



To: South Bay Salt Pond Restoration Project Team

From: Center for Collaborative Policy

Re: Outcomes from the May 25, 2005 Stakeholder Forum Meeting

Background: The eighth meeting of the Stakeholder Forum (Forum) was held Wednesday, May 25, 2005 from 10:00 am to 3:30 pm at Centennial Hall located in Hayward. The Forum has been convened to provide ongoing input to the South Bay Salt Pond Restoration Project Management Team (PM Team) and its technical consultants on the development of the South Bay Salt Pond restoration, flood management, and public access plan.

Meeting Attendance: Attachment 1 lists meeting participants.

Meeting Materials: In advance of the meeting, Forum members were provided a meeting agenda, summary memoranda on ad hoc technical groups, draft Phase 1 selection criteria, and an updated Forum roster.

Substantive Meeting Outcomes:

1. Welcome, Introductions, and Agenda Review

Steve Ritchie, Executive Project Manager, welcomed everyone and asked both Forum members and public attendees to introduce themselves. Ritchie provided an overview of the meeting's objectives, and a review of the agenda. The meeting objectives were:

- Review and discuss the Landscape Assessment
- Status report on the Initial Stewardship Program
- Poster session of the National Science Panel Charette and outcomes from ad-hoc working groups
- Demonstration of the new project web-based Interactive Map
- Update on the Science Program
- Discussion of possible selection criteria for Phase 1 actions

2. Orientation to Interactive Map

Amy Hutzel of the California Coastal Conservancy and Project Management Team member introduced Michael May, the Information Technology Manager of the San Francisco Estuary Institute, which has developed an interactive web-based map to show various features of the project. The map is now up and working on the South Bay Restoration website at www.southbayrestoration.org and click on the word "MAPS".

Hutzel said the interactive map is useful for everyone working on the Project to find out what the existing conditions are in the South Bay and also as a resource for educational purposes for the public and others.

She said the Project also has a GIS Working Group that has been meeting for a year on the interactive map and the internal data management for GIS.

Mike May said that the goal was to create a web-based map that the lay person can use to locate Project areas and relevant information on recreation, infrastructure, wildlife, flood control, and many other topics for the South Bay. It was designed especially for the general public with no GIS-related experience.

May described the major features of the map including various themes and visual layers that can be added for more detail such as open space areas, trails, streets, power lines, flood risk projections, endangered species, water quality, historical landscapes, and jurisdictional boundaries. A user can also click on a legend of the items shown on the screen for more in-depth information such as descriptions of the items, data, studies, and more.

Future additions to the interactive map will include topographic maps, additional aerial and other photography, a better relief map, contaminant information, and more. May asked the group to review the site and suggest other additions and links.

One Forum member suggested having the priorities on the map, such as what items show up first, parallel the priorities of the Project itself. Mike said that this could be easily done.

Q: Is there an anadromous fish layer?

A: Yes, it is called anadromous fish streams. Clyde Morris of the U.S. Fish & Wildlife Service said that there is more current data available about the fish in the ponds and sloughs that USGS can provide to add in.

Amy Hutzel said that USGS is currently taking the bathymetry and LIDAR data that was collected and analyzing the changes from 1983 to 2004. Bruce Jaffe, from USGS, has data and analysis incorporating the data and analysis that goes back about 150 years.

Q: Do the streams extend beyond the salt pond project boundaries?

A: Mike May said that was correct.

Q: Could you have present day courses of the streams plus historical courses, which are available, and show the storm drains from the various cities? Will you be updating the map and how?

A: Yes, it's a work in progress and we're considering many additions. We also plan have some of the older aerial photography as an overlay.

Q: Have you been discussing having the public provide feedback on their experience with the interactive map?

A: When you go to the introduction page, there is an email link.

Q: You show the San Francisco Bay National Wildlife Refuge boundary: are you showing the current boundary or the Congressionally-designated boundary, because the refuge does not yet include all of its proposed lands, and it would be good to show that there is still work to be done on the eastern side of the Bay.

A: My understanding is that this does depict all the boundaries that are owned or managed or leased or proposed.

Q: In terms of bird species, wildlife is such a driving force in this project and to just show listed species is limited. Are ducks and other birds listed? It would be good to be able to hit a link to show a description of the bird and picture that are easily available.

A: Yes, we should put a little picture of the species being depicted.

Q: Is there a layer showing current restoration going on adjacent to this Project and to identify areas upslope of the Project, which are critical to restoring Bay habitat and diversity?

A: It does not show adjacent restoration and it easily could.

Q: How difficult would it be to translate some of this information into Spanish?

A: The main site itself is already in Spanish, and it's certainly possible for the map as well.

Q: Is there a way to show the connection between the public access theme and restoration and is there a way to collect and capture data and a way to link to a spreadsheet or something like that?

A: It's certainly possible and we have a similar kind of function with another project.

Steve Ritchie: We should qualify that the information comes from reputable sources.

3. Initial Stewardship Plan (ISP) Update

Carl Wilcox of the California Dept. of Fish and Game discussed the progress in implementing the Initial Stewardship Plan (ISP), which was established to keep the ponds in a healthy condition as the planning process is underway. The ISP process is intended

to manage the ponds once they were transferred from Cargill Salt, and had a requirement to transfer them in a condition where the ponds could be discharged or are in a restorable condition.

Wilcox said that Cargill has been transferring ponds to Fish and Game and U.S. Fish and Wildlife Service and, for the most part, they have transferred almost everything except a few ponds in the South Fremont and Menlo Park areas. Once they met their standard for transfer, the responsibility for management fell to the Dept. of Fish and Game and U.S. Fish and Wildlife Service.

Wilcox went on to describe that the ISP is the plan to decouple the ponds from the salt-making process and allow them to be managed independently. Ponds were broken into smaller units and water control structures were put in to circulate water through the ponds. Discharges or improved circulation were initiated last summer, and because of construction, had to start a little bit later in July and had to have waivers from the Regional Water Board. Discharge was initiated under two scenarios; an initial release scenario, which involves discharging pond waters with salinities that are above ambient conditions and that are allowed by the water board because modeling in preparation for the ISP showed it was the only way to get the salt out. Within one to two months, the effects of that salinity discharge were abated and dispersed into the system, and were down to the range more comparable to ambient conditions in the Bay. In many cases, Cargill transferred the ponds in a condition where it went straight to continuous discharge of the ponds. As long as the salinity was not over 44 ppt, discharge could go directly to the Bay. As part of the initial release process, it was found that as modeled, the effects of salinity discharge were fairly fleeting and the discharge has stayed within salinity requirements.

Wilcox said that in managing the ponds, a lot of things are being understood more as they are come up. One of these is dissolved oxygen (DO). These ponds, being large bodies of water and shallow, particularly in the summer, tend to grow a lot of algae and this creates an oxygen demand in the ponds, and the dissolved oxygen in the ponds tends to fluctuate during the day. During the night, the DO goes way down, because the algae is respiring and using up all the oxygen and during the day the algae starts photosynthesizing and producing oxygen, so the oxygen level goes up.

What is being seen, particularly during the neap periods of the tide, is that there is not a lot of circulation in the ponds or in the Bay resulting in lower dissolved oxygen levels. These cause problems related to discharges because they are below the basin standard, which is 5 ppm. The ISP managers then have problems meeting that standard, and one issue is whether the standard is met in the Bay as a whole during the summer months. There are indications related to recent monitoring that, at times, the ambient condition in the summer in the Bay is below 5 ppm. Bringing that water into the ponds affects the ability to discharge that water back out. There are also problems with the way a few of the ponds were engineered and the problem gets exacerbated because the wind blows all the algae to one end where the discharge location is creating another problem.

Wilcox admitted that the agencies are not used to the demands of complying with permits, and are working with primary consultant USGS, more of a research group as opposed to a group that does real-time data reporting to meet permit requirements. What was happening was data on the pond conditions was not coming in fast enough to respond to real-time problems, a lag of several weeks in some cases, and it was not realized there was a problem until it had gone on for a while. After the season, the agencies met extensively with the water board in terms of lessons learned, particularly with the dissolved oxygen issues, how data reporting could be improved, and working with USGS to make reporting more real-time.

In April, Wilcox said, discharging started again and there is a steady stream of information and calls going to the water board about what is being found and how to deal with issues as they arise. In the Baumberg system this year, there was a pH problem and the pH requirement could not be met, so the water board was consulted and the system closed down for a while, even though a reflection of higher pH in the receiving waters was not really seen. The system was then reopened once the pH dropped and there has not been that problem since. As monitor continues, operations are being modified in the pond system to try to alleviate the problem of discharges that are non-compliant and, at the same time, not creating problems where a dischargeable salinity of the ponds is increased due to evaporation. The ISP managers are trying to work a balancing game between meeting water quality discharge requirements into the Bay and receiving waters that are not causing problems in the ponds themselves.

What has been found is that the ponds are extremely dynamic systems that are changing diurnally and seasonally with the effects of the tide and weather patterns. Last summer, there was a period of no wind and high temperatures in the Bay where a lot of things in the Bay changed. It wasn't just the ponds that were having problems, it was the whole Bay also, because of environmental factors that affected how things operated.

Wilcox mentioned that there are still structural things being done to the ponds as well as just their operation. The Eden Landing system in Hayward is broken up into five components and is tied into another restoration project. The Department is working with East Bay Regional Parks in restoring the former plant site at Eden Landing and that is starting to come on line. A large area that will be restored to tidal influence, and that site will be used, along with the Science Team input and the Island Ponds project in the Alviso area, to start to develop information about the effects of restoration and what can be expected in the future.

For Eden Landing, Ponds 10 and 11 have started to discharge and once the management was changed from Cargill, the facilities broke down. So now Ponds 10 and 11 are muted tidal and there is no control of the water going in and out, they fluctuate with the tide. However, a fairly significant bird response has been seen. This area has become now prime foraging grounds for shorebirds, in particular, because of the muted tidal nature.

The other system the managers started opening is the Pond 2 system, with an intake on Alameda Creek and discharge directly to the Bay. In summer, enough water can't be

circulated to keep the whole system from concentrating, so it is drawn down and operated at a lower level. Currently, under contract, Cargill is doing some major levee maintenance in this pond system to improve its operation.

Wilcox concluded by saying that the Pond 6 system is being operated seasonally, rainwater floods it and then dries up, and this summer a control mechanism will be installed in it so that it can be flooded earlier and easier to drain. The Pond 8A system has started operation, somewhat hindered by not being able to complete the Eden Landing Slough project. He mentioned that other than the pH issue, which seemed to resolve itself, there have not really been any problems.

Q: What's your best guess as to the underlying driver on the pH problem?

A: I don't know that we have a good understanding of why that happened. It could have been due to salinity or related to pond dissolved oxygen levels. We did discharge an initial release for pond systems 2C and 8A, and then by operating the system the pH seems to have corrected itself after we started discharging, and we haven't seen that problem again. We haven't been able to figure it out.

Clyde Morris of the U.S. Fish and Wildlife Service continued the ISP update. He stated that the ISP implementation started last year with Phase I in Mountain View, opening Pond A1 all the way to A8 in Alviso. The ponds were opened last July and operated through a series of new water control structures funded by the foundations through the Resource Legacy Fund. He reported things are a lot better in some areas and there were some issues not expected, based on the models that said what should happen. This just shows that it is a learning process and that not everything you model is going to turn out that way.

Last March, Phase II was started by opening up Pond A9 through A17 and adding new water control structures, once again funded by the foundations. Next spring, the project managers hope to begin Phase III, in cooperation with the Santa Clara Valley Water District, to restore the island ponds between Coyote Creek and Mud Slough, breaching those and restoring them to tidal actions,

Surveys were done in the winter on waterfowl use in the South Bay, and it was compared to what had happened in the ponds over the last 10 years under Cargill management. Comparing that to what was seen last winter under the ISP management, there was a 100% increase of waterfowl use. The Phase II ponds, which were not yet under ISP management, did not increase. Morris said they think it is due to the lowering of the salinity of the ponds, more food availability, and just overall better habitat for ducks. Looking at some of the ponds in Alviso and some of the Fish and Game ponds in the Hayward area, over a 100% increase in shorebird use was seen, also.

Morris said they had problems with dissolved oxygen (DO). In the Alviso areas, there were two basic differences. Some of the ponds would go down at night, when it got hot during the summer, but there was one pond in particular, Pond A3W, where the DO was

going down to zero. It wasn't operating like the other ponds and the ISP managers went out there and sampled the whole pond and found that it was found right in front of the discharge structure where the levels went down. What was not realized when the discharge structure was designed is that winds blow the algae right in front of the discharge structure and it dies. The water being discharged from the pond is taken out of this zone with dead algae. This year, they installed a baffle system, which takes the water out from the middle of the pond where the water is good. Morris acknowledged that this is a lesson that can be applied to future work.

The ISP managers are working with the Regional Water Board and the scientists, and it was suggested they try Solar Bees operators. These machines work on solar panels and mix the water so that the average dissolved oxygen being released to the Bay is increased. Four Solar Bees will be installed and this may raise the dissolved oxygen level up enough to take care of that problem. If that works, one Solar Bee will be shut down at a time to see if the higher DO level that is desire can be achieved with fewer Solar Bees.

Morris said another problem was not getting the information about the water quality to the Regional Water Board fast enough. He said the USGS scientists are excellent, and they wanted to make sure the information was exactly correct before they released it to anyone else. However, it was taking two to three weeks before they told the ISP managers about the problems and it was reported. Now, USGS is providing the information weekly and they point out where the problems are. Morris mentioned that a pilot study will be conducted and a transmitter will be put on the Pond A3W discharge system that was such a problem. The information will be transmitted to the Refuge and can be made available to the public on the web, so that managers will know 24/7 exactly what the water quality is there. If that turns out to be important in operating the ponds, Morris said funding will be sought to expand that technology to other ponds.

The ISP managers are also determining how severe the problems are. For example, there are problems with Pond A14 and the whole pond was sampled and it turns out that most of the pond is fine, but there is a spot in the deepest part of the pond where the low DO is, and that is where the water comes from to that water control structure. Since this problem is similar to last year's problem with Pond A3W, the baffles are being tried as a possible solution.

Morris noted there will be a workshop with knowledgeable people about pond operations to help come up with new ideas. The other issue is how to communicate these issues to the public. Regular notices will be posted on the web about what is happening, good and bad, in the ISP. The ISP managers are working closely with the project management team in developing the long-term plan and improving these communications and the lessons learned.

Steve Ritchie introduced Bruce Wolfe, Executive Officer of the California Regional Water Quality Control Board, San Francisco Bay Region.

Wolfe said he thought the solar bee example shows that the whole Project is a learning experience, and said the Board thought it would be focused much more on salinity issues than dissolved oxygen. There isn't a "cookbook" on how to do the Project, and we have to learn and make that progress. We have to move forward and I think this is another case where we said that we couldn't study it to death or have everything perfect before we made any attempt at a discharge. We want to make sure that throughout this process there is not a down side, and we have already seen upsides, such as the increase in the bird populations. He said he thought we've learned a lot over the past year.

Wolfe said the Board had put out a letter of enforcement to the Dept. of Fish and Game and the U.S. Fish and Wildlife Service, and said they have been responsive. We have not said that everything is perfect; there are a lot of challenges. There a lot of things we will look at things very closely over this complete year.

Wolfe went on to say that one of the difficulties they had last year was to start the discharge in the middle of the summer, which was probably the worst time to start it. This year they will be starting in the spring when there are larger freshwater flows coming through and larger opportunities to use them to flush through the system. It is very clear that everyone is on the same page now as they move forward. There are a number of discharge points and a number of systems that will be coming on line and he said that we will apply everything we learn from each of those as we move forward. A short-term and a long-term concern is what is the ability of these ponds to produce mercury back into the system, and said that sampling is underway and they will get a better understanding of how that fits into the final solution. Sometimes when this is all being studied, the team gets ingrained in all of the science and it can be forgotten that this has to be reported not only to the agencies, but also to the public, and he thought that that message has been made.

Q: Are you considering altering the permit conditions in light of the new information about the DO levels, does this give you an explanation relative to changing the permit?

A: Yes, that's a good point, that in our basin plan that 5 ppm is the magic number everywhere. That is an historic number and does not necessarily reflect the current system. There are some data points, in fact we have issued a permit to Cargill on Pond A18 where we looked at sampling the rookery on Alviso Slough and using that information to ask what is really happening in the system? We provided that information to the Service and to the Department, and we agreed to look scientifically to see if 5.0 is the real number for DO that is most appropriate for this. We want to use the sampling and the monitoring process as a means to say that just having a number may not be indicative of what's right for the system.

Q: Is there any information on DO levels in established tidal marshes elsewhere in California?

A: Well, that's the difficulty. That's why we're trying to rely on what is collected at the rookery because that's it. It has not been commonplace to monitor, especially in the Bay.

We've tried to get discharges in general out into the Bay and out of the sloughs and areas where there is not a lot of circulation. We do not have a lot of data of what was done in the '70s and '80s. So that is what we're trying to collect here in order to see if that 5.0 number will either be the real number or say, no, that's not how the system really works, and that's what we are going to try to obtain.

Q: In regard to the collecting of data on methylated mercury, when is that going to start, and do you have any idea what the total funding will be for that?

A: Steve Ritchie: For the first year, USGS did a fair amount of mercury samples throughout the ponds and that, together with all of the other data collected during the first year, are part of the first annual report submitted to the board in January—that's posted to the project website. Currently, we're looking at two proposals for more focused mercury work over the next year and in the coming years. There is a pretty extensive proposal that is being put together by a combination of SFEI, USGS, and the Santa Clara Valley Water District for mercury work, as well as a proposal from another part of USGS on mercury work throughout the ponds. We're looking at what is the best thing to propose to the Board for this coming year's work, which will be partially done for compliance purposes, but also for a better understanding of the mercury issue. So both proposals are in process.

Q: You were talking about the water quality of the Bay, is there anything on the agenda about the sewer plants? That's up in the millions of gallons of water that is pumped into the Bay that changes the salinity that is brought into the Bay. You are going to have to do something different than just pump it into the South Bay, because that changes the whole South Bay.

A: Bruce Wolfe: Well, that's been a process of study for the past nearly 30 years and we've certainly looked at the change in salinity that's come out, for instance, from the San Jose plant, and I think that's something to look at over the long-term that we have to recognize. There is that flow that comes out and how does that impact any long-term design? Certainly, we want to look at that in terms of how we address the mercury issue and other sediment issues through there. But I don't see anything during the ISP period where we will say that San Jose or Sunnyvale needs to change it's operation just because we are doing the ISP. There may be something that comes out as a recommendation, I just don't know.

Q: I was wondering about the potential impact on wildlife of the Solar Bees?

A: Clyde Morris: I'm not sure how there could be an impact because they are solar panels and they are really flat and the birds will probably like to sit on them a lot. They just take the water from the deep part and suck it up and push it out, so maybe the fish will get a little ride or something, but there's really nothing waving around that will hit or electrocute things. They have them in the Salton Sea and they have had only positive responses there for the wildlife because of the improved aeration.

One of the things I forgot to mention in my presentation is that we are actually sampling in the slough channels and in the Bay where we discharge, and one of the things we noticed was even though we were discharging below the required permit, it was strange that we weren't picking up that low DO in the receiving water. Just in the last two weeks, we've been moving that monitor around and then put it below the weir board and we realized that just where the water was dropping over the weir board, it was aerating it. So that what we were reporting about what we were discharging turned out to be a lot less than what we were doing. So we put the monitor out at the end of the pipe where it's actually going into the slough and it turns out that the number was going forward from 4.0 to 5.2—the difference between what we were reporting last year and what was actually being discharged into the Bay was much lower than what we were actually discharging. So maybe part of the problem we're having is where we're putting the monitors.

Q: I think it just illustrates the importance of having adaptive management and monitoring, but not making the monitoring so punitive that it defeats the purpose.

Q: If you get the tidal flow back in those ponds, will the algae still build up?

A: Carl Wilcox: The algae build-up is a product of having a pond that still has poor circulation. The algae will still be there, but if the pond is restored to tidal influence, it's going to be flushing in and out twice a day. Some of it will stay on the mudflats or in the marsh itself, but you will be seeing everything going up and down—it's not trapped in an enclosed water body. It's a nutrient soup. In the ponds, it keeps building up over time and the algae population keeps reproducing as the season goes on and late in the summer you see algae blooms in the ponds and it just becomes a mass of algae. But you don't see that in the tidal marsh and that's a product of everything flushing in and out all the time. It's the difference between a closed and open system.

Q: So what you're saying is if you keep it a pond, you're going to have the algae build up during the summer time. If it's tidal marsh, there's no algae build up.

A: Right.

Q: At the end of the South Bay for the last 30 years there's been an algae build up every year, and it stays there until the wind blows it out. And every year, it's been there and it's so thick in there that you have to get a pole to get out of there.

Q: On the heavy metals, is there a correlation between the levels of pesticides in the heavy metals and the levels in the wildlife around the ponds?

A: Clyde Morris: We're not seeing so much the affect of the pesticides on the wildlife, but we have been seeing elevated levels of mercury on the wildlife. There is a study being done by the F&WS and USGS testing the mercury in some of the birds on the South Bay and their eggs and we're putting radio transmitters on the birds so that we can find out where they are feeding and we test the mercury level in their food, so that we can

better understand how the mercury is getting from the sediment to the wildlife themselves.

4. Tour of Posters and Forum/Public Comments

Steve Ritchie talked about the various ad hoc and other meetings that have been held over the past five months, including the National Science Panel Charette, and that summaries of those meeting were in posters that were set up around the room. Some of the scientists involved and members of the Project team and others who attended the meetings were available for attendees to ask questions about the various work groups and ad hoc workshops that have taken place.

Copies of the posters and the meeting summaries are also available on the project website.

Q: What exactly is gypsum? The group studying this hasn't explained how it got into the salt ponds. Will it disappear as we put in tidal action? This person further went on to explain some of the gypsum history in the Bay.

Q: The BAAQMD is watching this and is opting for piles of gypsum not being covered?

Q: Then is the sulfate going out into the Bay waters?

A: Clyde Morris: We are not sure if sulfate is going to the Bay waters. This is not something that has been researched yet. The Island Ponds, which we plan to restore to tidal action next spring, has a gypsum layer. This could be an opportunity to test what happens to a layer of gypsum in a former commercial salt production pond that is returned to tidal action.

Q: What happened to the Public Access Group—are they still meeting?

A: Mary Selkirk: Yes, that came up earlier. We have convened a public access and recreation work group, a habitat work group, and a flood control and management work group. Those groups were very helpful last year in helping the project management and consultant teams develop the range of alternatives that are actually going to be part of the environmental review process. Those work groups have not been meeting over the past several months; instead there have been these shorter-term, one-to-three meeting kinds of ad hoc groups on different technical issues. When we reconvene on June 7, where you will have a chance to rank the alternatives in terms of how they perform against the project objectives, all of the work groups members from last year will be invited to participate in that process. We are not anticipating reconvening any of those work groups this year, but that may change.

5. Update on Public Outreach and Media Coverage

Mary Selkirk, Lead Facilitator from the Center for Collaborative Policy, introduced Tracy Grubbs and Deborah Clark, also from the Center, who are working on public outreach activities for the Project. She mentioned that a key component of the outreach process is having the Stakeholder Forum members keeping their groups informed about the project. Tracy Grubbs, Public Outreach Coordinator, reviewed a summary of outreach activities to date, including speaking engagement and power point presentations by project staff, Stakeholder Forum members, and volunteer docents at the Refuge. She also thanked Wildlife Stewards and the Refuge for continuing to provide regular weekend tours of the restoration project for the public. Included in the summary was a list of libraries in the South Bay that have agreed to host displays about the restoration Project. Grubbs said that Deborah Clark is doing public outreach in the South Bay and is available to give presentations about the Project to South Bay audiences. She also reviewed a summary of press coverage for the first five months of the year and showed a video clip of t.v. news coverage of the first levee breach at Eden Landing.

6. Progress on Alternatives Development: The Landscape Assessment

Michelle Orr from Phil Williams and Associates (PWA) gave an update on the landscape assessment. A progress update is available on the website. She said there are basically two different parts--the geomorphic assessment, which is the sediment being moved around the system creating a landscape identity of biology and ecology. PWA is looking at how the landscape changes over the 50 years of the Project. The bird use assessment is part of that to see how the birds respond to changes in the landscape.

She said the process has been a collaborative effort, including significant input from USGS. She said the need the landscape assessment boils down to getting a better understanding of the system in the whole South Bay over the next 50 years. If nothing is done, there will still be major changes to the system, so we want to be able to anticipate those. The assessment also directly informs the alternatives evaluation process where those changes in habitats are mapped and quantifiable metrics will be gotten that will be used in the weighting and ranking process.

She said that the landscape assessment will give us direction, but it is not the definitive answer about what's going to happen. She showed several maps of projected changes over the next 50 years. The assessment will suggest trends and inform the decision-making process. It provides regional characterization--a number of assumptions made for the project alternatives is still only defined in a certain level of detail right now. It does not include phasing, that also has not been determined. It is also based on preliminary topography data.

Orr said the Consultant Team started with the typography and bathymetry of the Bay and the ponds today. The Project has gone through a lot of effort to collect the data sets and pieces are still coming together. The Team has just learned that in about half the Alviso ponds and the Eden Landing ponds there was a data management discrepancy, so the results shown today will still be useful, but they will be changing somewhat in response

to this new information and probably in response to some other things as well. The elevations are about a foot too high, most of those in Eden Landing and in Alviso, there is an area that is about half a foot too high on the graphics.

The basic approach taken was to track where sediment moves around in the system. The Project will open up a lot of ponds and the first thing we wanted to do was to understand the sediment budget of the system. These are the items we tracked: what comes in and out from the Central Bay, how much mud is eroded from the mudflats and is deposited on the mudflats; we included tributary input where they come into the system. We used these to develop our estimates of the Bay and pond evolution.

For the three main parts of this assessment she described the different modeling tools that were used. One used incorporates the changes in currents when the ponds are opened, it represents changes in salinity and also incorporates the increases in bed erosion and sediment temperature and more. Another models covers the whole Bay and incorporates Delta flows into the Bay and exchange through the Golden Gate Bridge. A top layer represents the mudflats and the shallow subtidal and a bottom layer representing the deep channel system.

From the models, we get how much mud is going into the ponds and how much is depositing onto the mudflats or coming off the mudflats and the big channel changes as well. We also used empirical sedimentation data from around the Bay as a starting point for sedimentation rates. A third part of the analysis is the mud flat evolution and looked at the regional distribution.

The preliminary results are that after 50 years we see that most differences are noticeable in the South Bay where there has been so much deposition down from the Dumbarton Bridge, that we start to have some higher elevation around the edge and some build up of fringe marsh. She showed what Alternative 3 looked like as an example, which is 88% tidal and the rest managed ponds, based on the models.

Q: I know that you and the modelers take into account sea level rise, so do you assume the same rate of rise or an accelerated rate?

A: We use 0.1 foot per decade or half a foot over 50 years and that is an accelerated sea level rise from the past. We're also doing a sensitivity assessment for our model, and we'll be running different sensitivity scenarios and sea rise level is one of those.

There is a lot of sediment that has gone into these ponds and built them up over 50 years, so where is that sediment coming from? Most of this is coming from an increase in erosion in the Bay and there is a slight decrease in export to the Central Bay. In the area just south of the Dumbarton Bridge, we have a net import into this region, and a pretty bit Bay sedimentation component and a fairly large tributary component. Once we breach the ponds, we have pond sedimentation and then have a much larger import in the area between the two bridges (San Mateo and Dumbarton). So most of the sedimentation is getting imported.

Q: I don't know what your error is in the tidal data but does your error affect these numbers in the bathymetric surveys?

A; I did a rough calculation of this yesterday to see how big a difference it makes and based on some preliminary data that I got from USGS, it affects about 9000 acres and 84,000 metric tons of sediment. So it is about a 15-20% increase in the total demand on the system.

Q: What is the raw data error?

A: It is a very sticky and common problem when you're working in the wetland environment, where being off by a foot changes everything, so there are always some things that have to be paid attention to and there is always something that has to be paid close attention to. It was a matter of USGS working off of the Cargill staff gauges; they took readings—one out in their boat, measured how deep it was to the bottom. Then when their staff gauges were surveyed in to an absolute datum it was measured off of a different reference point on the staff gauge. And there were also different staff gauges out there as well.

Orr then focused on the mudflats, which is an important area for existing bird use, and she put up the existing elevations and also one with No Action and one showing Alternative 3. She also showed habitat changes that may occur under No Action and Alternative 3. Under No Action there was a net loss of intertidal mudflats and most of that is converting into shallow subtidal or into tidal marsh habitat. Under Alternative 3, there was a larger net loss of intertidal mudflat and a lot is converting into deep subtidal and shallow subtidal marsh. The difference between the two options for mudflats is about 700 acres, not counting new mudflats created within the tidal ponds themselves. She said PWA estimated there will be about 1400 acres of tidal channels inside the tidal ponds, about half being mudflats, so it basically balances out the loss.

There is an open question about whether there is enough sediment in the South Bay to restore these ponds. From this assessment, it appears that there is enough sediment, with a net creation of about 11,000 acres of tidal marsh in the ponds in Alternative 3.

Q: Between the Bay Bridge and San Mateo Bridge what is going on with the sedimentation?

A: That has historically been an area of mudflat erosion, and the results suggest there is some effect on how much sediment gets exported back out to the Central Bay or north of the San Mateo Bridge, but it's not a large change. It's not changing that exchange through the San Mateo Bridge.

Q: In terms of sea level rise, this estimate is kind of on the low end of the EPA estimation, and rather than a sensitivity analysis, I would be more comfortable with a contingency analysis where we look at the possibility of a much higher sea level rise. I think that we

would find innate advantages to Alternative 3 over No Action in the event of a contingency of a very high sea level rise. I think the possible damage would be much less in Alternative 3. That kind of analysis could influence the decision on the balance of tidal and managed ponds because with higher sea level rise, the more difficult it's going to be to manage those managed ponds. Whereas the tidal marshes would tend to adapt to the sea level rise. So it's not a matter of taking one number and saying that's what we should go with, it's like an insurance policy to go with less risk.

A: When we have some of the sensitivity results, that seems like a place to say how does this effect the decisions we've been making, taking into account not just the tidal areas, but also the managed ponds and how they get harder to manage. And does this affect the footprint as we move forward?

Q: Has anyone taken into consideration the flood operation that used to be there in the '60s of the ponds coming in through the San Mateo Bridge and behind Moffett and into Alviso? That would change the depth of that channel drastically and also move the sediment back out? Would the barging action starting to back into the South Bay, would that change all that sediment from moving back and forth?

A: It might have some local effects, yes.

Steve Rottenborn with H.T. Harvey and Associates spoke next and said that his firm was working closely with PWA and the Point Reyes Bird Observatory (PRBO) to ensure that the results of the geomorphic components of the landscape scale assessment can feed directly into PRBO's bird modeling, and can be used to quantify habitat types and units that can be used until the bird modeling is complete, to get a preliminary idea of how birds will be affected by different restoration alternatives. It will also be used to predict how animals, such as mammals and fish that won't be the subject of modeling efforts associated with this project, might be affected by the different alternatives.

Different habitat types were identified to quantify to determine the effect of different types of restoration. This includes, for example, different types of tidal habitats—deep and shallow subtidal areas, intertidal mudflats, different types of marsh, and then different features within these marshes. Specific habitat conditions were also determined that are within the ponds, such as depth and salinity, and what parts will be extensively reconfigured. He discussed the results of a study done for the Santa Clara Valley Water District on the island ponds and showed how the vegetation can be established based on elevation and salinity.

Rottenborn said there are a lot of different types of managed ponds and the definitions were provided by the ISP, as well as the acreages. He said they are working under several assumptions in determining what types of ponds are under the three project alternatives. One of the assumptions is that approximately 1600 acres of ponds will be reconfigured ponds, graded to provide habitat heterogeneity or very specific habitat conditions that can be managed by managing water levels to provide different types of habitats. They also made assumptions that those ponds that are not reconfigured and not

restored to tidal action will be managed the same way under the project alternatives as is under the ISP.

He noted that water levels under Alternatives 1 and 2 will be managed more for bird use than for keeping salinities low as under the ISP, but not extensively graded. There are approximately 450 acres of preliminarily high salinity ponds, including the reconfigured ponds.

He said one idea they got from PRBO, based on where they had seen snowy plovers nesting, would be graded to be very flat ponds that would be tilled and flooded with very shallow water, so that there would be narrow furrows and some sediment raised above the water for nesting, roosting, and foraging. Other reconfigured ponds can be graded differently for other types of birds.

One significant question they have is what is the habitat availability of the ponds for foraging shorebirds, which require water depth of 15cm or less? He noted that about 1300 acres or 10% of the pond area managed under the ISP conditions during summer provides water less than 15 cm deep. Other species such as diving ducks will forage in water that is greater than 1m, and they looked at how much of that habitat would be available under the managed ponds. They determined there would be about 1300 acres in the summer and 1700 acres in the winter.

Q: Is this just the ponds or does it consider the intertidal areas that would be restored?

A: Absolutely. At low tide the intertidal areas would be the preferred foraging areas. But then you think of the 15,000 acres that will be whittled down to 1500 acres of managed pond--we wanted to get at what exactly is being lost.

Q: At some point you're going to start to assemble suitable habitats for both the restored system and the remaining managed ponds?

A: Exactly. That's what PRBO has modeled. We've tried to take the results of the geomorphic effects and work with PRBO on what the variables are that are important to the bird modeling and work with PWA to compile these data. And we will work to incorporate the refined data as well.

Q: What kind of equipment will you use to grade inside the ponds during reconfiguration?

A: Steve Ritchie: It depends on the substrate of the pond and whether you can drive certain types of equipment on it. Logistically, that needs to be worked out. Cargill has some equipment that has very wide treads that could be used and other equipment is available.

Q: Will it harm the organisms that are in the pond?

A; Steve Ritchie: If it is a dried up pond, the answer is no. Or if it does, those conditions can be restored soon after it's flooded again. They did that in the Central Valley and brought in a lot of equipment and the invertebrates seem to be doing fine.

Nils Warnock, of the Point Reyes Bird Observatory (PRBO), then discussed the bird modeling that his group is conducting. He said they don't have the results yet since they are still working out the final alternatives, but he described the process that they have been using and how this compares to the first phase of the modeling they began in 1999.

He said they are now using some more sophisticated methods to do this. They are looking at how do bird communities change as we change the restoration habitat out there? What is going to happen as we go from a largely managed pond system to a more mixed habitat especially tidal marsh habitat? Warnock said they want to try to quantify how those communities might change under the different alternatives because there will be tradeoffs. If characteristics of the different types of habitats can be identified, such as a managed pond or the effects of salinity on bird abundance and diversity, than they can begin to offer guidance on the restoration planning.

He noted that the modeling is an empirically based approach and collected data is specifically for use in these models. They assume that habitat is limiting for birds in this case, although the demography of birds is important as well. The results of PRBO's models when the alternatives are evaluated come up with population indices that represent a relative bird value, something that you could compare to the baseline alternative or Alternative 1 versus 3, for example. They are not necessarily true representations of actual bird numbers, although in some cases, they may come close to that. In this second phase of the modeling, they have identified local species and they are considering more than the wintering season, which has added a lot of complexity to the model. They have also been using USGS' bathymetry data to incorporate depth into the salt pond models. This has a big relationship with what habitat birds are able to use.

Warnock said that they have made more explicit considerations about the tidal marsh habitat. They have analyzed more data and incorporated more micro habitat features. They have incorporated intertidal marsh data into the analyses, using some data they collected on a previous flyway project. One of the challenges is to figure out the most robust models that represent what is going on out there. The best process they think is to give a more realistic look at what are the effects the alternatives may have on bird populations.

He said they have looked at the landscape map modeling and how the system will change through time and turned them into GIS layers. At the same time, they have a big statistical analysis effort going on looking at the current data and trying to relate numbers and diversity of different species to different characteristics of the habitat landscape. Using GIS and the analyses, they put these into a big matrix, which allows them to evaluate these different alternatives.

He also said they spent a lot of time going through the focal species issue. They had about 100 species of birds and whittled it down to a group of species that they consider good indicator birds. That list is pretty much complete now, but they may have some modifications.

The different alternatives they are developing for each site or pond will have all these attributes and they can relate birds per species and season, and turn it into bird densities using the modeling. They can then generate a population index for a given alternative and this is the tool they can ultimately use to evaluate the alternatives.

He concluded that they can begin ranking things based on different criteria and different species and seasons and we can also run alternatives that identify possible solutions for specific management criteria—the most significant ones being the clapper rail and snowy plover.

Q: Is there any possibility that might be overlooked for increasing the density of birds that might be used to more effectively manage ponds in the future?

A: Yes, we'll make predictions based on known relationships to certain characteristics that we predict the pond will look like. For example, in Pond A10, it doesn't matter that we have data for Pond A10 from the past, we'll use the information that defines the relationships with what the characteristics of whatever A10 will look like in alternative sets. I think it's a little simplified to say that the birds are using 10% of the habitat. I think they may be using a much smaller area than we tend to think about. But, there's obviously other things going on to help facilitate the presence of those birds there, and the big one might be invertebrates.

Q: Have additional experts been sought out for the bird workshops?

A: Yes, we've had a number of workshops where we've tried hard to get those experts in. I think one of the big unknown is the whole prey based system, be it a salt pond system or a tidal marsh system. We know less about that and it's a very important issue for not only the response of the bird communities, but for fish and others.

Q: Since a lot of this is being driven by existing endangered species, I'm wondering if anybody is looking at the fact that 75% of the shorebirds going through the flyway that actually go through San Francisco Bay. If we crash that entire population because we goofed in our estimates, has anyone looked at the likelihood that we'll have new listed species because of the consequences of our actions? If we are reducing habitat that much, stressing these bird populations, what is the likelihood that we're saving some and putting others in the same position in the future?

A: Steve Ritchie: I think that's a very good question that we should approach somehow in the analysis--how we can do that, how best we can do that.

A: If it takes 20-40 years to create tidal marshes and we're doing this project in 5-year phases, I think we will see a trend over time. If we're meeting the goals of the project, then that's where the adaptive management plan can address these concerns.

A: If you know what the population estimates are at the current time to compare to, but we really don't have any trend data or very little for shorebird populations on the West Coast, except for some threatened and endangered species.

Q: This question is for Michelle. If you move to a more specific design from the general sediment analysis questions to what are we going to try to locate on what piece of landscape, do you see a need to begin to gather site specific wave information to be able to see how it actually looks on the land?

A: Michelle Orr: (not inaudible)

Q: The levees in between the ponds, will those elevations be suitable for certain plants like grindelia or salt marsh baccharis? Will the modal tidal situation provide refuge for very high tides and be a different ecological niche?

A: Steve Ritchie: I think it depends on whether or where levees are retained or where they are breached. But where they are retained, they will provide important high tide refugia. We're also assuming, especially in areas where there are large marshes being restored where you have complex tidal systems and high order channels, that natural levees will form along these that will increase sediments and allow for some of these plants. There should be a lot of high tide refugia in these upper transition areas within the marsh and one component of the restoration Project that we have been considering is the importation of fill to produce broad upper transition zoning at the upper edges of the marsh.

Q: Roughly what percentage of that habitat type are you talking about?

A: Steve Ritchie: We assume that the transition zones are about 5 percent.

Q: I know that we're focused on the South Bay, but regarding birds, are there other areas where shorebirds and other migratory birds can find habitat?

A: Nils Warnock: That's the million-dollar question everybody asks. All I can say is that we have lost a lot of habitat. Right now in the Bay, if you look at the restoration Project and what the end result is supposed to be, there is a decreasing amount of shallow, open water habitat and I think that will be the case in the future. Shallow water habitat is very expensive to manage and so over time it typically becomes vegetated. So, I don't see that birds will move to the North Bay and there are other differences that may have more to do with weather. We get few nesting records of snowy plovers in the North Bay, maybe due to it getting more rain. One of the big questions will be the role of Cargill in the future, and this is a big unknown for birds. In a sense, we can't include this in the analysis because Cargill was not there to manage for birds.

7. Report from the Science Program

Lynne Trulio, Lead Scientist for the Project, began by discussing the Draft Adaptive Management Plan. She said we can't know the final configuration of the project right now, and what kind of effects will they have on the ecological goals and objectives. She showed a graph of a continuum going from where the salt ponds are now and continuing through the Initial Stewardship Plan (ISP), Phase I of the Project and out into the future. She said that adaptive management is the approach that can tell us how far along the tidal marsh continuum we can go and still reach the project objectives.

Currently, under the ISP, tidal action is being restored to ponds and then the island ponds will be restored to full tidal action and tidal marsh. The three proposed alternatives--a 50/50 split between tidal marsh and salt ponds, 75% tidal marsh and 25% salt ponds, and 90% tidal marsh and 10% salt ponds--does not indicate a value judgment on what is the best alternative. She said it shows that 50/50 is a conservative place to start for the Project and we know that the Project will be phased. Using Adaptive Management will help determine how far we can move along that continuum.

At each phase, the Project will evaluate the performance of the restoration actions and collect information through studies to understand uncertainties and determine if the Project objectives are being met. If they are being met, Trulio said we might decide to move further until the point where the project objectives are not being met. At that point, the decision-makers can decide whether or not to stop there. Adaptive management is the process, which will help determine how far along that continuum we will go. Typically, the further up the continuum you go, the less management you need and the more nature is doing the job.

She said there are two things to think about and try to avoid as we look at the alternatives—the first one is to avoid taking an irreversible action that moves the project further along the continuum than we want to go, or have evaluated that we ought to go. We also want to avoid implementing project actions that preclude us reaching a more fully tidal alternative than we actually could.

She said that is part of what is in the scientific syntheses of the project objectives. Those were done as a basis for the Adaptive Management Plan, which she is writing with help from Deborah Clark. She added that adaptive management is a specific process for learning from management decisions and applying that knowledge to future decisions. It is essentially a system with a lot of uncertainty. It views all management actions as an experiment and sometimes we think we know what is going on—for instance under the ISP, we thought salinity is going to be a big issue and it turned out there was another issue. So management actions are, especially in these large system ecosystem restoration experiments. You have to collect data for monitoring and applied studies and adaptive management is a planned approach to reliably run why policies succeed or fail.

Trulio went on to say that adaptive management is not trial-and-error. It is not simply changing management direction in the face of failed policies, and it is not a very well developed system or an easily implemented approach to management. Not a lot of people have done an adaptive management plan, so we're breaking new ground here. Adaptive management is based on a thorough understanding of the system and prediction of system response to change. Then we monitor to assess that response and finally, undertake studies to improve predictions and understand unexpected responses.

She described the Adaptive Management Plan as having a science section and an institutional section. The science section bases the Project in as much of a scientific understanding as we have of the system and produces restoration targets, which are predictions for the success of the Project. These restoration targets come from the literature, field data, modeling, and compliance requirements. Also in the science section is a plan for monitoring to assess progress toward these targets and to give us an early warning of things not going the way we expected them. The science section has parameters along those lines and applied studies to reduce uncertainty in the primary areas we have identified.

Trulio said the institution section shows the adaptive management structure that will result in generating and synthesizing data and converting that information into effective decisions, as well as storing and organizing the data.

She summarized what the Science Team is doing—developing the scientific basis for the Project objectives that will be part of the Adaptive Management Plan, including some basic study designs to address some of the uncertainties, both during the ISP and in Phase I. The Adaptive Management Plan draft will be done in early June and out for everyone to review in preparation for the National Science Panel meeting on June 13 and 14. She said we will be doing more workshops, such as on pond ecology and management and trophic interactions in the Bay. There will be at least one more science synthesis to do on emerging issues and the Science Team has also been working on the ISP and monitoring for the short- and the long-term.

Q: So for shorebird populations, for example, there will be something that triggers a concern? Something specific to measure?

A: Yes, this is very general, but in the restoration targets of the Adaptive Management Plan, it will lay out quantitative targets for the Project achieving the objectives and also restoration targets for Phase I. It will also lay out remedial measures, alternative actions and scenarios.

Q: What is an example of what would be a possibly irreversible decision?

A: Steve Ritchie: That would be like taking out a section of a levee—you can't really go back on that.

8. Phase I Action Selection Criteria

Steve Ritchie said they have been anticipating developing the final alternatives, which will include the Phase I actions so that when they get to the NEPA/CEQA process, they will be assessing the whole project area at the programmatic level. At the project level, they will be assessing a set of Phase I actions. Those could be restoration actions or certain applied studies or other types of actions.

Available funding will be a significant consideration--who will be providing it and who will be carrying it out? Another consideration is the likelihood of success. Will the actions produce the desired results and will it demonstrate progress toward the project objectives? Can it be permitted in a timely manner?

He went on to address specific goals around the selection criteria: Visibility and accessibility—will the results be acceptable to the public? Opportunities for adaptive management and applied studies—we need to look for specific opportunities to start learning right away. In particular, managed ponds of different kinds and reconfigured ponds would be strong candidates for actions in Phase I. A lot rests on our ability to see if the bird populations can be supported in those kinds of environments and if we can get the equipment to do that. Value building and support for the project—one of the things we have been talking about is that we need to look throughout the geographic area to gain support for the project as a whole, rather just in specific communities. Uncertainties and adjustments—risk investment and capital facilities will be lost if something changes in subsequent years. A potentially irreversible action is picking something very expensive to do and finding out that we lost that investment for various reasons, which may jeopardize future funding.

Steve asked that people contact him if they have any comments or feedback on the Phase I selection criteria.

Q: As far as tactics, you want to think through your documentation strategy at the beginning.

A: Yes, it goes back to the “can’t get permitted”, so that’s even more explicit within that. But we don’t want to scare everybody to try and clear everything for all time, but clear a small project that represents a consensus so people can see how adaptive management changes the outcome and people will be a lot less likely to object.

Mary Selkirk: Two things that the Project Management Team has been talking over are the assumptions that early projects happening in Phase I should be those that will maximize access to the public and all the decision-makers. The second one is distribution of early actions across the Project area. That would drive some decisions about early actions depending on whose perspective it is. Accessibility and distribution around the South Bay, what does everyone think about that?

Q: That’s what makes me wonder about ranking the criteria, because what if it comes down to distribution versus maximizing all of the criteria?

A: Steve Ritchie: We have not talked about weighting these because I'm sure folks want to go through that analytical process individually and collectively and stand back and look at the package of Phase I stuff and figure out what is the most attractive on balance.

Q: I agree that we need to get people out there, but at the same time you can kill something with too much access, so I'd like to see a balance on that one. There are going to be different options and I think you have to consider is that an emphasis on access doesn't trump the desire to recover a species for example, or affect other biological factors.

Q: I have to say that I am uncomfortable with this criteria that says we're trying to maximize access if the definition of access is physical access to somewhere. I'm wondering if the goal is to get the maximum number of people engaged in the project, that access shouldn't be defined a little more broadly than footsteps out in a particular location. For instance, virtual access with a video camera that gets posted that films nesting sites of snowy plovers so many people can go to online, or interpretive center displays that have images that a lot more people can see than would otherwise would have the opportunity to go out to walk to. If you define access in that way I would feel more comfortable than constrained as just "feet on the ground."

A: Thank you, that's an excellent point.

Q: How big is the body of potential people to study whatever is done? Right now, we have a very limited number of scientists and students, but potentially is there a much bigger pool--could we have 100 masters students, is the money available?

A: I think that the pool of potential researchers is unlimited. It really is constrained by the amount of money available.

Q: I know that a lot of work has gone into the ISP and if there are actions out of that that need to be accomplished. How much of the ISP is going to be considered as part of the overall criteria?

A: Yes, for example, the island ponds are going to be restored as part of the ISP.

Q: Is there anything in the ISP that is not going to get done?

A: Yes, if it's not practical, we may change some of the things we do in the ISP.

A: Amy Hutzal: There are good examples, like the Ravenswood Ponds that are going to be turned over from Cargill to Fish and Wildlife Service around 2010, and instead of implementing an ISP on those ponds, perhaps we implement the long-term restoration plan. So, there could be some overlap or we might want to do something in the Ravenswood Ponds in order to prevent the need for expensive equipment to manage those ponds under the ISP.

A: Mary Selkirk: This whole conversation about developing criteria to be thinking about in selecting Phase I actions is going to be ongoing. The extent to which thinking about criteria for Phase I actions will be built into the environmental analysis, that's why we want to get some framework developed over the summer. Just to remind everybody, we will get back to this on June 7 when we reconvene and look at a range of alternatives how well they capture and address the Project objectives.

In all three of the proposed restoration alternatives, there is a huge increase in public access, simply with the completion of the Bay Trail for example as an assumption built into all of the alternatives. So let's not presuppose that there's going to be a big conflict here because I'm not convinced that there is. I agree that we need to refine what we mean by access and accessibility is very important in the long-term restoration, but I don't want us to presume that there is more of a conflict than there might really be.

A: Steve Ritchie: What you propose as a specific idea may not be what actually comes into Phase I, but it will be part of the basis of a discussion that gets us ultimately to what will be honed into Phase I.

9. Next Steps

Steve Ritchie reminded everyone about the Weighting and Ranking Workshop on June 7 to look more specifically at how the alternatives perform and those that are important to everyone. He said that the PMT had gone through this exercise a few weeks ago and found the ranking part of the exercise to be more useful than the weighting part.

He said that a meeting of the National Science Panel will take place on June 13 and 14 and others are welcome to attend. There will probably be a Local Government Forum Meeting in late June or July. On August 19 they were going to have the draft project alternatives report available, but since the landscape assessment numbers may change, they may have to move that date back a little. There is a Stakeholder Forum meeting scheduled for September 8 where we will look at the alternatives that may go into the environmental review process, including the Phase I actions.

Q: What is happening with the WRDA funding and the Funding Workgroup?

A: We are probably at the point to start moving forward on the funding strategy. We are trying to achieve a Water Resources Development Act authorization and that is a continually challenging effort. I would say that the Funding Workgroup, particularly around some of the activities we are envisioning for Phase I, will be reconvening no later than the end of July.

The meeting was adjourned.

Attachment 1: May 23, 2005 Meeting Attendance

Stakeholder Forum Members	Organization/Affiliation
Kristine Buccholz	PG&E
Geoff Crockwell	Congressman Mike Honda's Office
Arthur Feinstein	Citizens Committee to Complete the Refuge
Lorrie Gervin (Alt.)	City of Sunnyvale
Melissa Hippard	Sierra Club
Marc Holmes	Bay Institute
Tom Laine	Alviso Resident
Marilyn Latta	Save the Bay
Jane Lavelle	San Francisco Public Utilities Commission
Jim McGrath	Port of Oakland
Julia Miller	City of Sunnyvale
Sandy Olliges	NASA Ames
Brad Olson	East Bay Regional Parks District
Teri Peterson	Cargill Corp.
Ana Ruiz	Mid-Pen. Regional Open Space District
John Rusmisel	Alameda Co. Mosquito Abatement District
Richard Santos	SCVWD
Carol Severin	Hayward Area Shoreline Planning Agency
Kirsten Struve (Alt.)	City of San Jose, Envir. Services
Brenda Torres	Audubon Society
Laura Thompson	ABAG Bay Trail
Project Management Team	Agency
Brenda Buxton	State Coastal Conservancy
Amy Hutzel	State Coastal Conservancy
John Krause	California Dept. of Fish and Game
Clyde Morris	U.S. Fish and Wildlife Service
Michelle Orr	Philip Williams and Associates
Steve Ritchie	SBSP Restoration Project Mgr.
Steve Rottenborn	H.T. Harvey and Associates
Mary Selkirk	Center for Collaborative Policy
Judy Sheen	U.S. Army Corps of Engineers
Lynne Trulio	San Jose State University
Carl Wilcox	California Dept. of Fish and Game

Other Attendees	Affiliation
Bill Ahern	CCA
Paula Bettencourt	City of Mountain View
Doug Bloyd	Santa Clara Co. Resident
Patryja Bossak	Bay Trail
John Bradley	SF Bay NWR Complex
Andree Breaux	SFB Water Board
Gary Calame	City of Hayward
Laurel Callins	Watershed Sciences
Joan Cardellino	State Coastal Conservancy
Deborah Clark	Center for Collaborative Policy
Evelyn Cormier	Wildlife Stewards
Frank and Janice Delfino	Citizens Committee to Complete the Refuge
Dennis Dowling	Santa Clara Unified Schools
Tom Ford	San Francisco Bay Brand
Tracy Grubbs	Center for Collaborative Policy
Carin High	Citizens Committee to Complete the Refuge
Rob Holt	Photowall Design
Beth Huning	SF Bay Joint Venture
Kristy McCumby Hyland	City of Sunnyvale
Ralph Johnson	Alameda County
Austin McNerny	Center for Collaborative Policy
Eileen McLaughlin	Wildlife Stewards
Michelle Myers	ACWD
Terry Noonan	TRBRPO
Silvia Quast	Resources Law Group
Russ Robinson	South Bay Yacht Club
Antoinette Romeo	Santa Clara Co. ERA
Steve Rottenborn	H.T. Harvey & Associates
Denise Stephens	Mayne School - Alviso
Dan Strickman	Santa Clara Co. ERA
Caitlin Sweeney	BCDC
Charles Taylor	AWTF
Karin Tuxen	UC Berkeley
Bruce Wolfe	Regional Water Board
M. Selim Zeyrek	Alameda Co. Water District