

**Capitol Lake Adaptive Management Plan  
Deschutes Estuary Feasibility Study  
Net Benefit Analysis  
Community Workshop  
Olympia City Council Chambers  
June 20, 2007**

**Question & Answer Session**

**Preface:** The following is a verbatim transcript of the question and answer portion of a community workshop, which was held at the Olympia City Council Chambers on June 20, 2007.

The purpose of the workshop was to present to the community the results of the *Net Social and Economic Benefit Analysis*, one of four technical reports being done as part of the Deschutes Estuary Feasibility Study. This technical report was prepared by Cascade Economics of Washougal, WA, in association with Northern Economics of Bellingham. Following the presentation, the consultants and staff to the Capitol Lake Adaptive Management Plan Steering Committee responded to questions from the audience.

The workshop was videotaped by Thurston Community Television. The transcript was created from that recording.

The second section of this document is comprised of those questions which were submitted in writing by members of the audience, but were not answered due to time constraints. The answers were collected from staff and consultants after the meeting and are being made available here.

**Section One – Video Transcript**

**Question 1:** Is funding available for this through the Governor’s Healthy Puget Sound Initiative?

**Curtis Tanner:** So the question relates to the Governor’s Puget Sound Initiative and certainly there is increased funding available for estuary and other nearshore habitat restoration associated with that. Is there money available today that I could point to in the Governor’s budget? No, but certainly the increased focus that the Governor is placing on Puget Sound, I think, provides resources for both environmental contaminant cleanup and habitat restoration activities. I would also report that there is an increased emphasis not only at the state level, but also through federal programs in environmental restoration.

**Question 2:** Why not drain the lake to clean it while we have the low summer tide and let the newer or short-term residents get a look at what a loss it would be to do away with the lake? The long-term residents seem to feel the lake is more of a plus to the

community than the mud flats we had before the dam. We do have all the apparent plus recommendations close by, such as Watershed Park and Priest Point Park.

**Unidentified Respondent:** I would like to make a response to that in part, and this is only in part that one of the things that I think is very difficult for us as people is when we can't see something it's hard to relate to it. And, I think that is an interesting suggestion because we all have certain expectations of what we think the visual will be but we don't know what that visual is. So, as a result, it creates all of this uncertainty in our minds and certainty is a little scary, so I think that it's actually kind of an interesting idea, but probably unfeasible.

**Steven Morrison:** However, that being said, over here along the wall we do have some aerial photography. This particular aerial (and I will bring it forward) was taken a couple of years ago when they were working on Deschutes Parkway. Remember, we had the earthquake and they were rebuilding it. We drained the lake to work on it that year. So, in fact, here is your image of a much lower lake. It was taken at a particular time – it's written on the back. But, we do have that and we do have it compared up and mapped up against the full lake as it is today. So, there is, if you are interested in what it would look like, there is an image.

**Curtis Tanner:** One of the things we know from the USGS study is that while the tide will come and go, obviously and there would be during low tide the exposure of mud flats and vegetation along the edge. About 80% of the time, there would be sufficient water in the lake to provide the functions of a reflecting pool. So, that vision of the lake drained is what we would see about 20% of the time and then there would be high tide periods where the lake would be filled with tidal waters.

**Audience member:** How does that compare with Swan Town? You are talking about the mud flats over there by Swan Town (south of Swan Town).

**Curtis Tanner:** The elevation is probably higher at Swan Town than it is in a portion of the basin.

**Audience member:** No, it's not!

**Curtis Tanner:** O.K.

**Mr. Kliem:** We will get a chance to talk with staff and the consultants afterwards.

**Question 3:** Water quality services, such as low DO (dissolved oxygen) and the subsequent increase in healthy plankton and shellfish production were not given monetary values, yet South Sound is a major producer of commercial shellfish. Could not this have been included, as economic data on shellfish production exists? Also the CLAMP scientific studies could provide the needed ecological data for economic

valuation of effects on the local shellfish industry. Shellfish was included as a value of importance in the focus group outcomes as a detail in quantitative values on the cards.

**Susan Burke:** I'm Susan Burke with Northern Economics. It's a very good question and as Trina took us through the process of how we can come up with the valuation, we would need to have the physical information about the impact before we can assess the values. It may not be a particularly satisfying answer. We don't have any information about how much it might increase shellfish to be able to quantify that. That's the best we can do.

**Steven Morrison:** There is some information about shellfish production that's generally available from Washington State Department of Health, and they do record the information about the number of pounds of different species by inlet. Because in Budd Inlet we have some sewage treatment outfalls. Some of the available areas that used to be down in southern Budd Inlet, which I understand from the shell industry, were very good, would not be available for commercial shellfish harvesting. So, even though we can restore it, that wouldn't be available. However, I know there is some conversation about restoring areas to using the native shellfish and so that information through the Nature Conservancy might be an option, but I don't think that you will see a thriving commercial shellfish operation in Budd Inlet with or without an estuary.

**Question 4:** What happened and why to the saltwater flushing of Capitol Lake on an annual basis?

**Nathaniel Jones:** I'll try to respond to that. It was a regular practice of General Administration to back flush the lake on an annual basis. That made some substantial changes in the operation of the lake, the biology of the lake, and it was one way that the state went about taking care of the invasive species that were in the lake, particularly milfoil and some of the others. The saltwater back flush was very effective in essentially sterilizing the lake and removing a lot of these species that were non-native. However, not only did it affect the non-native species, it also affected the native species. As a result of that, General Administration was advised that we would no longer be able to do that because of the significant impact of the kill, if you will, of the back flush. One of the other outcomes of that killing off of plants and animals was that those carcasses, if you will, were then deposited into Budd Inlet and had a significant impact as I understand it, in their decomposition on the dissolved oxygen levels out in the inlet.

**Question 5:** I just want to identify that from 1980 to about 2000 that the reason why the custom started ...what happened was on the south side of Capitol Lake there was a hole and in the hole dissolved oxygen.... it was then determined by the Department of Natural Resources and Ecology that back flushing the lake harmed more of the species around the lake than .... Originally, it started out for protection of fish for dissolved oxygen in that hole....

**Nathaniel Jones:** Thank you. I would just add that the scour hole is still there and the siphon is still in operation in order to resolve that problem. (*Conversation was difficult to hear as the speaker did not have a microphone*)

**Question 6:** You were able to find information on the value per fish to a recreational fisherman. What is the value of a boat to a boat owner and to boating related businesses? There is a lot of data available. Talk to Northwest Marine Trade Association.

**Unidentified Respondent:** The problem with a lot of that data is that it is not specific to this area. As I indicated earlier, we don't have specific impact information for the Olympia area and we could have generalized to the greater Washington State area, but we chose not to because of the standards we set in order to provide quality information to you all.

**Question 7:** So, you chose to use data from another estuary that is not specific to Olympia, but you have marine trade data in the State of Washington and Puget Sound, but (you) chose not to translate that to the area?

**Unidentified Respondent:** Yes, that was our best professional judgment.

**Audience Response:** OK.

**Question 8:** When describing existing conditions, the terms Deschutes Basin, watershed, and Capitol Lake are used. What is the distinction between those terms? Are they all synonymous or..?

**Unidentified Respondent:** In that particular case, we were talking about the basin, and that is the term that referred to Capitol Lake moving somewhat up. The diagram shows the basin moving up to the I-5 corridor. That's what we are referring to as the watershed. So, the basin includes Capitol Lake and this other existing part of the watershed. Does that answer the question?

**Question 9:** Will tourism change or increase economic benefit occurring in this area if the lake is maintained?

**Unidentified Respondent:** We don't know. We don't know for sure how tourism will change if the estuary is restored and we did not try to look at tourism that is directly associated with the lake. Our charge was to try to determine if there were going to be effects on tourism by removing the dam and restoring the estuary.

**Question 10:** Can you safely swim in an estuary?

**Curtis Tanner:** I've swum in estuaries before, sometimes on purpose and sometimes not. I guess the question is the water quality in the basin making it advisable for water

contact sports. Right now we know that the Department of Health recommends that one doesn't participate in water contact in the basin. I probably wouldn't go swimming there myself. And if it was \_\_\_\_\_, I'd probably find it too cold to swim there anyway. So, I don't see swimming as changing one way or the other.

**Question 11:** Have grant applications been submitted for Governor's Initiative? This is a similar question to the previous one.

**Curtis Tanner:** I'll interpret that question to ask whether we are seeking funding to implement a particular management alternative including restoration. The answer is no. So, we are not pursuing a particular management alternative right now, we are still in the information gathering phase about estuary feasibility and we are also, as you will find later in the evening, going to be pursuing a process for getting additional formation on lake management. There are some things we don't know about that, and that we will be moving into an alternative analysis process over the next couple of years to compare these, but no, no money has been applied for to either implement estuary restoration or lake management at this point.

**Question 12:** Would estuary increase DO into Budd Inlet and reduce need for additional LOTT capacity at \$14 per gallon? Is dilution a solution to pollution?

**Susan:** We worked with Ecology to try to understand what the impacts were. Ecology is actually in the process of doing a very detailed study of water quality in Budd Inlet and there is someone here from Ecology who could actually talk to that whether dilution is the solution to pollution or not. That report is scheduled to come out in 2008 and we will probably know more about it, although I will say that the Brown and Caldwell memo that we quoted here – the contribution that the tidal exchange made is actually in the tidal exchange – I said that badly. The contribution that a restored estuary would make to water quality improvement is through tidal exchange. I guess if that is dilution, then the answer is yes.

**Question 13:** Would the lack of the reflection pool for Capitol Lake assessed?

**Unidentified Respondent:** I think the question is asking – did we consider the value that's associated with the aesthetics of a reflecting pool? And, our answer is yes, that in fact, as part of sort of the cultural services that Trina talked about, the aesthetic quality of Capitol Lake was one of the values that seems to be of significant interest to the community. I think that when we did our further investigation through discussions in our social impact survey, we found some very strongly held views, but they were also very divergent with respect to interest and views associated with that reflecting quality. So, I would answer that yes, we did consider that and that was very much an important quality.

**Question 14:** In describing values of wildlife viewing, a specific value of \$49.88 per person per trip is used. In describing values of recreational fishing, the value of the fish

ranges from \$28.78 to \$35.30 in one study and \$7.48 to \$113.00 in another. Yet, when the negative impacts to the recreational boating is discussed, no dollar value whatsoever is offered. Why the omission? The economic value of recreational boating is well known. Is this a balanced analysis?

**Unidentified Respondent:** This again was a situation where in reviewing the literature, we did not find estimates that we felt were worth putting in the study, so there really isn't that much information out there on the values of recreational boating. We did find estimates for the biotic estuary in Rhode Island and we found estimates for Florida and the Florida Keys, and we felt that those situations were just so different then those that we see in our area that we decided not to include those values.

**Unidentified Respondent:** Just to add one other point, I think that the fact that we displayed some representative values for recreational fishing but did not display representative values for boating is not to say that therefore, boating did not have any value. I think that it is more of a reflection of what information can we comfortably bring to say, "This is the magnitude of these values."

**Question 15:** Can Mud Bay area be used as this estuary that is felt to be needed? The beauty of the lake in the foreground of the state capitol will be a big loss if you put this estuary in the foreground.

**Unidentified Respondent:** I think that Mike spoke to this that this was a matter of aesthetics, which we did look at quite carefully and did receive back significant information, opinions, and perceptions from the stakeholders that were surveyed.

**Question 16:** Authors of the study had personal communication with Puget Sound Action Team members. Puget Sound Action Team members said, "Removal of the Capitol Lake dam could make Deschutes estuary less subject to sea rise because natural sedimentation will mitigate sea level rise by building of tidelands adjacent to Olympia waterfront." Is this true?

**Mr. Kliem:** That is the comment that I believe Doug Myers made.

**Unidentified Respondent:** All I can say is that I have source. I'm not in charge of the universe, so no, I don't know if that is true information, but Doug Myers was my source.

**Margen Carlson:** I would just like to add that the reason a Puget Sound Action Team member was a source for that subject is that the Puget Sound Action Team has gone to some great lengths to try and assemble information and help the City of Olympia in anticipating the effects of sea level rise would be in this area. So, that is why Puget Sound Action Team members was the source and I believe Puget Sound Action Team members have done the most work in this area in trying to anticipate what those fiscal effects will be.

**Question 17:** Would there be federal money available to remove the dam? Were the outside monies that helped remove the Elwa apparently available for this project?

**Curtis Tanner:** So the question is about the availability of federal monies for this project. I can't say with certainty that the federal government would find this a project that would be in the interest of the public and cost beneficial. And, I can't say that there are grant programs available for estuary restoration and they are increasing in their scope in the Puget Sound. So, are there programs that this project could apply too? Yes. Would those programs choose this project to fund? I don't know.

**Question 18:** What is the best option for the long-term health 50 to 100 years of Budd Inlet, South Puget Sound?

**Answer:** Like Trina, I am not the master of the universe either and in fact, that is the very question that we are trying to answer with this overall study. The estuary feasibility study is one piece of information that will help decision makers answer that question of which is the most healthy outcome. As you can see, we are looking at a range of information in order to provide them with the best data we have available. I am sorry we don't have that answer tonight, but that is the very answer that we are trying to arrive at or least provide information on.

**Question 19:** Does the project study include the option of keeping the dam and lake as it is with improvements to help water quality? What is the cost of maintaining a lake compared to changing to an estuary?

**Nathaniel Jones:** Well, we do have an agenda item coming up where I actually will be able to make a presentation about where we go from here. Where we are in our process is at the tail end of an estuary analysis. We will move from here into a more thorough analysis of other alternatives, which will address some of the questions about water quality and some of the other aspects of lake management.

At this point, the project is not providing that information as we are only looking estuary, but we intend to address that question in the future.

**Question 20:** Given that sea level rise will occur in Budd Inlet of three to four feet over 50 to 100 years, 5<sup>th</sup> Avenue will increasingly overrun by saltwater, what is the cost of replacement of the dam to manage sea level rise?

**Nathaniel Jones:** Well, the best information we have now on sea level rise is that at some point in the future, the dam will be overtopped. That will happen with the highest tides and as sea levels continue to rise, if they do, that frequency will occur at a greater frequency. We don't know what the cost of raising the dam would be. The earthen portions of the dam would be relatively easy in my estimate. But we do have a major

concrete spillway which would take some engineering in order to adjust if we were to maintain that in the future with much higher tides.

**Question 21:** Why do you say three to six feet accumulation when your map shows a scale of two feet? What about flooding and high tide of the Deschutes old brewhouse? Predredge in the lake or in the areas where silt settles.

**Curtis Tanner:** So the figure in the USGS technical report is reported in meters and it says one to two meters of sediment accumulation in the area around the marina and the Port shipping channel. I converted those numbers from meters to feet just for ease of communication.

**Question 22:** What about predredge?

**Curtis Tanner:** To the question about predredge, basically the consultants took the model of sediment transport study that told us where the sediment is going to come from and basically, if the dam were to be removed, the river would want to reestablish the channel that it once had. So, the majority of the material that would be exported during that period of equilibrium that I talked about would come from the place where a channel would be reformed.

**Question 23:** So if you increase dredging of the lake is that where the sediment will be deposited?

**Curtis Tanner:** Correct. So, the recommendation from the consultant would be that you would – since you know where the sediment is coming from and you know where it's going and you don't want it to go there, you get it before it goes there, and you do something that would be beneficial with that material, which is pile it along the Deschutes Parkway, which would increase the amount of area available for intertidal habitat and cover up a large amount of rock work that would need to be placed along Deschutes Parkway to make that seismically stable. Basically, the engineer's recommendation was – get the sediment while it is still there, since you know where it is coming from and put it someplace else so less of it gets exported to the Port and marina area.

**Question 24:** What about the sediment that is already coming down the river? In the future in the winter, what are you going to do about that?

It was suggested to pursue follow-up conversations on the issue with staff.

**Question 25:** Are current historical land use practices affecting sediment deposition in the lake in Budd Inlet?

**Nathaniel Jones:** One of our common answers tonight is that we don't know. The area of the watershed that's affected by changing land use practices is very large and what's happening in those areas is very dynamic. Not only are we seeing changes in forestry practices over the decades, but we are seeing a lot more impervious surface being put down out in those areas and what the overall impact of those changes and perhaps other changes in the overall area is very difficult for us to try to quantify what those changes are. What we do know, is that there is an accumulation of about 33,000 cubic yards of sediment per year as averaged over many decades. But, we don't know how that sediment loading has changed over the years.

**Question 26:** Is it possible to evaluate the ability of a restored estuary to protect against flooding? Can the hydrology model help with this? Would one need to change to a hypothetical bathymetric model, i.e., post restoration dredging to evaluate this? Sea level is going to rise and the dam will fail. What other studies will be done to protect downtown Olympia?

**Nathaniel Jones:** We have information from FEMA about what current flood levels are when flooding occurs, given our current situation. And, our engineers have looked at what the potential change in an estuary scenario to flooding. One of the things that we need to do is a comparison between the engineer's report and the earlier FEMA reports to make sure we clearly understand what the impact of a restored estuary would be on the flood situation. The preliminary information that we have is that there is not much difference one way or the other. But, we need to confirm that and we need to quantify what that change is. If I understand the other question here, it is posing a scenario where the dam fails due to sea level rise, and the question asks what other studies will be done to protect downtown Olympia. The City of Olympia has completed a fairly recent study within the last four to six months which pulled on information from the Puget Sound Action Team, University of Washington, and other sources as well in order to quantify the impact of sea level rise on the City of Olympia. Their assessment was that you can either run away from it or you can dike against it. So, we see the City of Olympia talking about building a new city hall on a higher foundation than originally intended in order to respond to sea level rise concerns. As I understand their current thinking as it has been explained to me, there will be a need to deal with flooding in Olympia due to sea level rise over the long term and that the rise is coming in their assessment and there are difference responses that can be made starting with changes to the stormwater system. So, diking and dealing with utilities are probably the first steps. The question was what studies have been done or could be done. My answer to you is there is a great deal of work that the City of Olympia has done that appears to be of high quality and I would recommend that you look in that direction.

Mr. Kliem asked how to access the information. Mr. Jones recommended using the City of Olympia website for contact information.

**Question 27:** Who are the scientists performing the ITR?

**Curtis Tanner:** The Independent Technical Review (ITR) is being done by a firm in the San Francisco area called Phil Williams & Associates (PWA).

**Question 28:** There was great controversy about controlling and killing the geese that were at Capitol Lake. How would you plan to control and kill all the wildlife you hope to attract with an estuary?

**Curtis Tanner:** We won't be killing the wildlife that is attracted to the estuary.

**Question 29:** From a medical perspective, I am greatly concerned that destruction of Capitol Lake to create yet another mud flat habitat (that) will also create a new mosquito breeding habitat in our downtown core just as the deadly West Nile Virus is making its way into Washington State. By the law of unintended consequences, this is a likely deadly outcome. If creation of original habitat is an overriding driving force, then reintroducing grizzly bear and letting all of the downtown built on land fill revert back to wetlands would make as much sense.

**Curtis Tanner:** I will answer the sincere part of the question regarding mosquitoes. We do know that there are mosquitoes and other insects being produced in Capitol Lake now and it has been pointed out repeatedly in previous studies that actually there is quite a large amount of insect production that helps provide forage. Mosquitoes like low flowing, warm stagnant water – we have some of that. We also know that salt marshes can produce mosquitoes and we also know that flushing tidal action reduces the increase of mosquito breeding habitat and we also know that fish, particularly juvenile salmonid that would be expected to return to the estuary, are voracious predators on mosquito larvae.

**Question 30:** Are mosquitoes more likely to occur in slow moving fresh water or saltwater?

**Curtis Tanner:** They are likely to occur in both kinds of habitats.

**Question 31:** Doug Myers, Puget Sound Action Team provided studies that show estuaries are better in protecting our area from sea level rise, therefore can we say that a restored Deschutes estuary is probably greater than 50% chance better than Capitol Lake in protecting us against sea level rise.

Question was addressed previously.

**Question 32:** Any substantial and environmental engineering project requires a worst case scenario estimate to account for potential unintended consequences. Acknowledging that there are many uncertainties, has analysis been done to assess potential impact if everything that can go wrong actually goes wrong, such as, loss of

downtown business, loss of marina, loss of Port business? Who would ultimately bear the financial responsibility? What is the potential cost per household?

**Unidentified Respondent:** We don't have an answer for that question.

**Question 33:** What are the urban setting challenges specifically?

**Curtis Tanner:** In the Reference Estuary Study, the consultant noted that some of the challenges of an urban setting have to do with watershed impacts. We have a developed watershed that's contributing water quality and sediment issues to a potentially restored estuary. We certainly have lower habitat values associated with ecosystems of whatever flavor in urban settings, less wildlife in urban areas than in less developed areas, and I believe they noted some possible problems with invasive species that we have in both the lake and estuary setting.

**Mike:** We mentioned that in our report as well, and the challenge that we face as economists is a lot of diversity of opinions and values and views. It is a confluence of a whole community and that certainly creates the challenge that CLAMP is facing right now.

**Question 34:** Is there a specific plan to deal with the three to six-foot sediment accumulation? What are some ideas, proposals to mitigate this?

**Nathaniel Jones:** Well, the principle proposal is the predredging that was recommended by our engineers. The three to six-foot deposition would be if there was no mitigation prior to removal of the dam. So that's the primary response. In addition to that, there was a question from the floor earlier about the annual accumulation of sediment. Our engineers told us that we could anticipate that there would be about a \$1 million per year in operating costs to remove sediment. Now, you wouldn't do that on an annual basis, necessarily, but spread out over a period of time and annualizing the cost would be approximately \$1 million a year to deal with that.

## **Section Two – Previously Unanswered Questions and their Answers**

**Question 35:** Did social use based on tidal fluctuation get considered? Such as walk @ 6:00 in lake vs. walk @ 6:00 with mud flats.

**Answer:** Page 33 of the socio-economic report says, "For the purpose of assessing a recreational benefit or costs, we assume that if the access to the amenity, for example a trail, is unchanged under an estuary condition then there is no change in the recreational benefit. We recognize that access to a recreational amenity may not capture the quality of the recreational experience for different individuals. Some individuals may prefer recreating beside a lake, as is likely indicated by the Stakeholder Involvement Report

attribute “Green Lake [Seattle, Washington] atmosphere.” While other individuals may prefer a restored estuary for their recreation as is indicated by the Stakeholder Involvement Report attribute “canoe/kayak to experience tides,” we do not assess the difference in these recreational experiences because it shows a personal preference. Given divergent views of stakeholders about the recreational experience of a lake versus an estuary, we assess the recreational benefits based on access to trails, walking paths, and the marina and not on the quality of the recreational experience.”

**Question 36:** D.O. levels outlook: did it take into account the new green belt setbacks on residential development, or just old setbacks?

**Answer:** In 2000, the firm of Brown and Caldwell used proprietary software to estimate estuarine dissolved oxygen levels, and we do not know the details of the parameters used in that software. However, because Brown and Caldwell conducted this scientific study in 2000, it would surely not have included any activities that were implemented after that date.

**Question 37:** Economic import to port customers that would incur cost due to silt in equipment while in port. What about loss of revenue to port of Olympia?

**Answer:** The impact of estuary silt on port customers’ equipment is negligible unless the berths or shipping channels are allowed to fill in. Similarly, we anticipate no loss of revenue to the port unless the terminal is allowed to silt in. Page 55 of the socio-economic report states that, “the Port of Olympia may be negatively impacted if the estuary is restored... In the absence of a cost-sharing plan, the impact to the Port would be increased dredging costs. The magnitude of the impact is not known because the increased cost and frequency of the dredging has not been estimated, nor has a cost-sharing plan been discussed,” (emphasis added). So, while there may be increased expense associated with more frequent dredging, discussions about who will be responsible for that expense have not even begun.

**Question 38:** Curtis- you said south sound estuaries have some unique characteristics that would have to be dealt with, can you explain?

**Answer:** The comment Curtis made earlier in the evening was about the unique characteristics of urban estuaries. Urban estuaries are unique largely because they are surrounded by infrastructure and development. In most cases, the urban estuary must continue to provide the existing transportation, infrastructure, and recreation services. The design of an urban estuary restoration project must also be responsive to safety considerations. In addition, communities may have different aesthetic and spiritual expectations for an urban estuary than they would for a rural or isolated estuary. The Deschutes Estuary Feasibility Study’s “Engineering Design and Cost Estimates” and socio-economic work help us to understand some of these dynamics for the Deschutes Basin.

**Question 39:** If you are going to have an economic study by economists, where are the numbers to support your conclusions? All of your findings were stated in non-quantitative forms, why?

**Answer:** This socio-economic study aimed to evaluate the social and economic effects (positive or negative) that are experienced by the community as a whole. The social effects are not appropriately described in quantitative terms. The budget constraints of the study limited the economics team to using existing data and information to analyze economic effects experience by the community. The results of an economic study that looks at effects that are experience by the community as a whole are different than those of an economic study that looks at a particular business or sector of the economy, although the latter is what most of us are more familiar with. For some of the analysis categories (habitat, flood protection, water quality, and recreational fishing), there was enough existing information to report quantitative findings about economic effects on the community. For others, inadequate information exists to make similar quantitative conclusions. The socio-economic report did, however, estimate whether various community values would experience positive, negative, or neutral effects, and provided some sense of the magnitude of these effects.

**Question 40:** Dam breaching would supersede port activity and negate expense of dredging Budd inlet. Sediment could cap off dioxins. Port property could be converted to residential/commercial use and Budd inlet eco-system would thrive. Have these offsets been taken into account?

**Answer:** This question offers several speculations about a possible future for the basin. The socio-economic study, however, attempted to minimize speculation and limit the analysis to future changes that estuary restoration is expected to cause based on the hydro-geomorphic, ecological, and engineering studies. Therefore, the study did not account for the possible futures that are suggested here.

**Question 41:** The combination of public access to Puget Sound's shoreline (a scarce commodity) combined with education and tourism opportunities of that access haven't been fully explored, yet it has a high value potential. Have you thought about applying any benefit data from the Nisqually wildlife area and center to take Deschutes estuary restoration potential? As the Deschutes would be an urban estuary, it would enable more access and perhaps more benefits. Aren't we ready to put either quantitative or qualitative benefits on this given what we already know?

**Answer:** As above, this question offers some speculation about a possible future for the basin. The socio-economic study, however, attempted to minimize speculation and limit the analysis to future changes that estuary restoration is expected to cause based on the hydro-geomorphic, ecological, and engineering studies. While there are various kinds of data that describe the levels and kinds of tourism that other estuaries (like the Nisqually

Wildlife Refuge) experience, the dynamics of an urban estuary setting are potentially different than those of a more natural setting. We do not have any data or models that allow us to reliably predict how urban estuary restoration would affect tourism (including education-related visitation). Although it is possible to visualize a variety of possible tourism and education futures for the basin, it is not possible to predict which of these futures is most likely without such reliable tourism predictions.

**Question 42:** If long-term health of Puget Sound is the primary goal, why is aesthetic of a reflecting pool considered?

**Answer:** The long-term health of Puget Sound is very important, but it hasn't been defined as the single most important goal in the context of the long-term management of Capitol Lake. In order to inform the eventual decision about this long-term management, the socio-economic study was built on a set of values that were identified by the community through a stakeholder involvement process. These values included the health of Puget Sound, economic vitality, spirituality and aesthetics, and others. The report did not attempt to prioritize these values; rather, it attempted to anticipate the effects on all of these values as objectively as possible.

**Question 43:** If the Deschutes Estuary is restored, will the Port of Olympia and Percival Landing marina's close down?

**Answer:** The Port of Olympia and marinas are a valuable part of the community. Although the socio-economic report recognizes that the Port of Olympia and nearby marinas could be negatively impacted by increased dredging costs, it also points out that this potential impact can be mitigated by a cost-sharing plan. These costs have not yet been quantified, nor has a cost-sharing plan been developed, and so we do not yet know how this consideration will affect the decision of lake vs. estuary. The report does not anticipate that either the Port of Olympia or the nearby marinas would necessarily close as a result of estuary restoration.