been signed back in the mid-eighties, is that both
the Central Valley Project and the State Water Project bear
the fair share of their obligation to protect beneficial
uses of the Delta.

HR 3113 provides that the Federal Government will
meet those standards.

Now, what I am suggesting, and I wish the Department
and the Bureau were here because they are going to like
this, I suggest that when you were talking 40-40-20 at one
point on the amount of water that each particular -- give or
take a couple of percents, who cares -- my point is that
maybe what we should do is set an interim standard and say,
okay, this is what the standard is going to be. It is not
going to please everybody, but this standard could change
with what the results of having that standard in place are.

Set the standard and set it at 50-50. Okay, 50
Bureau, 50 DWR. Now, in the interim, you set the process in
motion to get all the other upstream depleters based upon
the amount of water they have or the amount they are using,
and you start surcharging them. They are going to be
surcharged for that water because the State and Federal
water projects aren't going to be putting that water up, and
over time, they are going to be required to pay this water
back, sort of like a water banking concept, but it is a
delayed water banking concept based upon the actual
implementation of what amounts of water they are required to
provide for the project.

MR. BROWN: I don't follow, Patrick. Try it again.

MR. PORGANS: I know it is late. Under the current
law, and this is not taking fully into account Racanelli.
Racanelli says let's get everybody in and everybody is going
to have their fair share.

HR 3113 and the water rights conditions that are
attached to both the Bureau and the Department's permits, if
this Board sets new standards, they are going to meet those
standards and they will provide that water.

I am suggesting to you that they shouldn't bear the
full responsibility over time to meet those standards
because we all know there are other users.

I am suggesting that if you set a standard, whatever
the standard is, that both the Departments in the interim
share the responsibility to meet that standard knowing full
well that in time the other depleters are going to have to
make good for whatever water they put up. It is a water
banking concept, but a delayed water banking concept.

Now, the last thing, because I'm getting pretty
close to my time -- I did two things: One, I'm going to
give the Board a copy of a report I put together against my
wife's best wishes. This is one of the dreams that didn't
work out and this is on the state of the State Water Project
supply, demand, financing and management.

I present six options in here on how we can create
more flexibility in the operation of the State Water Project
and increase water supply yield with existing facilities.

The other things that I am saying in this particular
report is we can provide a source of revenue to help us
sustain those water contractors, especially in the ag sector
that are having financial problems. That is all in here.

It is all within the existing source of funds.

The other thing I would like to mention -- I mean a
lot of people come back in and say we didn't know back when
that this project would only have about 1.8 million acre-
feet of yield, the State Water Project.

I have every Bulletin 132. I try to get my wife to
read to me because my eyes are bad. Bulletin 132-82 states
that by mid-1985, or shortly thereafter, the firm yield of
the State Water Project would be at 1.6 or 1.8 million acre-
feet of water and that would be attributable to increased
demands from the areas of the counties of origin.

So, we are talking about 1.6, 1.8 now, but the 1.6
or 1.8 is for different purposes. It is to protect these
public trust resources.

The last thing I have done in my spare time --

MR. CAFFREY: Are you going to leave the report with
us?

MR. PORGANS: I am going to give you one.

MR. CAFFREY: Do you have copies for the other parties and the 20 that we have asked for?

MR. PORGANS: I don't. This report is not for everybody.

MR. CAFFREY: Could you get us more copies in the next couple of days so we can fulfill the fairness -- I am not trying to give you a bad time.

MR. PORGANS: I appreciate that, Mr. Chairman, but I would have to talk to my wife because she also handles the budget.

MR. CAFFREY: You are going to have to bring your wife to one of these proceedings because we would like to meet the power.

MR. PORGANS: She will beat me up for that.

At any rate, the last thing I did, just so that you can appreciate, I did a report for some people in the marsh and this establishes a report on what has happened this year for water deliveries. It is interesting to note with all restrictions that are imposed with ESA, et cetera, the State Water Project was able to provide almost as much entitlement water this year as they did in 1987, which is a good sign, and we are suggesting now that we don't have a plan in the event we go forward because that rule curve is out there
somewhere, and I realize these biologists -- I can't find out who they are, but they are running the projects -- have them contact me.

What I am suggesting is that there's latitude here and if somebody really wants to sit down, you know, and work towards the short- and long-term integrated solution to deal with this problem, call my wife and see if she can book me in.

Thank you for your time today, and I didn't have an actual written presentation, but I can get you something. I will call Alice Book and have her give you a copy, and then, I will give it back to you.

MR. CAFFREY: Thank you, Mr. Porgans. If you can get some more copies of your handout, that would be helpful. I realize that you're a single representative of the public and your funds are limited.

Thank you, Mr. Porgans.

Let's see, we will be back tomorrow. Let's resume at 9:30.

Mr. Pettit; is that correct. Mr. Pettit is reminding me that we will proceed across the street tomorrow morning at 9:30 in our hearing room at 901 P Street.

(A brief off-the-record discussion was held.)

MR. CAFFREY: We are going to have a little change in plans. We have had a consultation and there are
apparently two more presenters. We don't expect any more
sign-ups tomorrow, so we will finish tonight. We are going
to give each of the presenters 15 minutes and we are going
to hold to that pretty carefully, and that won't include
questions, but are Dr. Brown and Mr. Vogel still here? Yes,
they are.

Dr. Brown, why don't you come forward and I believe
you wanted to go first. I think Mr. Vogel wanted to follow
you.

MR. VOGEL: If we can switch them around, I would
appreciate it.

MR. CAFFREY: All right, Mr. Vogel, why don't you
come forward.

MR. VOGEL: Good afternoon. My name is Dave Vogel.
I am President of the Natural Resources Control Science,
Incorporated.

I am here today on behalf of Delta Wetlands Corporation. Specifically, I am here to discuss the value
of real time monitoring and informational standards as
useful tools for the Board to consider in protecting Bay-
Delta estuarine resources.

We are presently working on a technical report which
we will provide to the Board staff in the next several
weeks. It describes some of the important facets of how
real-time monitoring and informational standards would be
employed by the Board to protect the resources, and I am here to talk about some specifics.

I know a lot of the time today people talked about generalities, and fluff, and so forth and policies. I am here to talk about real fish and real water.

Specifically, real-time monitoring, you have heard it mentioned a few times today and it's sprinkled throughout many of the documents within this summer's workshops, and I am here to tell you it is not a misnomer.

A lot of folks say you can't do it. I am here to tell you we can do it. I can give a very specific example. Again, this is just a highlight. I am going to give you an example to perk your attention and other aspects of this will be presented in the technical report.

I believe you have a copy of an analysis that is dated July 24, 1985. You should have that. This is a letter that describes the very first pulse flow that was ever utilized in California back in May of 1985. I wrote the letter. It was signed verbatim by the Regional Director of the U. S. Fish and Wildlife Service in Portland. It describes each and every phase of how that pulse flow effort worked in moving salmon from the upper Sacramento River out through the Delta estuary.

It was a three-day pulse-flow effort and to characterize why it came about and how it came about, you
have to think about what 1985 represented. It was a drought year, there were very adverse conditions present throughout the Central Valley. We had very low winter flows at that time.

Many of the monitoring programs which I was in charge of on behalf of the U. S. Fish and Wildlife Service on the upper Sacramento River demonstrated there were literally millions of salmon still holding and rearing in the upper Sacramento River and have yet to migrate down through the river system and Bay-Delta estuary.

I was also responsible for programming about 8 million salmon out of the Coleman National Fish Hatchery, the largest federal hatchery we have in California.

And at that same time, because it was a drought year, agricultural diversions came on line early and we had very severe conditions in fish passage at the Red Bluff diversion dam.

Also, at the Glenn-Colusa Irrigation District because of riverbed degradation conditions and a dysfunctional fish screen, there were very adverse conditions present as well, so the State was set for an environmental disaster.

Working with the Bureau of Reclamation at that time in a very creative proactive fashion and working with all the State and Federal agencies, specifically Fish and
Wildlife, the Bureau and Fish and Game, we were able to develop a pulse-flow idea and put it into practice.

But it would have been employed -- the Bureau told us, you have got to demonstrate this is going to work, because it is 50,000 acre-feet of water. So we employed a real-time monitoring program.

The first graph you see here is the monitoring I did at Red Bluff. It was all orchestrated to time the passage of these fish and the release of millions of fish from the Coleman Fish Hatchery in concert with this pulse of water out of the Shasta Dam.

The data points you see here are a result of our hourly monitoring at Red Bluff diversion dam and we timed it so when those fish were released, they hit the confluence of Battle Creek where Coleman National Fish Hatchery is located at the same time the increased flows from Shasta came down the mainstem of the Sacramento River.

To do that we had to get the hatchery people out there at three o'clock in the morning and pull the screens, and that wasn't a random haphazard scheme. It was based on a lot of years of research that demonstrated that we knew the time when these fish would pass downstream, we knew the rate of travel, and the Bureau knew the rate of water movement, so we tried to integrate real life biology with water management and get them to converge on behalf of the
It worked extremely effectively, such that we were able to plan the water release and fish release to get fish past Red Bluff Dam at night. You can see in that graph there the peak of the movement occurred about ten o'clock at night. The following night we continued monitoring and confirmed that the bulk of the fish had passed.

We also found that it had dramatically reduced predation at the dam and that is described in detail in the letter.

But moving downstream to the Delta, the arrows on the left identify key sites within the upper Sacramento River where these fish passed downstream.

The fish were released, like I said, at three o'clock on the 13th, and then, on the bottom you see the dates in May, until ultimately when the bulk of those fish -- and we knew those were our fish because we tagged about 200,000 of them at the same time they were released. We released nearly eight million fish at the same time.

You can see about a five-day window. About eight days after the release, they passed River Mile 0 down at Chipps Island, a passage of nearly 300 miles.

Now, since then, there have been subsequent modifications to this technique, the addition of additional sites to monitor these fish and we have demonstrated that it
does work, and so, I simply throw that out as an example to
give you the background of the pulse-flow concept, and I am
not intending here to say the pulse flow is the answer. The
intent is to talk about real-time monitoring as a useful
tool.

MS. FORSTER: Do the fishery agencies do real-time
monitoring now?

MR. VOGEL: I would have to say no, not by the way I
would define real-time monitoring. They do monitoring, but
it is monitoring to pretty much monitor the status of the
resource. Much of what you hear about good science, bad
science -- I'm a believer that it is good science, but the
design of the monitoring programs isn't designed to
accommodate what you need to achieve, and that is how to
react to a situation before you have a problem.

You always hear about the problems of the take
limits. Well, take limits are down here. That is the worst
place to monitor because then it is too late.

The salmon of the Sacramento River have already
migrated down there. The San Joaquin River fish have
already been pulled toward the pumps. The Delta spawn, the
striped bass spawn have all been pulled down in the South
Delta. It's too late. By the time you react and shut off
the pumps, the fish are already in the South Delta.

What I am suggesting with this type of real-time
monitoring program is to place your sites to allow the reaction time to occur before you have a disaster -- this point right here.

So, their study sites are not set up at an appropriate location such as in the Sacramento River where you can respond in sufficient time to avoid the entrapment of the fish into the South Delta.

So, the monitoring they are doing is good, but it is not designed to allow reaction time and that's what this technical report will cover. Daily acquisition is possible. We even do it on an hourly basis.

I won't go through all of these, but the key item that you just brought up there is item No. 2. Throughout the Delta, throughout the San Joaquin and many of the rivers that I am currently working on in the Central Valley, the techniques and the abilities are there to do it. But it won't work unless people want it to work, so it is a different type of a monitoring program than you have heard about in the past.

Again, I won't go through each one of those in the interest of time, but I want to talk briefly about the last three.

One is nighttime sampling. All the monitoring programs you have heard discussed, almost none of those are conducted at night. You hear of problems with hazards to
people, boat traffic and so forth, but the irony is that that's where the action is. That's when the fish movement occurs, and that's when you get the least amount of gear avoidance by the fish.

MR. DEL PIERO: That's when you have to pay people time and a half.

MR. VOGEL: You are absolutely right. That's probably the biggest stumbling block. When I said getting the hatchery people out there at three o'clock, it took me two weeks to get approval. We had to pay them double time.

It's a serious problem. I can do it now in private practice. My employees all worked at night, but I can do it; but in the government, it's a real problem.

We will discuss the importance of that. It's critically important for the resource, and obviously, it is important for the water supplies, but that's when the real action in nature happens. That is when you really discern what is happening in fish movement.

Now, the thing about this real-time monitoring, it's worthless if you don't have a quick way of entering the data in the format that anybody here can use, the Board can use, I can use, Fish and Game and Fish and Wildlife. They have got to be able to do that. They are doing it on the Columbia River.

In the last workshop I discussed some of the most
sophisticated tools that they are using, such as passive integrated transponders, detection devices in each of the dams. Just recently, in fact, two or three days ago, I found out that Fish and Game was up there looking into the possibility of developing a parallel database at the Portland fish passage center using such things as passive integrated transponders.

It will work. In California perhaps the best tool would be to CDEC, the California Data Exchange Center. That information is available to anybody. All you have to do is call up, give the password, it is free. Call up on your own phone, access the microcomputer and you can have instantaneous readout on immediate real-time data such as streamflow gages and hourly readings.

The same thing can be achievable with biological data.

MR. CAFFREY: Where is that phone number based?

MR. VOGEL: I believe it is right here in Sacramento but it is accessible anywhere -- it's upstairs.

MR. CAFFREY: You just use your phone Complus and plug in and away you go?

MR. VOGEL: Exactly. It's a beautiful system.

But the biological data can all be entered in the same fashion and what we would envision with the real-time monitoring station is to establish . key modes or control
points and every night this data could be up-linked or down-loaded into the computer, and literally by the next morning anybody can access that database.

It is not just a pie-in-the-sky dream. I mean, people are doing it right now.

Think of the value of that and how water operation folks could respond when they see these peak movements of the fish going through the Delta. They can make management changes and you could open and close gates or reduce pumping, increase pumping, and so forth, and again, a lot of fish would be saved and a lot of water could be saved.

Anyway, that's the key aspect of the presentation and we are going to put all this down in a technical report and bring it to the Board.

MR. CAFFREY: Mr. Vogel, have you had any opportunity to present your findings, your actual experiences into the CUWA development effort and some of the other parties?

MR. VOGEL: No, I haven't.

MR. CAFFREY: You haven't.

MR. VOGEL: No, I would like to, though.

MR. CAFFREY: Have you approached them at all?

MR. VOGEL: This was all news to me. I just recently got a copy of the draft plan. These are techniques that we are working on in four states throughout the West;
Idaho, Washington, California and Oregon.

MR. CAFFREY: I have heard your presentation before and I, for one, have been impressed with the practicality of your approach, and so, I commend you for your continuing efforts and I just think it is fascinating.

It would be good, I think, if some of the others could have the benefit of some of your thinking and some of your actual data.

MR. VOGEL: Sure.

MR. CAFFREY: It's too bad the way things get scheduled, the way the cards get submitted, and we have you on late in the day because it probably would be good for some of them to hear this.

I can't tell you what to do, but I suggest you show them some of this data.

MR. VOGEL: I will.

MR. CAFFREY: I imagine you all agree.

MR. BROWN: I agree. I would like you to make it as strong as you can.

MR. CAFFREY: And certainly, please participate in the meetings Mr. Pettit is going to be holding starting the 21st.

Does anybody have any questions of Mr. Vogel?

Anything from staff?

MR. HOWARD: I had a question. I was just glancing
through the memo. I guess it was written in response or as part a study you have done, and I notice that on the 14th or so you increased the flow from 9,000 to 14,000, and then you track it through the graph, as you indicated.

Has this same monitoring program been done without the pulse flow? I mean, if you had done it without the pulse flow and you had the same monitoring program, would you have seen essentially --

MR. VOGEL: Yes, it was. In fact, it was done many years preceding that. That is what prompted this type of monitoring program, and that is how we knew when to release the fish. All these years historically the hatchery would release the fish during daylight hours, usually in the morning, and the way they track these fish downstream, they tend to move in spurts. During the daylight hours they tend to hold back and move very slowly, and when nighttime hits, at twilight, they start moving to the center of the channel and start moving very rapidly, and by midnight they are really moving downstream at a very rapid rate.

So, based on that prior monitoring without pulse flow is how we were able to schedule release of the fish and the actual release of the water out of the reservoir.

MR. HOWARD: So, it's a good idea to release them at night, or during a pulse flow, or both?

MR. VOGEL: Definitely both in my mind. In fact,
getting back to scheduling people at night, I tried for years when I was with the Fish and Wildlife Service to get all hatcheries in the entire Central Valley to release all their fish at night, and I ran into a brick wall because of this double time and overtime, and so forth.

MR. CAFFREY: Maybe we ought to think about a recommendation to the Fish and Game Commission.

MR. VOGEL: You heard, I think at one of the last workshops or one of the publications where striped bass fishermen know where to go fishing in the Delta is when the hatchery trucks are there. There's a reason for it. The fishermen wouldn't be there just to get their lines wet. They are there for different reasons.

MR. CAFFREY: Anything else of Mr. Vogel?

Thank you very much.

Dr. Brown.

DR. BROWN: Is there any chance of getting this in the morning or do you want me to go through it tonight?

MR. CAFFREY: There is no chance tomorrow now, and you have 15 minutes tonight.

Let me point out that as stated in the notice, when you give us your written material, we read it. It may seem amazing, but we do read everything, so what you tell us verbally is not the limit of what we consider as your input.

DR. BROWN: I understand.
So, I want to just review some of the concepts we have introduced at the previous workshops, but remember I am leading to a full set of recommended standards that we came up with that illustrate adaptive management.

And we are hoping that by running through what these particular objectives are, that you would get a better understanding of what we are suggesting.

Remember from previous testimony, we are suggesting a very different set of standards than what appears in D-1485. We have introduced the concept previously that the idea of looking ahead by water year type and by month, and presetting flows or salinity standards for fish and wildlife is not going to be an efficient, and may not even be effective for managing the fish.

So, leading off from what Dave Vogel has just presented, we have come up with the tic-tac-toe diagram which says there are basically three major beneficial uses of concern, the water supply, the salinity control which now includes estuarine protection and fish protection. And to provide protection, the comprehensive -- all those words, there really are three types of standards.

Dave has just been talking about the daily information needs, and really, all we are suggesting different than the monitoring plan which appears in D-1485 or appeared in the D-1845 draft, or the D-1630 draft, is
that beyond requiring that the monitoring go on, you should literally require that that monitoring data show up in CDEC the very next day, or soon as possible, because one of the problems that we observed is that the monitoring is going on but it has no chance of affecting the Delta management because those reporting requirements are out.

I think it would be similar to an NPDES permit that did not require monthly compliance reports. They didn't have a mechanism for being able to go from monitoring to an evaluation to incremental management.

The middle screen of tic-tac-toe are the minimum protective standard that everyone is sort of talking about that just have to be there. Once they are decided on, they are fixed ahead of time, and we have broken them down in our written document in terms of what you would be providing for water supply, and the two that we are suggesting there is that the riparian diversions that occur sort of get built in. Those are happening. Those may have prior water rights, and that's happening in the Delta.

The other one that you might consider is a fixed minimum pumping limit, as this was in the D-1630. Almost no matter what is going on, there is some minimum amount of pumping that ought to be going on and similar for salinity control, you can come up with salinity minimums and these would be the base Delta outflows that would be required to
prevent salinity intrusion, and we have attached some numbers to those in our recommended set of standards that are in the document and that are one of other alternatives considered for Tom's work.

We have a minimum protective estuarine habitat that is essentially the confluence part of what people are suggesting which is in the order of 7,000 cfs for the five months. And similarly, for fish protection, what would be the minimum operational changes that may be required?

Well, two things that people are talking about would be the cross channel closure, and what they are thinking is you have to close it this whole time since we don't know when the fish will be there.

What Dave Vogel is saying is that if you had good daily information standards, there is some opportunity for the real-time monitoring to come across and actually reopen the cross channel when it was free of fish at some designated density, but in general, you could imagine some absolute changes to the Delta that would be fixed and required.

You could add up the water cost of this and this may amount to, just making up a number, five million acre-feet of water. Well, that's about the requirement under D-1485. So, perhaps that's what we are talking about in this middle category.
We have the actual numbers that we are suggesting in the document. Then, there would be these adaptive allocation objectives, and now we are getting down to what we really suggest that you implement.

Rather than working on the monthly time scale, all of this adaptive allocation would be done on a daily basis by the Executive Director, as was suggested in D-1630, or we are using the term Delta master to refer to that operation.

If we could have the next slide -- and I want to just briefly go through the idea here. These adaptive management standards can no longer be specified as salinity or flow for a given month in a given year type. That is not in enough specificity for what will actually be required.

Rather, what is needed is that there be daily monitoring of the Delta conditions and the fish responses that are going on, then some evaluation activity happening in this Executive Director's office or the Delta master's office.

The sort of things that he would be doing is what we people have been talking about, adding the fish protection and habitat analysis to the already very exact water analysis, evaluating habitat conditions, estimating these transport patterns, like Dave showed the example on the Sacramento River, estimating the distribution and abundance of fish, the early warning he was suggesting, knowing when
spawning is happening is another, and actually estimating entrainment losses as is done with the salvage records, although we are agreeing with some of the fish folks as to the adult or juvenile fish that you think you are salvaging, and that's too late in the life history. It's the eggs and larvae that should probably trigger pumping cutbacks.

There are just a limited number of things that these adaptive standards could then actually control, and we're saying put a person in charge of it. That water quality plan will not have the ability to live through the future and make the adjustment, but we are hoping that there would be a way to put these objectives in the standards with this structure for decision making in place to sort of take the comprehensive control and the balancing on a day-to-day basis and take on that responsibility.

The only thing we can do is control the salt gradient location with outflow, and that's very expensive. In water to provide an extra day at Rowe Island, for example.

Schedule the transport flows -- that's the kind of things that Dave Vogel was mentioning, and almost all of the recommended standards, all six of them, if you have already looked at them, have a San Joaquin transport flow.

The only trouble with that is that they have already chosen the dates for such and such. The dates that you would want to do the San Joaquin flushing flow, as you
already wrote in D-1630, will depend on conditions that year, and just as you made that a function of the Executive Director's, coordinating with the fish agencies deciding, we are saying that is the kind of daily decision making I want for every aspect of the Delta control:

We do operate the gates and facilities, we do control the pumping and scheduling of hatchery releases, or doing other sorts of things.

We are just about out of time, but I wanted to emphasize -- will you put up our next overhead. This, again, is a review graph. Perhaps this works into the next workshop where we can consider these alternatives.

In our paper we are saying that evaluating these potential alternatives with monthly water supply models is impossible because it does not provide the right information. The monthly water supply model knows nothing about the fishery benefits that might result.

If you take the matrix that DWR just released this morning giving you the water costs, you will notice that four out of five alternatives that they have evaluated all have approximately the same water costs. That is sort of curious to me, but let's say that is true, they are each going to cost 500,000 acre-feet a year.

My question is, how would we decide which of the four to go with? They have equal water costs, they have
unknown fish benefits, and we are suggesting that one of the reasons that you can't go any further with the monthly water models is that it doesn't even consider the realistic hydrology and operational constraints, let alone try to calculate the effect on fish.

We introduced two workshops ago our initial version of a daily Delta operations model called Daily SOS. I don't have time to show it to you, but we are now introducing at this workshop the existence of a daily fish transport model that sits right on top of the Daily SOS model. We call it Daily Move.

And what you can do with that is bring up a year of real daily data, apply a set of standards to it, and determine what the channel flows throughout the Delta are.

This is an example for three months where the main important ingredients of the three months are the water coming into South Delta through the San Joaquin, the east side or cross channel. This is with the cross channel closed and almost full exports going on in early April, and then, as the water supply is limiting, they had to fall off, and then the current standards applied 6,000 cfs pumping in May and June. During that pumping cutback to six, it provided a little bit of QWEST flow, which is the white line.

What we then did is open the cross channel gates.
Now under the current set of standards when they are telling you close it for a month, open it for a month, the cross channel would have remained closed, and so the following situation would exist.

Show us the next one. We are just contrasting the idea of opening or closing the cross channel gates. They would normally be closed with the current set of recommendations because we are still talking April and there's the possibility of salmon, so they are just shut.

So, what that does is it leads to a stagnation of the San Joaquin.

So, what we did with our daily fish model, this is simply to prove that it exists and that it is available for other people to look at, is we spawned 10 million eggs a day of salmon for the first ten days of April. That's the little black line coming across, and then watched where those larvae ended up.

Coming out of the lower San Joaquin, there are only two exits. You can either exit to the confluence, and for striped bass it's their preferred habitat and safety, or you can exit to the South Delta, in which case they have approximately a two-day shelf life, we might say.

And what we find is that --

MR. DEL PIERO: That's not a long enough shelf life.

DR. BROWN: When the cross channel is closed as in
the top diagram, as it would be to protect the salmon, the ending of those hundred million fish spawned in the first of April was that 54 percent made it to the confluence, to relative safety, but 28 percent made it to the export pumps. An additional 4 percent made it to the ag diversions.

For the same period of time, when we opened the gates, we are now providing more outflow to the confluence because we held pumping constant, and in that case a higher fraction, approximately 10 percent more, made it to safety, so here is an example where we find a 10 percent difference in fish survival which might be a significant number simply by opening the cross channel gate, which would be against conventional wisdom because they are to be closed for the salmon.

So, we are introducing the idea that there is conflict in running the Delta and specifying month-long closure or opening, and again, when we are talking day-to-day decision making, the timing of when salmon are there and when striped bass are there, it might be able to work out.

One last point. We spawned 100 million fish, but at the end of 10 days the most fish that we see in the San Joaquin is 30 million. What this means is that 70 million of the fish within the 10-day spawning period are already transported to wherever they were going to go.

This is to emphasize that right on top of the
spawning peak is when transport is working. So, setting
average monthly flows at a month's time may not have given
the conditions that were needed right then.

I have my story now for you. You may have wondered
what this is. This is my monitoring equipment and this
little thing on me is my pump. It is a very little pump,
but I take daily measurements of my blood sugar since this
is an insulin pump, and based on those measurements and what
I want to eat and what I know my blood sugar needs to be, I
control my pump, and I do this every day for every meal that
I eat, and it gives me a peak of insulin.

My story is that we have some big pumps and setting
them at a certain level or the gates leading to them for a
month at a time is not going to be adequate.

There will not be any set of prespecified monthly
standards that will provide efficient fish protection. But
if you set up a Delta master, daily information, and the
flexibility to work day by day, it is possible we can
protect fish at the lowest possible water cost.

So, thanks for the late time and you have my stuff.

MR. CAFFREY: Dr. Brown, thank you very much, sir,
and I would observe that Mr. Brown was very impressed by
your ability to count millions of fish and he can't find one
to catch.

DR. BROWN: These are computer fish.
MR. CAFFREY: We know you have done a lot of very interesting work and I think I would ask you the same question I asked Mr. Vogel before: Clearly, we are the ones that have to make a decision, but have you had any exchange of information or discourse with some of the other parties, like the CUWA folks that are working on their packages?

DR. BROWN: No, we don't get any kind of notice from CUWA or the Department. I know they have been having some premodeling deliberations and you will notice our alternative isn't even on their matrix, so we do not have any kind of direct interaction.

MR. DEL PIERO: Let me suggest that you contact the CUWA representative, and also the representative of the environmental organizations. I think they would find it very interesting.

I understand DWR has been somewhat reluctant to spend time doing evaluation of the model. Nonetheless, this Board is not hamstrung by any predispositions one way or the other, and I think the Chairman's suggestion that you all get in touch with CUWA and share that information may well prove to be beneficial evidence.

MR. CAFFREY: You are basically presenting to us a well stated and very creative technique for operating the system, and that is a methodology for attaining or keeping a standard that is set.
You know, if we could, in a real world, operate that way, I'm sure that besides water quality benefits, there's certainly water quantity benefits, too.

How this Board plays a role in implementing that kind of management scheme, good as it is and interesting as it is, is somewhat problematic. That's why we say to you that it might be worthwhile for you to also try to enter into this process through those other avenues with the people who are charged with doing the operation.

If they can be intrigued or interested in this as we develop our standard which cost water, it might heighten their interest on how to save some of that water.

MR. DEL PIERO: One more additional thing. Dr. Brown, do you afford Mr. Howard the opportunity to see your model runs and how you do your evaluations?

DR. BROWN: We remain interested and are able to do runs on our model for Tom in addition to having DWR SIM runs using these fish effect models. That is certainly possible.

MR. DEL PIERO: Does he take advantage of that?

DR. BROWN: Well, he has just gotten started with the six cases released a couple of weeks ago. So, the offer is in the paper.

MR. CAFFREY: Does staff have any questions of Dr. Brown?

MR. HOWARD: No, we have already seen Dr. Brown's
MR. CAFFREY: All right, thank you all very much.

That concludes this fifth workshop and we will have a public notice out shortly describing the proceedings and the scope of the proceedings on the meetings that we have announced for September 21 that will be chaired by our Executive Director, Mr. Pettit.

Thank you all for your attention and thank you all for your input.

(Proceedings concluded)
REPORTER'S CERTIFICATE

This is to certify that I, ALICE BOOK, a Certified Shorthand Reporter, was present during the Workshop of the STATE WATER RESOURCES CONTROL BOARD, STATE OF CALIFORNIA, held in Sacramento, California, on September 1, 1994;

That as such I recorded in stenographic writing the proceedings held in the matter of Review of Water Quality Standards for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary;

That I thereafter caused my said stenographic writing to be transcribed into longhand typewriting and that the preceding Volume VII, pages 1 through 261, constitute said transcription;

That the same are true and correct transcriptions of my said stenographic writing for the date and subject matter hereinabove described.

Dated: September 18, 1994

ALICE BOOK