Appendix F

May 9, 2007 Hearing Transcript

[Page Intentionally Left Blank]

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

OAKLAND, CALIFORNIA

MAY 9, 2007

EXCERPT OF PROCEEDINGS: ITEM 7

PROPOSED AMENDMENT TO THE WATER QUALITY CONTROL PLAN (BASIN PLAN) FOR THE SAN FRANCISCO BAY REGION TO ESTABLISH NEW WATER QUALITY OBJECTIVES AND IMPLEMENTATION PLAN FOR COPPER IN SAN FRANCISCO BAY

LOCATION:

1515 CLAY STREET, SUITE 1400

OAKLAND, CALIFORNIA

Transcription By:
HOUSE OF SCRIBES
Stockton, California
(209) 478-8017

P R O C E E D I N G S

MR. WOLFE: Item 7 is testimony hearing for our proposed amendment to the basin plan to establish site-specific objectives for copper in San Francisco Bay, so I'd like Richard Looker to make the staff presentation on this.

CHAIRMAN MULLER: And we have a couple cards.

MR. WOLFE: Excuse me?

CHAIRMAN MULLER: We have a couple cards on Number 7.

MR. LOOKER: Good morning, Chairman and Members of the Board. My name is Richard Looker, and I was here last month talking about mercury, and this month I'm here to talk about copper. My presentation today will focus on a Basin Plan amendment to revise water quality objectives for copper in San Francisco Bay.

And as Bruce mentioned, this is the first of two planned hearings. Today is just a testimony hearing, so we're not going to ask you to make a decision. We'll just ask to just sit back and enjoy, hopefully, the presentation.

The proposed amendment includes site-specific objectives for copper, which in contrast to the existing water quality objectives for copper, are based upon the actual characteristics of the Bay as they exist, so they are kind of fine-tuned to the water quality in the Bay. And in 2002 you adopted similar copper site-specific objectives for the portion of the Bay south of the Dumbarton Bridge, so that's called South San Francisco Bay.

So for my presentation I'm going to begin by giving you a little bit of background on copper and then walk through the elements of the Basin Plan amendment, focusing especially on the site-specific objectives and the implementation plan. I'm going to go over the few public comment letters that we received on this issue and then talk about the next steps in the process and a little bit about the schedule.

We've been working on copper in the Bay since, well, probably the early 1990s, but the work really began in earnest to develop the technical information that's the basis of this amendment in about 1998, and that work was really spearheaded in a big way by the city of San Jose and the dischargers to South San Francisco Bay. The study there probably cost about $2 million to develop really good scientific information,

and then there was a follow on study for the rest of the Bay that -- where dischargers also paid for excellent toxicity information and water quality monitoring of about 500,000. So a lot of effort and money and expertise have gone into developing this work.

So during that time we've learned a lot about the chemistry of copper and how that chemistry interacts with the biology of the Bay, and we do know that copper can be toxic to aquatic organisms, especially sensitive juvenile forms of shellfish larvae. I have one shown here in the bottom, and that's actually the basis of the toxicity, or the basis of the water quality objectives.

But we now know that the chemistry of the Bay makes copper less toxic than it otherwise would be because of various chemical features of the Bay. That I'll get into in a moment. So since existing water quality objectives are based on toxicity tests that are performed in laboratory water, they can at times be over-stringent, you know, depending upon the site-specific features of a water body, and that's what we find in San Francisco Bay, and so that's the basis.

MR. WALDECK: I'm going to interrupt just a quick second.

MR. LOOKER: Sure.

MR. WALDECK: What is laboratory water? Is that just water that's taken from the tap and used in the lab or --

MR. LOOKER: Yeah, that's a good question.

MR. WALDECK: -- what is it?

MR. LOOKER: So the basis of, you know, the sensitive organism for copper, that is really -- the basis of all the water quality objectives is the larvae of a mussel, so that's what that picture down there is, and this has to live in salt water, so you can't just take water out of the tap. You have to have water that it could actually survive in.

And so what they do is they simulate water by taking water from the open ocean, so it's got salt in it, and then they may adjust the salt content to make it, you know, comparable to the water in the Bay, but essential it's open ocean water, but it's laboratory water in the sense that it doesn't have all the stuff in it that the Bay does.

MR. WALDECK: Why not just take water directly from the Bay?

MR. LOOKER: Well, that's what they do. They compare the two. So when they calculate the objective, that's exactly what they do, is they compare the toxicity tests in the Bay water and in the laboratory water and compare them. So I'll get into that more in a moment.

MR. WALDECK: Thank you.

MR. LOOKER: And if you still have questions.

MR. WALDECK: All right.

MR. LOOKER: Okay. So when you adopted SSOs -- I'm going to use these terms interchangeably, site-specific objective and SSOs. When you adopted SSOs in the Bay for the South San Francisco Bay in 2002 you were affirming that you want to have copper objectives that reflect the characteristics of the Bay and use the best available scientific information, and this proposed amendment is doing the exact same thing but extending it to the rest of the Bay. Okay.

So now we'll get into a little bit of the copper chemistry because in order to understand why

site-specific objectives are appropriate for the Bay, it helps to understand that not all forms of copper are the same in terms of toxicity. So this slide shows cartoons of the different forms of copper that you could actually find in the Bay, and there are four main forms.

Copper could be attached to a solid particle. It could be part of inorganic complexes, organic complexes or bound to organic matter, or it could be all by itself in free ionic form. And it's that form at the bottom, that little Cu++ green dot that is the real bad actor. It is the one that is most closely associated with toxicity to aquatic organisms and because it can be readily taken up by aquatic life.

Luckily there's a lot of stuff in the Bay, and mainly it's dissolved organic material that tends to bind up the copper in a very stable form. So when it binds it up it doesn't let go, and that's that form that I show right above the free ionic with the organic molecules surrounding the copper, and there is so much organic matter in the Bay that actually we find very small amount of that free ionic dangerous form in the Bay. You know, when you measure it, you find maybe 1/10th of 1% remains in that form, so that's lucky for us. And indeed it's the presence of that dissolved

organic matter that really is the reason why the toxicity is reduced in the Bay. Okay.

So here's -- now, we'll get a little bit into Mr. Waldeck's question about how we use that information to compute the objectives. So we take the chemistry into account when we use USEPA approved methods to derive SSOs by computing and using a factor called the Water Effects Ratio.

So to compute the Water Effects Ratio, and that's what I've shown on the slide, we conduct side-by-side toxicity tests. So we've conducted the toxicity in water from the Bay and also in this sort of simulated laboratory water that represents open ocean condition that doesn't have all of that dissolved organic matter that would tend to bind up the copper, so then we measure the concentration of a particular toxic endpoint. It could be the concentration that it took to kill 50 percent of the organisms to cause deformities, something like that.

And the Water Effects Ratio is the ratio of the concentration that it took to get to that toxic endpoint from the site water from the Bay versus the open ocean water, and because the water from the Bay has this organic matter that is binding up a lot of the copper, you're going to have to put more of it into the

test chamber, or the beaker, in order to produce the same toxic endpoint. So therefore, you get the Water Effects Ratio grater than one, and so that indicates a protective effect by the site water. Okay.

So the current water quality objective for the Bay come from a document called the California Toxics Rule, and they are 3.1 ug/L chronic toxicity and 4.8 ug/L acute. So that's what we're starting with is the existing objectives. Our Basin Plan amendment is going to propose different objectives for different parts of the Bay, and I'll get into the reason why in just a second.

So the reason is we looked -- when we looked at the toxicity data, we found that there were statistically significant differences in the SSOs that we computed depending on where we were in the Bay, and in general there was a north/south split. So there's this line here that I can indicate on the screen that roughly represents the position of the Hayward shoals, and it's a line connecting about the Oakland Airport with Little Coyote Point.

So the portion of the Bay north of that line we're proposing 6.0 ug/L chronic and 9.4 acute, and then south of that line, the new -- this Basin Plan amendment has 6.9 ug/L chronic and 10.8 acute. And

these are the same objectives that we did in 2002 for just this portion of the Bay south of the Dumbarton Bridge. So these differences probably reflect the greater amount of dissolved organic carbon that happened to be in the samples that we did the toxicity test on in this part of the Bay compared to this part of the Bay. Okay.

So I'm going to switch gears a little bit now and talk about the implementation plan for copper, but before we do this it's helpful to look at the major sources of copper. So we use a lot of copper in automobile brake pads right now, and the copper is used in these brake pads because it has attractive mechanical properties and helps the brakes perform well without making a lot of noise and without heating up and without shaking. And roughly speaking, there's about 50 grams of copper on every vehicle, and there's millions of vehicles in the Bay. So when you multiply those two together, you get a big number of potential wear debris that could be generated that could get to the Bay.

Copper is also very attractive and it lasts a long time, so it's used in architectural features like downspouts, roofs, shingles, etcetera, and as those features age, the copper can wash off.

Copper has attractive properties that make it a good thing to use for water pipes. One of the reasons is that it does resist corrosion, but the pipes eventually do corrode, and when wastewater treatment plants look and see what their major sources of copper are, it's often corrosion of copper pipes. It's at the top of the list.

And finally, copper is a pesticide, so it's used in marine anti-fouling coatings and wood preservatives and also algae control in pools, spas, and fountains, and lagoons. And it's this last use that kind of gives you an indication of what the problem is, because if this is used to control the growth of aquatic organisms or kill them, then you might have a problem with it being nonspecific in killing things that you don't want to kill in the water body. Okay.

So I think you've been hearing a lot in recent Board meetings about the importance of Board action and permits complying with antidegradation provisions, both state and federal, and our implementation plan for the objective is the primary way we comply with the state and federal antidegradation policies.

So in order to maintain existing water quality, the implementation plan calls out control

measures for the major sources of copper and also an ambient monitoring program with trigger concentrations of certain increases I'll tell you about in a moment. And also, the amendment establishes conversion factors between total and dissolved copper that are necessary to compute NPDES wastewater effluent limits.

And the plan also calls out the need for specific technical studies to resolve a couple of remaining uncertainties. And one of the uncertainties has to do with emerging information that copper may impair the ability of Salmonid, so that's like salmon, to smell chemical cues in their environment, and this effect is called olfactory effect or sublethal olfactory effect. So it's not actually killing the salmon, but they're having a hard time smelling the prey or predators or for navigation.

There's currently only information about this effect in fresh water systems, so we don't really know if it's an issue for the Bay, but the implementation plan calls out the need to follow up on this and develop those studies and to see if it's a problem in marine environments as well. Okay.

So here is what the proposed amendment calls for on the part of urban runoff management agencies. These measures will be implemented in that municipal

regional permit that's going to be coming before you soon. So essentially, we're asking them to address the major sources of copper to urban runoff, like vehicle brake pads, architectural copper, copper pesticides, and also whatever industrial uses might exist in the program areas.

For wastewater, we will maintain the water quality based effluent limits in the permit, and those will be computed based on the SSOs and the appropriate translators, that ratio between total and dissolved copper. In addition, there will be required measures to evaluate the copper source to their facilities, make sure that the industrial operations that would be discharging to the sanitary sewer are complying with local pre-treatment limits and also maintaining focus on controlling corrosion, especially from commercial and residential sources. Okay.

Copper, as I mentioned, is used in marine anti-fouling paint to kill organisms that might attach to the hulls, and the problem is that this copper doesn't stay on the boat. It could leach off, and it could cause -- it could cause a toxicity problem in the marina, but also it could be a fairly large source of copper to the Bay. And these copper-based boat paints have gotten a lot of attention due to TMDL efforts in

San Diego, Shelter Island, and they're starting to get a lot of statewide attention now as well.

The Water Boards don't have the direct authority to regulate these types of products, but we are working closely with the staff at the Department of Pesticide Regulation, or DPR, in order to develop -- because they do have the regulatory authority. And there is already a lot of work happening in terms of monitoring and evaluation of alternatives, and more is in the works with regard to boat paint. And we're participating, I myself, in a special workgroup set up by DPR to coordinate the work on this issue.

Copper is also used in lagoons around the Bay to control the growth of algae in aquatic plants. We don't expect this to be a big source of copper, but proper management is needed because the copper is applied directly to the water, and some of these lagoons have a connection to the Bay, so the copper could get to the Bay. The application of copper in this manner is covered under the statewide State Board general permit that will ensure that the use of copper in lagoons does not cause exceedances of water quality objectives in the Bay.

A big part of the implementation plan is the key to ensuring that ambient concentrations stay at

current levels. We have been monitoring copper in the Bay regularly since about 1993 through the Regional Monitoring Program, or RMP, and this figure on the slide show that essentially since that time there's a little bit of a wiggle, but there's not really a discernible trend, and the concentrations have stayed between about 2.5-4 ug/L during that entire time, and we expect that to continue, especially if we can control sources through the implementation plan.

Of course, we need to have the monitoring continue, and we need a way to detect, you know, scientifically, if a change is occurring, and so that's what we're doing with the triggers. So we'll have -- we'll be using the ongoing RMP monitoring and computing a three-year rolling average that we will compare to the so-called trigger levels.

And we computed triggers levels for various parts of the Bay, such that we would be able to detect a change in ambient dissolved concentration of as small of about 1 ug/L with something called a 99% statistical power. So that means there's a 99% chance of not missing a change if a change of that magnitude occurs. And if we do see ambient concentrations increase that amount, we'll ask dischargers to identify whether they are part of the cause and to identify potential additional control measures. Okay.

We did not get a lot of comment letters on the proposed amendment, and we interpret that to mean that our stakeholders are fairly comfortable with what we are proposing. They were familiar with this work from the South San Francisco Bay, and so, you know, I think that's reflected in the few letters.

We did get a letter from USPEA that voiced a concern about the olfactory effects on Salmonid and encouraged us to quickly develop the permit requirements regarding these studies, and they also requested more details on potential conditional variability and the Water Effects Ratios, and we can easily accommodate those comments in our response.

The Bay Area Clean Water Agencies, BACWA, essentially endorsed the amendment, but they want to make sure that they build in the flexibilities regarding conducting those studies to make sure that they can take advantage of forums or entities like the Clean Estuary Partnership in order to conduct them, and that's certainly consistent with what we had in mind, and we can accommodate that.

The Copper Development Association requested a minor clarification, that's in the staff report, regarding language we have about the envisioned control

measures for the architectural sources of copper, and that will be no problem to accommodate.

The City of San Jose requested clarification about how some of the technical uncertainties were described in the staff report, so I'll have to take a look at that language and see what I can do with that, but I think that should be no problem. They also have concerns about the requirement to conduct the olfactory effects on Salmonid. We appreciate the careful reading by the City, and we think we can address these comments as we respond to them with some simple edits to the staff report, perhaps, but we feel the way that we have crafted the study requirements and our approach to doing so accommodates the concerns of all our stakeholders in a flexible manner.

We also got a late letter from the National Marine Fisheries Service that came after the close of the comment period, so that wasn't included in your Board packet. We feel that we can address their concerns, as we received a number of comments about the same topic, again, the olfactory effects, from the other commenters, so in responding to the other commenters, we can touch on this.

Then in addition, I know that Joe Dillon from this agency is here today, so he can talk about some of those comments in person.

Okay, so what's next? We are already in the process of responding to the comment letters that we got in, since we only had a few them, so I've started that process. In addition, anything that comes up today, either from your questions that you have or from testimony, we'll include the responses to those issues in the comment package that will be made available next month when we come back to you. So we'll begin to work on that.

We'll back next month to request your consideration of adoption of the proposed amendment. And then once you adopt, we proceed up this sort of approval process stairway. The next step is -- after this Board adopts, is to get State Board approval of the issue, or of the package, and then it would go on to the Office of Administrative Law and then to USEPA. And finally, once USEPA approves, it's official, and we can make the change to our Basin Plan.

So that's all that I have prepared today, but at this time we would be happy to answer any questions you have on the presentation or anything that was in your Board package. Thank you.

CHAIRMAN MULLER: Margaret.

MS. BRUCE: Aside from thinking we need to hear Stairway from Heaven by Led Zeppelin in the background --

MR. LOOKER: Believe me, I considered doing that.

MS. BRUCE: A question about how frequently you would reevaluate the water Site-specific objective measurement, because I'm noticing that there's this sort of expanded triangle, you know, sort of lifting the line towards the Hayward shoals about where the lower copper objectives would be because there's higher organic material content there.

When the South Bay Salt Pond Restoration Project happens, chances are that's going to have some kind of an effect on water quality, either seasonally or over a long period of time. Is there a plan for updating the water quality changes in response to possible water quality changes from restoration efforts, or perhaps even the effects of other work like TMDLs that might reduce the sediment loading in the Bay, or even work that's going on in the Central Valley that might change some of the runoff patterns?

MR. LOOKER: That's an excellent question. There is not currently in the implementation plan something so explicit like as a reevaluation of the proposed objectives. It is certainly possible to do. We do have -- you know, we do have the ongoing monitoring through RMP, so they're monitoring all the forms of copper that you would need to look at, the dissolved and the total, we measured in the sediments as well, and they do measure ancillary parameters like dissolved organic carbon that you can look at to get, you know, some sense of, you know, something big happened.

So with these big changes in the Bay with the Salt Pond Development, do we see dissolved concentrations changing rapidly, or a big change, or do we see dissolved organic carbon differences? And so by looking at those things judiciously, we can get some sense of the importance or the priority of having to look more carefully at whether the toxicity issues have changed. And then we would from time to time be looking at toxicity as well.

MS. BRUCE: Okay. It just strikes me that there are several parameters that really change and influence the toxicity of copper in Bay waters. So if there was a programmatic or systematic way included in

this process to periodically -- I don't know if it's every year, every two years, every 18 months so that you pick up different seasons, just to have a recalibration of this particular ratio, you know. You do the lab water. You do the Bay water. And you say what's the trend? Is anything changing? Because I'm hopeful that the restoration work, the TMDL work, the Upland TMDL work is going to have a beneficial effect, but it may change what the result of this calculation is over time, and maybe we should know what that is.

MR. LOOKER: That's a good point.

CHAIRMAN MULLER: Terry.

MS. YOUNG: Yeah, along a similar line. Perhaps you could bring the first slide that had all the pretty complexes of copper --

MR. LOOKER: Sure.

MS. YOUNG: -- and various colors. Thank you. The water quality objectives that we're talking about relate to the dissolve concentrations.

MR. LOOKER: Right.

MS. YOUNG: Just to that green copper that you --

MR. LOOKER: The dissolved are actually these three forms here.

MS. YOUNG: Right.

MR. LOOKER: So when you measure dissolved concentration you're -- you can't really distinguish how much is in each of these forms without doing more assays, and we actually did that as part of the work, and that's how we came up with that number that -- in the samples that we looked that, less than 1/10th or 1% existed in that toxic free ionic form.

MS. YOUNG: And that's consistent with what the national standard is and what we've been told to do. The fact means, however, that some of the discharge and some of the copper in the Bay actually exists in particulate forms and forms that we're not measuring, either in the SSO or in the trigger levels that we're using. And so in a way it's -- the non-dissolved form is sort of invisible to the regulatory system that we're putting together, but it's, as we know, not invisible to nature. It goes somewhere, and building up in some compartments in the Bay, and then can become dissolved --

MR. LOOKER: Right.

MS. YOUNG: -- can be converted in the dissolved form by either biological mechanisms or physical or chemical, sometimes it's seasonal, sometimes it's with storms. So I think we do have to worry about where the parts of the copper -- where the copper that's not picked up in our dissolved standard goes and how fast it builds up.

And I was -- I would just ask that you and the other Board members consider whether we would want to put something akin to your trigger levels -- to the trigger levels that are currently in the proposed amendment for the compartments where we expect the particulate forms of copper to show up. I know there's current monitoring that you've referred to in sediments. There's one in at least one kind of organism, one kind of bivalve, I think you mentioned, in the Bay.

And my preference would be to do something that didn't require a lot of additional monitoring that perhaps made use of the monitoring that we have already so that we would be efficient about it, but it might be a good idea to have a trigger system or a reevaluation system, just like Margaret was saying on the other

issue, for this purpose so that we know that if we would see some warning signs we would have a process that would then kick into gear that would allow us to evaluate it and determine whether or not there should be additional Board action.

MR. LOOKER: Okay. I'll speak to that a little bit now, and we'll certainly amplify on the response in writing. It can be problematic or even misleading to do that in the water column, for the simple reason that this particulate form is basically going to just bounce up and down, as TSS bounces up and down. And in fact, we see places in the Bay where, you know, total copper is just like wildly, you know, fluctuating with regard to tidal levels, but the dissolve copper doesn't change.

MS. YOUNG: And a lot of it sinks.

MR. LOOKER: And a lot of it sinks. So in terms of looking at a trigger level in the water column, we're going to be frustrated because of that variability. But what we can do, and we already have called attention to the fact that really what is -- what could be a certain is that copper comes into the Bay. It binds to the particles and then sinks and then it might enrich the sediments and you might get a sediment toxicity problem, and we already have called

attention to that. And so I just included this extra slide that -- these are some -- not only is there olfactory possible effect study that we need to look into, but we still have some information to get about what seasonal tributary loads, and the RMP monitoring and special studies is going to help us get more information on that.

And then also we are concerned about toxicity to (inaudible) organisms because we have gotten a couple of toxicity hits that we think are associated with copper in the Bay, and there is ongoing RMP monitoring and planned special studies to address this through the RMP. So we are playing attention to that sort of sink issue for copper in the sediments.

MS. YOUNG: Thank you for the explanation, and I recognize that there are these other complementary activities going on, but I would like to see if there would be a way to put some kind of blueprint into the -- into the Basin Plan implementation plan part of it itself so that we would know that we had a process that would happen in a routine and timely manner, as a result of this additional --

MR. LOOKER: Okay. And just so I understand, and in particular the sediment toxicity issue or --

because I'm not sure I understand enough about the -- what you want to look at.

MS. YOUNG: Well, from my limited knowledge, I would be tempted to look at what's building in the sediment and then becomes bioavailable to either the particulate feeders or the organisms that live in the sediments and churn it up. But I'm not a copper expert, so I would actually have to turn that back to someone who is --

MR. MUMLEY: This is Tom Mumley from the Planning and TMDL Division. I think I got a pretty good understanding of what you're saying, and fortunately we do have quite a bit of vigilant monitoring going on in sediment and biota that we can take advantage of, and I'm here to say take advantage of -- call it out. We're already calling out the need for these special studies, so we should be able to relatively easily accommodate your concern in the actual implementation plan by laying out sort of a review process, how we'll track those data and look for any indication for change.

So short of having to get into significant new analysis, I think we can still find a way to accommodate your concerns constructively. And also, Ms. Bruce, we can get your concern in that same context

about how we're going to track changes, not just using -- looking at dissolved copper in the water column, but these other factors as well.

MS. YOUNG: That would be great. I appreciate that. Thank you.

CHAIRMAN MULLER: Any other comments? Thank you. If we could get the value of the mercury that we're getting for copper with the thieves, they could go steal all the mercury out of the Bay instead of stealing our copper wire out of our place.

So we have a couple cards. First one will be from National Marine Fisheries, Joe Dillon, please, and followed by Michelle Pla.

MR. DILLON: Good morning. My name is Joe Dillon. I'm the Regional Water Quality Coordinator for Southwest Regional National Marine Fishery Service. I do want to start off apologizing that our letter was late. I was back East for a number of months and got back here just in time to get in a couple of days late, but I couldn't get it through the signature loop in time. I can give Naomi copies of the letter in case you would like to take one with you and for whoever else would like one.

After hearing Richard's presentation, I look over the notes that I made, and I don't really know what hasn't been covered, so I'm going to bottom line it, and that is that there is a data gap in this SSO process related to the olfaction impacts on Salmonid, possibly on green sturgeons, some of our expert biologists are telling me, but I don't personally know nothing about that fish yet. I have to do some research on it.

And the data gap comes from the fact that the toxicity testing that has been done is targeting impacts that happen by a certain mechanism, and that is absorption across biotic (inaudible), and fish it would be absorption across the gills. Impacts of the olfaction system of Salmonid occur directly to the olfactory rosette, which is in -- basically in a pit on the nose and is exposed to the open water.

So in one way the SSO does a good job of looking at this certain set of impacts, which traditionally have been the focus of this type of testing, but there is a number of peer reviewed articles out there in the scientific journals over the last 10 years, so they're starting to look at in more detail impacts to olfaction systems.

It has been known that copper is a neurotoxin for a number of decades, but science is really just getting to the point that we can measure how it is a neurotoxin and to what system within the fish it affects.

So we believe the proposed Basin Plan amendment appropriately calls for studies to fill this data gap to protect the beneficial use, cold-water fishery, as well as rare species. The only thing that we ask is that a more concrete timeline be set upon conducting, or at least starting, those studies. The way the language was written in the draft Basin Plan amendment made it seem a little fuzzy as to when it could occur.

If it went through the NPDES permit process it could take five years or even more before everything goes through, and everybody is required to kick into a pot or, you know, however it would work, and we think that the studies can take place in a shorter term.

And I guess that's all I really have to add, but I would be happy to take questions if anybody has any at this point.

CHAIRMAN MULLER: No comments from the Board. Questions? Okay. I guess you could standby.

MR. DILLON: I'll standby.

CHAIRMAN MULLER: I appreciate it. We'll hear from Michelle Pla now.

MS. PLA: Good morning, Chairman Muller and other Board members. My name is Michelle Pla, and I'm the Executive Director of the Bay Area Clean Water Agencies, and I'm very happy to be here today. I just arrived home last night about midnight from Washington DC.

I wanted to say that BACWA strongly supports this Basin Plan amendment, and we urge you to adopt it next month. I think what you're seeing here is the outcome of this Board's actions many, many years ago to begin the Regional Monitoring Program so that we could have very good information about what is going on in our water body and not rely on national studies or lab studies, so that we could really know what's the issues here for San Francisco Bay. You're also seeing the fruits of the work that was started by the City of San Jose back in 1998, nearly a decade ago, and so that we're now being able to translate that to the entire San Francisco Bay, so I think this Board really deserves a lot of credit for getting us to this point. Congratulations.

I wanted to point out that the Water Effects Ratio is a very important part of this study, and we're hoping that the use of that Water Effects Ratio in the upcoming permits that are going to be adopted over the next year or year and a half as this Basin Plan is going up that stairway to heaven will be used, because as you see in the staff report, despite the award winning pollution prevention programs that we have in the San Francisco Bay area for all of the clean water agencies about -- I have to get this number right because I don't want to misstate something, about 37 of our 44 facilities here in the Bay area cannot meet the existing CTR copper number. We absolutely need this Basin Plan amendment in order to be in compliance.

We will continue to have award winning pollution prevention programs and even go beyond what we have been doing now consistent with the implementation plan and this Basin Plan, but without this site-specific objective we -- our permits -- we will be in noncompliance. So that also speaks to, again, looking to use the WER now as these permits are adopted because we're also suffering -- not suffering, I guess, we're also in a situation now where, due to the lack of ability to put compliance schedule in permits, the permits that you're going to be adopting for the next year, year and a half as this Basin Plan

goes through its process, will require immediate compliance with the CTR levels, unless we can use the WER, the Water Effects Ratio, so we are also hoping that your action today will push us towards being able to apply that to these permits as quickly as possible.

As to these sublethal effects, we've been talking about this as the development of this Basin Plan has been ongoing, and we do understand that there is this information by using fresh water, that's lab water, and that we're seeing these effects, so we are definitely in support of moving ahead and doing these studies on the sublethal effects for Salmonid. And we have asked that, again, because it's going to be a year to a year and a half before this Basin Plan is amended, and then there's permits, all that kind of thing, that perhaps this can go to the top of the Clean Estuary Partnership's priorities so that we can get to those studies quickly, rather than wait for five years or 10 years to do it.

So again, I guess what I want to leave you with is that we strongly support this. We're in support of the implementation plan. We do agree that these sublethal effects studies should be done quicker, and we do think that this has been -- again, that you're seeing the fruits of all the work that has gone on for well over a decade to get us here. We only ask

that you consider how this is going to affect our permits in the short run, and if there's something we can do about that now so our agencies aren't going to be in noncompliance -- immediate noncompliance with the new adoption of these new permits.

I want to take this last point to just commend your staff. They have worked extremely well, not only with us, but you can see they've been working with National Marine Fisheries, with the San Francisco Estuary Project, with the EPA and everything to pull this information together, and they've done an excellent job. I think this is really a credit, not only to your staff, but also to this Board to reach out and really take a look at our own Bay and what we need to do for it. So thank you, and I urge your adoption of this next month.

CHAIRMAN MULLER: Thank you, Michelle, and I believe you have a conference coming up in between all your travels too, do you not, next week or something?

MS. PLA: Actually, thank you for raising that. We had planned to have a water recycling conference in the Presidio on May 15th, and we had sent out invitations to you all for that, and we have actually decided to delay that conference. It's turning out that Tuesday is just not a good day. It's

not a good day to get elected officials out of their own agencies and their own duties to come and talk about water recycling. So we're going to be looking for a better weekday and maybe couple it with a congressional holiday so we can get George Miller and Nancy Pelosi and Anne Esher and others to come and talk about it. We want talk about breaking down political barriers so that we can really increase the ability to get these water recycling projects completed.

Actually, tomorrow I'm going to be meeting with the Chronicle editorial staff to talk about water recycling because we've -- BACWA has just completed an issue paper on water recycling and the benefits of that for the San Francisco Bay, so we're going to be talking about that.

And one of the interesting things that came out of this was that we really truly believe that water recycling is much better for the whole issue of greenhouse gas, not only as a mitigation, but as an adaptation for what we're looking at here. So I guess that's new -- not necessarily new information, but information that we've been able to unearth, and so in addition to all this drought proofing and reliability and reusing this resource rather than putting it in a salt water sink, we now are seeing that this is better for us from a greenhouse gas perspective as well.

So we're really going to be continuing to push water recycling, not only through this conference, which I hope will be in about two months. We'll let you know as soon as we can get that set. We hope that all of you can attend that as well.

CHAIRMAN MULLER: Thank you. We all love to take things off our calendar, so that's great.

MS. PLA: Thank you for giving me the opportunity to talk about water recycling.

CHAIRMAN MULLER: Yeah, you kind of stretched it there a little, lady.

MS. PLA: Thanks.

CHAIRMAN MULLER: Okay. Back to the copper. Any other questions from staff? Terry?

MS. YOUNG: One thing I forgot to ask.

CHAIRMAN MULLER: Sure.

MS. YOUNG: I apologize for that. Mr. Looker, you mentioned that you were working with Department of Pesticide Regulation on the anti-fouling paints, and I

don't know whether there's a formal process that you're doing with that. The write-up in the staff report makes it sound very collegial and informal, and I was wondering if you would either like to take this opportunity, or some future opportunity, to let us know whether there is some additional oomph that you might like to see in the Basin Plan that would move the process along in a timely manner.

MR. LOOKER: I think at this time I'm very happy with the working relationship that I've seen from DPR. We really have -- I had not been around that long, but in the recent history, we really had good success working with them on pesticide issues, and this is no exception. They have dedicated a very fine staff person named Nan Singhasemanon to chair this workgroup, and I've seen a lot of efforts.

They did have a monitoring study in marinas around California where they looked at like 20 to 30 marinas and inside and outside the marina to try pick up this effect of the copper. There's an imminent study on alternatives to the copper based boat paint so so far so good, but I'll report back if anything changes.

MS. YOUNG: Great. That's good to hear. Thank you.

CHAIRMAN MULLER: Okay. If not, this was informational only for upcoming scheduling?

MR. WOLFE: Right. As Richard explained, the process is to respond to all comments, yours and those we received in writing, see what and where it's appropriate to make revisions to what you have in front of you, and bring that back ideally next month.

In many of the Basin Plan amendments, including the TMDLs, we usually allowed two months to be able to do all the work, but as Richard said, given the limited comments, we've been able to work already in terms of responding to those comments and work with all the parties to resolve any of the issues that are brought up, so we feel that we can bring that back to you next month.

CHAIRMAN MULLER: Okay. Thank you.

[END OF TESTIMONY ON ITEM 7.]

CERTIFICATE AND DECLARATION

OF TRANSCRIBER

I, TAMA BRISBANE, owner of House of Scribes, do hereby declare and certify, under penalty of perjury, that I have directed STACY WEGNER, a duly designated transcriber with House of Scribes, to transcribe tape(s) that total one in number and cover a total of 37 pages. The recording was duly recorded at the California Regional Water Quality Control Board in Oakland, California, and the foregoing pages constitute a true, complete and accurate transcription of the aforementioned tape to the best of her ability.

I hereby certify that House of Scribes and its transcribers are disinterested parties in the above-captioned matter and have no interest in the outcome of the proceeding.

Dated May 15, 2007 in Stockton, California.

Tama Brisbane

_____

Transcriber, House of Scribes