

2011 Shoreline Master Program Update Questions and Answers from the Shoreline Education Series

Ecology's Role, June 3, 2010

<p>1. <i>What are some alternatives to buffers?</i></p>	<p>Geoff replied that he uses “buffers” and “setbacks” interchangeably because some SMPs rely on setbacks that have buffer-like features like vegetation retention and the department also sees buffers that have setback-like features. He said that what’s most important is for the city to determine what works for it and meets the guidelines. The city can develop a range of options - such as removing unnecessary bulkheads or infiltrating stormwater or enhancing native vegetation right along the shoreline.</p>
<p>2. <i>How much flexibility is there in the vegetation standards for along the shoreline?</i></p>	<p>The science shows that vegetation along the shoreline is very important so you want to have as much native vegetation as possible, but D.O.E.’s approach is not prescriptive and there are ways to provide options.</p>
<p>3. <i>Isn't a refusal to allow bulkhead repair really an attempt at taking without paying restitution as when one bulkhead fails all neighboring bulkheads will fail eventually taking all waterfront homes??</i></p>	<p>The guidelines lay out standards for how and when you repair bulkheads. There needs to be some showing for the necessity for that repair, but there is a lot more flexibility than the requirements for new bulkheads. The basic protection for your home, if it’s at risk from erosion, allows you to bulkhead to protect your home.</p>
<p>4. <i>What is the date for implementation of no net loss? Does this apply to all the nearshore environment?</i></p>	<p>No net loss is a broad concept based on what is existing. There is an opportunity in the update to define what the baseline is, what ecological conditions exist that you want to protect and not make worse. The guidelines are not too specific on that. You’d have to have a reasonable expectation that the development regulations you’ve established would achieve this goal of no net loss and the cumulative impacts analysis is the place you show it in the update process. On a project-by-project basis, you also need to have a reasonable expectation that each individual project is not causing the loss of ecological resources. The question that the community can help answer is a real, precise baseline for no net loss – show your work.</p>

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<p>5. <i>Let's talk about alternatives to declaring existing uses or structures "nonconforming."</i></p>	<p>Achieving no net loss is an important thing and buffers or protection of shoreline vegetation will be an important part of that. Trying to hold development back to minimize its impacts is going to be an important piece of this, but the main concern about nonconforming uses is where you draw the buffer or the setback line. There are a lot of things that go into that. If you've got a lot of houses close to the edge of the shoreline, you may have some valid reasons to make those buffers or setbacks smaller for that reach of shoreline and not render many homes nonconforming.</p> <p>We're certainly hearing the concern. It's really important for homeowners who might be affected by this to look at it closely. Our agency is trying to look into it. What we have not found so far is concrete examples of some of the more fearful scenarios. The more important thing is for the city to be very thoughtful about how the regulations may create nonconformities and then what those standards to manage nonconformities look like so there's something that will work for this community. For example, some communities are saying that you can rebuild a nonconforming shoreline single-family residence no matter what.</p>
<p>6. <i>What is the makeup of the group within the Department of Ecology that makes decisions? How many people? What are their credentials? How many are shoreline homeowners?</i></p>	<p>In our group there are a lot of shoreline planners who are the main liaisons and work with the process— many with local level experience. There are wetland specialists, river specialists, and marine specialists, flood specialists. D.O.E. also looks to other agencies like the Dept. of Fish and Wildlife (DOFW) and the Attorney General's office for expertise. The state brings a lot of resources into the process. The department has a coastal geologist, a hydrogeologist, and a floodplain specialist, to name a few. The cities have quite a bit of technical expertise themselves and tend to hire consultants with good credentials, so we rely on their work as well.</p>

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<p>7. <i>Why does the city keep trying to institute more draconian regulations than the state requires?</i></p>	<p>Geoff replied that he hasn't experienced any jurisdictions being more restrictive. Libby Hudson replied that the city has an existing SMP. This is an opportunity for the community to reflect the community values and character in this update. The community appreciates and wants to protect the natural resources. Staff doesn't intent to enact draconian regulations – they really are intended to protect those resources. There are some problem areas in those regulations that have been identified through administering the regulations. As we move through this update, staff hopes that the review and changes to the regulations will reflect the community's values.</p> <p>Barbara Nightingale added there is a community that prohibits single-family residential docks but that reflects what they have there and how their shoreline is used. It sounds, on the face of it, draconian but for that community – for that shoreline – it makes sense.</p> <p>Kathy Cook said in the time that she's been the director, one of staff's biggest struggles is dealing with the ambiguities that cause a lot of frustration for staff and property owners. How those ambiguities are clarified will need to involve all interested parties. She added that, because the City's SMP is so old, it does not recognize modern technology, resulting in situations in which a proposal with new technology cannot be approved because of the way that the regulations are written.</p>
<p>8. <i>How do any proposed rules relate to ex post facto law?</i></p>	<p>There is some confusion about the Growth Management Act and an updated Shoreline Master Plan in regulating critical areas on the shoreline. That was corrected by the legislature this last session. There's actually an appeal of that bill because the appellants believe that the bill goes back in time and changes rules retroactively. [Note: This was a partial answer in the absence of an attorney.]</p>

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<p>9. <i>How do you account for cumulative impacts in determining no net loss?</i></p>	<p>The cumulative impacts analysis is based on the inventory, so the inventory is a really important element identifying those processes, values, and functions and the conditions that they're in. The land use analysis is another component that gives you a potential for growth and where that growth is, where you have vacant land and the potential for subdivision or more docks. Then you identify what regulation(s) address that impact. Each project isn't the sole bearer of no net loss but how that project will impact the overall scenario must be kept in mind.</p>
<p>10. <i>Many ecological processes are cyclical. No net loss from what point in the cycle and who measures the loss?</i></p>	<p>Ken Sethney clarified that he was asking about the ecological processes of living things and asked if that wasn't part of what is trying to be addressed. Barbara Nightingale replied that people get confused about what we're doing – we're not managing fish and wildlife; we're not managing fish numbers – that's Fish and Wildlife and the National Marine Fisheries Service. What we're doing is managing land use on the shoreline so that the habitat is not impacted. You do have to identify what animals are out there and what their habitat is and to what extent their habitat is there. Who measures that loss is the local jurisdiction based on reasonably available information.</p>
<p>11. <i>Given that the salmon population has drastically declined under the present environment and no net loss means more of the same, do we have to accept continued loss of salmon, bottom fish, and orcas with heavy concentrations of PCB's?</i></p>	<p>It doesn't mean continued degradation – that's exactly what we're protecting for. Sometimes the presentations start with the orca because that's the top of the food chain that are impacted by land uses. That's a very important concern.</p>
<p>12. <i>No net loss is a key component of the SMP. What cities or counties have developed specific procedures or a methodology for demonstrating/determining no net loss? Do you really see and have you reviewed jurisdictions' no net loss analysis?</i></p>	<p>The City of Kent, the City of Kirkland, and the City of Redmond really stand out. Whatcom County has been held up as a model of many things. Those are seen as models and you'll find them on the D.O.E. website.</p>

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<p>13. <i>Does no net loss still apply with variances and conditional use permits – how can this be done?</i></p>	<p>One of the criteria that must be satisfied is how the development will achieve no net loss. How that will be done has to be analyzed very closely and the City does a very good, very thorough job of that.</p>
<p>14. <i>How do you reconcile the principal of no net loss with the notion that you can retroactively require a vegetative buffer on existing residential property where none exists now?</i></p>	<p>The regulations from the update deal with future development and changes, such as expansions, and would not require retroactive restoration on an existing home. A lot that had been prepared for the construction of a house, it is possible that a buffer may be required to build the house (which is considered an improvement). A buffer is not going to make up all the difference from that construction but it would help achieve no net loss.</p>
<p>15. <i>Define “public interest.” Define “setbacks for views.’ Define “no net loss.”</i></p>	<p>Public access is defined as to touch, view, and feel the water. Public interest is not defined although it is referred to. The master program development and the public participation that goes with it should be where the public interest is drawn out and articulated, including the statewide interest, but public interest is not precisely defined. The guidelines call out that you should have setbacks or views. It’s not something that you would find in the list of definitions but it is something that’s really created by the local jurisdiction.</p>
<p>16. <i>Do you want to expand on the no net loss definition?</i></p>	<p>You can’t make things worse. The guidelines don’t have a very specific definition, but it’s all based on the inventory – what you have and what you think you want based on where you are. The city will have to spend some time grappling with that at both a global and individual development level.</p>
<p>17. <i>Because of limitations of our knowledge about the ecological, is no net loss really a workable concept? Is DOE confident that the issues can be resolved? How often will the results be moot?</i></p>	<p>It’s a challenging concept; people have figured it out. It sounds overwhelming but remember that it is based on what you know.</p>
<p>18. <i>How have other jurisdictions achieved the goals of public access-shoreline trail systems?</i></p>	<p>Kent and Des Moines have extensive public access along their shorelines. One caution: be careful so that you’re not putting public access where it</p>

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	<p>could be perceived as a taking. There are some very creative ways of respecting private property rights and providing public access to everyone’s satisfaction. The city needs to demonstrate public access and how to achieve the public access in its program.</p>
<p>19. <i>Discuss state law regarding the right of the public to walk across or otherwise use privately-owned tidelands? Does the SMP address such usage?</i></p>	<p>Yes, it does. One of the safeguards is the submittal checklist and one of the questions on the checklist is “Are private property rights being protected?”</p>
<p>20. <i>Can regulations distinguish between low-bank and high-bank shoreline properties in terms of regulating shoreline armoring?</i></p>	<p>There is a reachscape analysis done at the inventory and analysis stage – the shoreline is divided up into different reaches because of the physical environment, because of ecological conditions. The nature of bluffs and non-bluffs can be a part of that and you can design your designations on features like that. They are different and would be managed in somewhat different ways. It’s really at the permitting stage, when you’re looking at a particular property, that those differences need to be considered</p>
<p>21. <i>Three long-time bulkhead contractors have told me that <u>none</u> of the hybrid or “soft” bulkheads they have built have lasted even one year. Do you know of one?</i></p>	<p>There are examples where it has worked and Jim Johansson has been tracking those over time, but it may not work on specific properties. We don’t have an extensive database to provide numbers, but there are examples in different environments.</p>
<p>22. <i>What, if any, are the consequences if the city needs more time than 2012 to develop their SMP? Aka: What happens if the Bainbridge SMP is not submitted to Ecology by 2012?</i></p>	<p>If the city doesn’t do it, the state law lays out a mechanism by which Ecology can come and do it for you – and we really don’t want to do that. I imagine that your community would prefer to tailor and craft this in their own way.</p>
<p>23. <i>If the decision is made at the end of this process that bulkheads are the problem and must be removed, who pays for the removal?</i></p>	<p>This process is not going to call for the blanket removal of specific bulkheads. You may identify areas that have been degraded because of bulkheads, but we’re not going to say that you need to remove those bulkheads. The new requirements would kick in when they come in for repair. One community decided to zone all the shoreline homes</p>

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	<p>differently and built into their program that bulkheads were necessary to protect those homes.</p>
<p>24. <i>The rest of the question about Draconian regulations was that COBI, in the last several years has responded to lawsuits from homeowners on the Island because they wanted to do something much more demanding than shoreline required. It seems there are a couple of people in COBI who make all the decisions and there are a lot of people who feel that our roads have gone to pot because we are spending all of our money defending lawsuits. Now it looks like we're going to give over management of our water system to Kitsap County and we would have been better off if we'd never left Kitsap County because our government hasn't been very well run. My question is can't we have some vote on whether we want to have the City involved in all of this litigation which seems to be very limiting to what the Island can do as far as running the Island for the benefit of its residents.</i></p>	<p>Libby replied that the Island has 52 miles of shoreline. We have shoreline regulations; we have people who want to do development and have to follow the regulations that are in place right now. So, there are issues where our laws will not allow us to approve certain sorts of proposals that a land owner may want to develop and they have the ability to appeal those. On this Island – in this city – it's different. There's not as much litigation in other cities. It's not that the City is inviting lawsuits and we hope to improve the program as we update it. We're trying to protect our natural resources and allow appropriate land development. Kathy added that the City does not want to be involved in lawsuits or appeals either. She iterated that one of the problems is that some of the regulations are somewhat subject to interpretation – that's something that can be involved through the update. Kathy also told the audience that there have been a number of situations in which the staff and applicant have been able to work out a solution that is acceptable to all. In addition to the cases in which the applicant appeals a denial or a condition, there are many times when neighbors or other citizens appeal. After asking to see how many waterfront property owners were in the room, one speaker stated that the cities are pumping more pollutants into the Sound every day than this program can ever counter.</p> <p>Geoff Tallent said that clearly the challenges for Puget Sound come from a number of sources. Where the water and land meet is a very important strip of land and there are other efforts going on too. He hopes this process captures those interests.</p>
<p>25. <i>What is the average amount of time required to complete the update process? Is it realistic to think that the City can complete it in the next</i></p>	<p>It's in the three-four year range. The state originally asked for a two-year deadline & DOE requested a one-year extension. The biggest challenge is</p>

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<i>18 months?</i>	that the funding is tied to those timelines.
Shoreline Processes, June 17, 2010	
<p>1. <i>What is the primary cause of eroding bluffs – wave action at the bottom of the bluff or surface water seepage midway up the bluff? Please discuss the erosion process with groundwater seeping along the bluff base. How important is this to the process?</i></p>	<p>Hugh Shipman replied that there are two factors in coastal bluff erosion, one of which is wave action attacking the toe of the bluff. The other is whatever factors are helping gravity dump the stuff on the beach. You need both and ultimately you have a steep slope. If there were no wave action, the slope would gradually become stable. The wave action creates steep slopes over time and when there is a heavy rainfall, there is failure. Most landslides are triggered by heavy rainfall or high groundwater levels. Deep slides are triggered by groundwater levels and shallow slides result from saturated soils and a heavy rainfall. The thing that is usually going to take out a slope is the rainfall. From an engineer’s perspective you deal with the toe of the slope and you deal with the drainage. All of the big slides that occurred in 1996 and 1997 were in areas that had been heavily armored for 50 or 60 years, so they were not triggered by wave action.</p>
<p>2. <i>Is there a sense of the volume of the sediment coming from the bluffs that move along as shore drift? If so, is there an estimate of the right amount of armoring that would have some sort of impact or is needed to sustain spits or beaches?</i></p>	<p>High responded that a sediment budget is to look at erosion rates. For example, you have a bluff that is 50% sand and gravel and the other 50% is clay and you know that it’s not actually going to contribute a lot to the beach and you’ve estimated the erosion rate, you can estimate how much material over time that bluff contributes to the beach. The issue of how much it takes to sustain a beach is a tough one and he doesn’t know how to answer it. The reality is that the Sound has complicated shorelines with drift cells that are getting material from a fairly short segment of bluff. As long as those bluffs are eroding, there’s a fair amount of sediment in the system. There are other cells where the sediment source is probably stretched over several miles and there is no one place that is more important than another.</p>
<p>3. <i>It is estimated that 70% of Bainbridge Island is armored. Has there</i></p>	<p>Hugh said that there’s been no measurement of it and added that he</p>

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<p><i>been any perceptible measurement of what is the result of armoring?</i></p>	<p>wasn't aware that the number was that high on the Island. The kinds of things you'd expect to see over time as you start to cut off sediment sources is erosion of the beach and loss of fine sediment. Figuring out what the effect would be is a very difficult research problem.</p>
<p>4. <i>How effective can soft-shore armoring be to retain geological structures? Can we cut back on bulkheads?</i></p>	<p>Hugh said that in the right place there are some softer or some alternatives that may work better. At the same time, he doesn't want to oversell them, especially on high-eroding bluffs. If your concern is sediment supply or this passive erosion that was mentioned, it doesn't matter if you armor it with silly putty, the issue is still there and you're still going to have the same problems 30 or 40 years down the road. On low-bank shorelines, more protected shorelines where maybe the issue isn't sediment supply or maintaining the natural rate of erosion but it's maintaining the vegetation, maybe the answer is to figure out to build your stairs without building a bulkhead. There there are some options. We're seeing a lot of engineers trying to figure out how to use large wood and anchoring – some of them are more naturalistic and will do extremely well. Even in fairly energetic situations sometimes something like beach nourishment (actually adding sediment to the beach) can work. On most of our bluffs where the waves are coming in at an angle, there's not much incentive for beach nourishment because that sediment is going to move to someone else's beach. It may help the system, but it's not going to help the property owners. If you live on a little pocket beach or live on a shore where the waves come straight in, then nourishment may work very well. Hugh noted that nourishment also has its own impacts.</p>
<p>5. <i>How effective is periodic deposits of fish mix or gravel sediments? Does this maintain the upper beach?</i></p>	<p>Hugh responded that it depends on the site. We've seen it required in front of bulkhead installations simply to sort of mitigate the effects of the construction. We've also seen it literally put top of riprap under beak water construction and in all sorts of situations. Sometimes it stays in place and sometimes it goes away with the next storm. Sometimes we</p>

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	<p>can anticipate projects where it will work. It's a good tool in the right situation.</p>
<p>6. <i>We hear that shade from docks is detrimental to young fish while at the same time we hear that we need more shade from trees along the shoreline. Why is shade from docks bad and shade from trees a good thing?</i></p>	<p>Jeff replied that the scales are a little different and the direction is a little different. The trees are parallel to the shore where the docks are perpendicular so you're having a different set of influences. Parallel to the shore, the vegetation isn't going to hang out more than 20-40 feet across the beach and it's the upper part of the beach whereas docks that can extend out hundreds of feet and across subtidal habitats. The fish move up and down parallel to the shore and their behavior changes as they hit these structures. Docks make wonderful habitat for species that are looking for a hard substrate.</p>
<p>7. <i>Please discuss the coastal effects of roads along the shoreline and the top of a coastal bluff.</i></p>	<p>High replied that roads were often built along the base of the bluff. The basic problem is that you bury the beach or the upper beach and you may still have a nice low intertidal beach. You've got all the same issues with armoring plus the armoring is built out farther. Along the top of the slope – now you've got something to protect. The other problem is that roads sometimes focus the water and increases erosion.</p>
<p>8. <i>Is Ecology investigating effects of sea level rise due to climate change?</i></p>	<p>Hugh said that Ecology at the top level has the lead on a state program that is looking at climate change and adaptations. He doesn't really know much about that but you can find out more from Ecology's website. The shorelands program isn't investigating it. Barbara Nightingale added that it is being investigated by the scientists and we can expect it to be required in future Shoreline Master Programs. Hugh said that he tells people that sea level rise doesn't create new issues, but sort of puts a point on the issues that we're dealing with now. If armoring is an issue now, it's going to be a huge issue with sea levels coming up. Restored shorelines may be far more able to adapt to rising sea levels.</p>

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<p>9. <i>Just an observation - on Bainbridge Island 72% of the forage fish habitat is in front of bulkheads.</i></p>	<p>Hugh said that sometimes people want to see a real simple solution. We don't know a lot about forage fish. We know what sort of substrate they like to lay their fish in but we don't know why they go back to the same place one year after another. With bulkheads built the way they are today, we're not too concerned about their immediate effect on forage fish. The problem is probably farther down the road and it would be interesting to look at more of the detail of that number. A lot of the older bulkheads on the Island were built out to mean higher high water or farther and my guess is that you're more likely to find forage fish where that wasn't the case.</p>
<p>10. <i>Knowing what you know about coastal processes and the fact that there's probably many jurisdictions that don't have actual data – particularly, for Bainbridge Island, say Blakely Harbor versus Manzanita – how good and how valid are the models that you've seen for making predictions about those things when you bring them to a site-specific level? For instance, if we didn't have data for a particular area on Bainbridge, is there a model available that would give us a close approximation of what the coastal processes would do given a certain impact?</i></p>	<p>Hugh said that as long as we monitor our assumptions pretty carefully and as long we know what the basic sediment processes are, we can make certain assumptions that that's going to be operational. We know that, on shore sediment processes, we can see them at the mouth of Eagle Harbor. We probably wouldn't try them deep in Eagle Harbor because we know there isn't a lot of sediment moving along the shoreline. There are other kinds of models used on other coastal processes that we haven't really talked about.</p>
<p>11. <i>It's very obvious that the science is ongoing and the question I'm trying to ask is are there not engineering solutions that can be flexible, that can evolve with legitimate, ongoing science? In the case of a grand majority of shoreline property owners who want to use shoreline armoring or bulkheads to basically protect their property, but we're really concerned with both geology and marine biology as to what is going on seaward of this particular zone (what would be called a bulkhead). What I'm trying to suggest is that, as a policy, using a wide variety of geological mixes – naturally harvested trees or other biological material, maybe huge boulders – and according to where you are in a marine environment, placing those out there to</i></p>	<p>Hugh said that it's hard to argue with trying things. The devil is in the details because there are a lot of incredibly intrusive things you can do in shoreline with good intentions. Especially in the business of erosion control, it's sort of like lower back pain – it's amazing how much snake oil there is out there. There's also been a lot of interest in putting some kind of structure offshore that would create habitat. As Jeff mentioned, you put anything out there and you're going to get habitat but you're going to get a different kind of habitat. There is some concern about those kinds of actions. His guess is that there are some places where it would be really nice to try some things. It would be really nice if we</p>

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<p><i>create an increased ecological function and it has two effects – if some kind of a huge storm blows in and rips it out, we learn from that, but also if it accrues seaward, we learn something from that. In other words, we have the benefit of protecting property but at the same time it’s an ongoing scientific experiment but an engineering solution to try to produce a net increase in ecological function. The only other side I want to ask is within a policy Shoreline Master Plan scenario we would be talking about would be these huge cliffs – would part of our policy be involved with storm water management? Are there engineering solutions to address that also?</i></p>	<p>could be fairly flexible in some of the things that we allow but there are also some fairly strict constraints on it. We’d want to look at it really carefully before you start doing that.</p>
<p>12. <i>I grew up on the East Coast and they would put these jetties out so you would collect all this sand but then your neighbor would lose all his sand. I was wondering – these bulkheads are lateral, not perpendicular, but if you get bulkhead after bulkhead at what point – do the neighbors all of a sudden have the impact from this drift, losing some?</i></p>	<p>Hugh responded that it depends. A lot of the early studies looking at wave action to some degree were looking at whether a structure would cause problems on adjacent shorelines or basically flanking of itself. Generally don’t see a lot of that kind of thing going on except with particular structures in certain locations or older structures that stuck out further across the beach. A lot of the 1960’s era bulkheads that were built in the Sound are acting like small groins basically. The sediment’s built up on one side and it’s eroded away on the other. He doesn’t think that’s happening very often with the current generation of bulkheads.</p>
<p>13. <i>One thing that is discussed a lot is the dilemma we have between lacking to support for development and also lacking the idea of a Puget Sound that is in some sense healthy, which works well and supports a variety of plants and animals. Looking in the realm of frequency changes, long-term changes, what about the eelgrass beds? What’s been the – over a decade – changes in the distribution and abundance of eelgrass? Is there a signal there or has it been measured? I don’t hear it discussed very often.</i></p>	<p>Jeff replied that it is often discussed in how valuable it is and how we can protect it. There are a lot of issues that can affect it – sedimentation, light. It really has a tough time with nutrients and sea lettuce can kill it when it covers it. That said, the overall extent of it is that it’s not decreasing. The last several years they’ve been monitoring more heavily, so it’s bumping up and down. The bigger issues are with localized problems. There are probably areas where the eelgrass beds are doing fine and some where they are expanding and some where you have particular influences that will affect a population. Genetic diversity is one issue; hybridization with the invasive species may be another one. With both eelgrass and bull kelp there are evidences of declines but overall there’s not a major decline. Locally it may be a different story.</p>

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<p>14. <i>My question is buffers – determining their size, 50 feet say 200 feet-kind of a two-part question. One, what are the generic benefits of a buffer and, two, what technical factors would you use to determine what is the most optimal size of a buffer?</i></p>	<p>Jeff said that because so much effort went into determining stream buffers and they’ve been around such a long time, they used similar processes to think about marine buffers. Jim Brennan was involved in bringing together a variety of specialists and the research has been modeled off what was done for stream buffers.</p>
<p>15. <i>A general question – how would you characterize the empirical basis for the coastal or the shoreline process that you’ve described, looking at both presentations?</i></p>	<p>Hugh said that it probably depends a lot on the specific area being discussed. There hasn’t been a huge amount of empirical work done on the geological side. There are some things that we are very comfortable with; there are other things such as the rate at which these processes occur that we’re not.</p>
<p>16. <i>This is essentially an issue of scientific inquiry and so much of what we’re attempting to understand must have a scientific basis to make proper decisions. What I have gleaned from this is that there are a lot of unknowns and a lot of complexity and diversity in terms of the structure of the shoreline. All of that adds to great difficulty in constructing a systematic understanding based in science, one that has an empirical research underpinning – one which looks very rigorously at the methods used to construct that research, including a great amount of effort to attempt to deny the known hypothesis or essentially to prove the case of the theory or of the position that the research takes. It seems like we have a long way to go before we can really come to a clear understanding based on empirically determined scientific inquiry.</i></p>	<p>Libby asked Barbara Nightingale to answer what the guidelines are when there is incomplete data. Barbara replied that, if you don’t know, you use the precautionary principle and take the most protective steps.</p>
<p>17. <i>In applying the precautionary principle, aren’t you applying it against making changes? We’ve been living on the shoreline for a hundred years in a particular way and unless there is a harm that we should be mitigating – and you can demonstrate the harm – aren’t you prohibited them from changing the way that we live on the shoreline by the precautionary principle?</i></p>	<p>Barbara responded that what the guidelines attempt to do is to achieve no net loss, assuming that you’re going to have more development and that there will be impacts from more development. So you’ve got a baseline and the new development should not be adding adverse impacts. There’s a variety of ways that you can get there. It also balances that need for</p>

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	<p>public safety and the welfare of the public and the ability of the people to see and reach the waters of the state – it’s balancing a lot of big pieces. It’s balancing no net loss and private constitutional rights and its balancing the rights of people. When it’s looking at questions that we don’t have answers to in terms of numbers, we must try to do no harm.</p>
<p>18. <i>Barbara, would you explain no net loss please and are we looking at no net loss from this point forward or are we looking at no net loss from historical development of the area? Where is the delineating mark?</i></p>	<p>There’s ways to make no net loss look really complicated and makes it seems that you need a lot more numbers than we have, but the baseline is basically the conditions now. That’s why your next step is to get that inventory of the shoreline that identifies what these conditions are and you do a land analysis to see what the potential for development is. When you’re going to get to no net loss there’s an individual parcel approach, but the bigger job is looking at it citywide. That’s the whole point in developing the SMP is how are you going to balance that citywide? It’s not expecting miracles but doing the best we can.</p>
<p>19. <i>Are we going to lose another ten years before we readjust or if you look at littoral drift, if you look at feeder bluffs, when you look at this as a natural cycle, is not a take of those property owners and their right to protect their property and prevent that material from entering into the system? If so, is that not a taxable event because they’re taking from the public? There’s multiple ways to look at it and how you regulate it and I see us adapting every seven to ten years but e keep moving further and further down into degradation. I guess that’s my concern.</i></p>	
<p>Property Rights and Listening Session, June 22, 2010</p>	
<p>20. <i>Is there a point where a series of cumulative takings exceeds the legal test of no remaining reasonable use by the owner?</i></p>	<p>Dawn replied there is no general test for regulatory takings. The court will look at the regulation and look at the property and determine case-by-case whether or not all reasonable use has been taken away.</p>
<p>21. <i>I’ve read all the courts decisions and suggest that the City Council do the same, starting with Trimen vs. King County, Isla Verde vs.</i></p>	<p>Dawn answered that the question presumes regulations that have not been proposed or drafted. It presumes a regulatory requirement that, at this</p>

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Camas, and Carpa vs. Simms. In every one of those they have the following test: Was there a showing of deficiency for open space, wildlife habitat, or something like that? Was the imposed restriction on the use of land – these mandatory buffers – in direct mitigation for the specific impact for this project? Was the mitigation in proportion to the impact? How can the City of Bainbridge Island, with 80% of its shoreline already developed with residential development, come along and impose a 75% taking on all shoreline property as a direct mitigation of their impact when the property has long since existed?

point in the process, we don't have to discuss or to look at the impact. **Looking at the current 50-foot as opposed to the 150-foot that is proposed.**

Dawn iterated that the meeting is public participation to address the upcoming update for the SMP. She added that the cases cited identify flaws for very specific cases. There is a recent case in Whatcom County that will help guide us in the future framework of these regulations. **How can you justify the city imposing a 150-foot standardized buffer on property that is already developed?**

Dawn replied that she would not answer that question because the topic under discussion was the legal framework for the plan, not analyzing specific regulations. She urged the questioner to provide specific policy suggestions as the public participation process continues.

22. *On city council, I'm constantly trying to think of ways to minimize our risk while we perform state law requirements. I recently read a paper by attorney Dennis Reynolds saying that at this stage of our process it would be advisable for the municipality to do what he called a "regulatory takings property rights analysis" as a precursor to adopting an SMP amendment or CAO amendment. I sense that what he was saying was that under the WAC doing such an analysis might help us design our SMP update in a way that minimizes our risks in the sense of trying to find strategies that are perhaps less burdensome to property owners. To your knowledge, is there such a requirement that we must do such an analysis and would that be helpful in your opinion to helping us fashion an SMA amendment?*

Dawn: also read Mr. Reynolds' paper and said that he discussed the regulatory takings analysis. That is the guidance provided by the Attorney General that was briefly touched upon and contains a process that cities and counties can use that contain red flags. Some of the questions in that are:

- Does the regulation or action result in a permanent or temporary physical taking?
- Does the regulation or action deprive the owner of all economically viable uses of the property?
- Does the regulation or action deny or substantially diminish a fundamental attribute of property ownership?
- Does the regulation or action require a property owner to dedicate a portion of property or grant an easement?
- Does the regulatory action have a severe impact on the landowner's economic interest?

Dawn explained that what the SMA and Growth Management Act (GMA) require is that municipal governments consider, while they're adopting this update, constitutional limitations – that is a takings. The

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	<p>fifth amendment states that you shall not take private property without just compensation (Article 1, Section 16 in Washington) Those are the constitutional limitations that must be considered when looking at the update. It will be Dawn’s recommendation to review the red flags from the state attorney general while the City moves through this process. There is no requirement to use this attorney general assessment, but it is a good framework to do so, especially with a comprehensive update.</p>
<p>23. <i>My wife and I bought a property ten years ago or so – two properties that are side-by-side that are waterfront. There was no garage, so we went to the City to put a garage on the second property and the City said “You can’t do that.” We asked why we couldn’t do that and they said you have to have a home to have a garage. We went through a bunch of hoops and worked with the city and ended up building a garage attached to our home. We decided that when the kids were all gone, we’d sell the big house and build a little house on the other lot. That other lot is our retirement – it’s all we have – and my lay interpretation of what is being proposed is that I won’t be able to build anything because of all the limitations.</i></p>	<p>Dawn commented that those are exactly the concerns that need to be noted by staff for consideration during this process. She added that she did not want to convey that we are doing the takings analysis because we are going to take your property.</p>
<p>24. <i>The property owners appreciate that the government is trying to do good and we’re probably as supportive of the preservation side of things as anyone, but the approach that is frequently taken is that government has to tell us what we can and cannot do. I prefer to work with the city and the people in the Planning Department to come to compromises. I would simply say that, in these regulations, make sure that there is a clause for reasonable use and for special consideration as well because this is all we have – this is all most people have.</i></p>	<p>Kathy responded that there is a current restriction on having an accessory use (garage) on a separate piece of property from the primary use (home). One of the recommendations in the code update is to allow an accessory use on a contiguous lot.</p>
<p>25. <i>John Tawresey said that he would like to support Barry in the effort to do the pre-analysis of takings. One of the problems that he sees in the process is that the regulations become very specific, but the challenge of the property owner is very grey. Be very careful about recognizing what’s already on the ground. The philosophy that we</i></p>	<p>Dawn replied that, unlike zoning or general zoning requirements, the requirements placed on the city prior to initiating a regulatory framework is somewhat onerous. The city is required to do a factual inventory, then take that inventory and create a cumulative impact analysis. They’re also required to create a restoration plan, a public access plan – there are a lot</p>

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<p><i>heard at the least meeting is that we're not trying to make it better – we're just trying to make it not worse. One way to do it is to regulate everything that exists today with a regulation that complies with what it is today. That analysis would be very important, particularly on Bainbridge Island where this regulation is going to be almost a lot-by-lot program.</i></p>	<p>of elements that will happen prior to or before the regulatory framework. Dawn also told the audience that this process is a give-and-take, adding that she has seen some flexibility come from public comment.</p>
<p>26. <i>Is it correct that existing homes without a 50' native vegetation zone are nonconforming?</i></p>	<p>Josh Machen replied that the required native vegetation zone can vary from 25' to 50'. Many of the existing shoreline homes are existing nonconforming structures. And there are specific regulations regarding what you can or cannot do with a nonconforming shoreline structure.</p>
<p>27. <i>The rumor is that a greater native vegetation zone – perhaps up to 150' – is being proposed. So houses that may be marginally conforming now would become completely nonconforming. If that were the case, how would the homeowner be able to modify, expand, or replace the structure?</i></p>	<p>Dawn remarked that she had also seen that allegation, but that at this point there is no proposal. She iterated that there are several pieces – such as the inventory and cumulative impact analysis that must be completed prior to proposing any such restrictions. If, further down the road, the city decided on something that creates nonconformities, the WACs (Washington State Administrative Codes) provide guidance on what the city can and cannot do. The city has nonconforming regulations now that allow development within certain restrictions, such as you can't increase the nonconformity. Recommendations on how to handle nonconforming uses and structures also have to be developed – that is future discussion that needs to take place and will take place.</p>
<p>28. <i>You have referred a couple of times to inventory, cumulative analysis, and a couple of other things. Can you give me some specifics on an inventory of what and a cumulative analysis of what and then the other ones following it?</i></p>	<p>Dawn said that the WACs contain very specific elements that are required of the regulatory framework, but before that the WACs say you must have an inventory and it must include... Then that's followed by several pages. It says you must have a cumulative impact analysis and it must include... and it's followed by several pages. Libby noted that the WACs are on the project web site and added that Ryan can also help explain more.</p>

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29. *Maybe you can shed a little light on the nonconforming thing. My understanding is that under the SMP guidelines from Ecology that there is a default situation for nonconforming use declaration that if the buffers increase and there is no addressing of nonconforming use restrictions in the local jurisdiction's proposed SMP, then the state takes over with certain nonconforming rules. However, my understanding is that our city council has great latitude in what constitutes "nonconforming" under this process and they can call it pretty much whatever they want and deal with it pretty much as they want. Our concerns need to be addressed more to our planners and to our city council, rather than to the state level.*

Dawn replied that local governments do have wide latitude in dealing with nonconforming uses. There is a wide spectrum from "We are going to get rid of them and here is the timeline to do so" to "They're fine and they can expand under these criteria." The city council has flexibility. The guidelines also say that these nonconforming provisions still have to comply with the underlying policies in the SMA, balanced with the constitutional provisions. To some extent you have that now. You have nonconforming uses allowed to expand under certain provisions, as long as it does not expand the nonconformity. You have some leeway now. The question is your voice bringing it forward to say look at what we have now and keep it or change this or that, but have that conversation and then have that conversation with Ecology also. Libby added that there are nonconforming standards for both use and structures in the city's existing Shoreline Management Plan.

30. *As follow-up to my earlier question about the city potentially doing a study – call it a property rights or risk analysis study. It is my assumption that a good legal analysis might shed light on more risky or less risky regulatory approaches the city council can take. For example, in just a casual reading one issue that seems to be very disliked is a one-size fits all buffer and an alternative regulatory approach might rely more on a site-specific analysis. Other regulatory approaches might be based on allowing mitigation strategies versus an approach that doesn't allow mitigation strategies in meeting the no net loss standards. Can you think of various regulatory strategies that might fall somewhere in the spectrum between risky and provocative and moderate and still accomplishing the objective of the Act?*

Dawn responded that it's easier to provide it in terms of cases that have already decided it's just a takings. The one that's always a takings is if you go on someone's property, you take a bulldozer, you go over it, and you take out someone's fence – that's clearly a takings. Everything else in regulatory is very site-specific. It's very impact-oriented, but also what is the governmental interest in achieving what the regulation was there for – science, etc. So, you've got someone comes onto your property and we're going to use it for our own purposes (that's clearly a takings) to almost a site-specific analysis per parcel. We have someone go out with a consultant and we walk the land and we say, "Here are the impacts, per your own experts. This is what we're going to do about it." So, you have a pretty broad spectrum. I'm providing that because while we go through this, that analysis is going to be happening all the time.

Dawn said that she can't really say that she recommends that the city do this or do that, but that she can identify alternatives that other municipalities have used, for instance – incentives. If there is an approach where you want to provide more mitigation, which might not

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	<p>necessarily be tied to that development’s impacts, there is an ability incentive-wise perhaps of more ecological mitigation for something else. That is being looked at in other jurisdictions. Those are things she might provide when the city starts the actual regulatory framework. It’s really not necessarily a study – regulations change all the time. It’s just rolling up your sleeves and looking at the impacts.</p>
<p>31. <i>It seems to me that there are several choices that can be made with respect to the question of overregulation and under-regulation. If every piece of property is treated as a very special case with aspects and characteristics that require a very intensive argument that applies only to a typical single home situation, we are faced with an enormous amount of potential negotiation. If you look at the environment though, you see general characteristics. We have these drift cells, for instance, along our boundary which you might characterize as being representative of a whole sack of home sites, but with relative homogenous environmental conditions. Sometimes we have very high banks and very low banks. It’s seems to me that one way to consider devoiding ourselves of a tremendous amount of litigation and discretion would be to take into account the characteristics – an average in some sense – along the boundary where the differences are small if you take a very small scale. Actually, ecologically, there is continuity and taking advantage of that might be helpful to all of us.</i></p>	<p>Dawn said that while the local jurisdictions have been delegated the ability to manage, we still have been given an edict from the state that there will be no net loss. Part of our factual investigation (with the inventory, etc.) will be, in fact, what that means. So, we will also be applying that in more of a consistent fashion. It wouldn’t be her recommendation to look at every specific parcel separately with different regulations. That probably would not comply with the no-net-loss mandate by the state.</p>
<p>Listening Session</p>	
<p>1. <i>What are the consequences of having a nonconforming structure?</i></p>	<p>Josh replied that the owner can use it and maintain a nonconforming structure. Based on the footprint if that structure, you could repair or completely replace the structure within the same footprint even though it may be nonconforming to the native vegetation zone. If it’s a single-story structure, there’s a possibility that you could not only replace it, but put two stories in as long as you did not increase the nonconformity and you stayed within the limitations provided for by the SMP.</p>

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<p>2. <i>Is there a way to mitigate nonconformity besides removing it?</i></p>	<p>Josh said there probably is. If, in the future, as part of the new master program there was a provision that said you can maintain a nonconformity but if you want to replace it, it has to be brought into conformance or mitigate for that impact, there may be things such as enhancing the native vegetation zone. Those are options that may be available as part of the new master program and that's where the public would want to be involved in saying what options may be appropriate.</p>
<p>3. <i>What is the difference between a nonconforming structure and a nonconforming use?</i></p>	<p>Josh replied that nonconforming structures mean nonconformities related to the actual building and not necessarily the use. Ray's Automotive at the head of the bay, in addition to being a nonconforming structure, may be a nonconforming use because an automotive repair shop within the shoreline jurisdiction is not currently an allowed use under the Shoreline Master Program. If Ray wanted to expand his use of the property – for example, adding another building for additional repairs – that would probably not be allowed. That would be considered an expansion of a nonconforming use.</p>
<p>4. <i>If a legally-established nonconforming use continues to exist, it may exist. What happens if it ceases to exist?</i></p>	<p>Under the current regulations, it depends on how long the use ceases. If a nonconforming use is discontinued for twelve consecutive months, any subsequent use would have to conform.</p>
<p>5. <i>If you have a nonconforming structure, is there a residency requirement? I have heard of some jurisdictions where, if Grandma moves into a nursing home for six months and two days and there is a six-month residency requirement, she can't move back into her house if they let her out of the home. Is there anything like that in our regulatory structure or do you anticipate anything like that?</i></p>	<p>We don't have a residency requirement as part of our current regulatory structure. As long as the structure is maintained, the nonconformity exists. If a house was destroyed and the property owner fails to apply for the permits to rebuild it within two years, then the replacement house would have to be brought into compliance. So there is a two-year period for structures and as long as the structure is maintained, then if there is destruction as long you repair it or reconstruct it within a two-year period, you're fine.</p>

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<p>6. <i>So if you have a house that's nonconforming because a portion of it is within the native vegetation zone, and that house sits unoccupied for three years, you can still establish a residence within that house because it's an allowed use and it's the structure that's nonconforming?</i></p>	<p>Yes.</p>
<p>7. <i>Sometimes we have situations where a native vegetation zone and a critical areas buffer will overlap and you may or may not have a nonconforming structure within that. When that happens what are the consequences for nonconforming because now we have nonconformance not only for shorelines but also under critical areas?</i></p>	<p>Josh replied that there was recently a court case that dealt with this conflict between critical areas ordinances and shoreline regulations because there is some overlap. Nonconformance within the shoreline jurisdiction has always superseded other regulations, whether that's nonconforming pertaining to zoning regulations or nonconforming pertaining to critical areas ordinances. So the shoreline regulations have ruled and Josh believes that the court case was decided along that same vein of the shoreline regulations being the controlling force within the shoreline jurisdiction.</p> <p>Libby noted that if there are no shoreline regulations that address, for example, a shoreline geologic hazard area, then the critical area regulations would apply. As we update our Shoreline Master Program, we may change how those two interact. As an example, Josh said that a house that is nonconforming to the front yard setback (which is a zoning regulation) and nonconforming to the shoreline native vegetation zone. Because it is within shoreline jurisdiction, the shoreline nonconforming rules apply and you could rebuild the house. If you took that same house and it was conforming to shoreline regulations but it was nonconforming to a zoning regulation, then the zoning nonconformity rules apply. Our zoning regulations say that if you destroy more than 50% of a house, it has to be rebuilt in a conforming manner. Even though the house is in shoreline jurisdiction, if it's not nonconforming to shoreline rules, then you don't get the benefits of the shoreline nonconforming rules.</p>
<p>8. <i>Hypothetical question – if the native vegetation zones are expanded and an existing house is now entirely in the native vegetation zone</i></p>	<p>Josh responded that, depending on how the new regulations were crafted,</p>

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<p><i>and it wanted to expand, does that mean that no expansion would be permitted?</i></p>	<p>if the buffers were simply increased without any other provisions, you're correct. You would basically be stuck with what you have within that footprint. You may be able to go up, you may be able to rebuild but if things were to remain the same – keeping all other constants the same – and just changing the native vegetation zone, you're correct – you wouldn't be able to expand in any fashion. You'd just be able to maintain what you have.</p>
<p>9. <i>Presumably we're being asked to update the SMP because something is wrong with the current one? Have you studied what is wrong with it? What harm has it caused as it is and have any of these harms actually been measured and quantified?</i></p>	<p>Libby replied that we're required to look at our existing program under state requirements. It's not necessarily that there's something wrong with our program. There has been new science, new information, a new understanding of shoreline processes. What the city needs to do is look at its program, look at whether it appropriately regulates and has the appropriate goals and policies in place to protect the shoreline resources and protect shoreline private property rights and do those requirements that the state has put on local government for shoreline regulations. Our city is the lucky one to have the whole edge of our city in the shoreline, so we are impacted perhaps more than most other shoreline cities in the state because of the amount of shoreline we have here on Bainbridge Island. A lot of our shoreline is residential, so that's a little less complicated than a lot of other cities in that respect because they have a lot of commercial or marine-oriented. We have a varied coastline (we have similar kind of uses on much of that) but very varied coastlines so we'll have to take a close look at the characterization of our shoreline and whether we have appropriate regulations and protections in place.</p>
<p>10. <i>I've heard a number of times about new science and new understanding – can you give us some examples of which areas?</i></p>	<p>Ryan said that he didn't know if he could give specific literature analysis, but that there have been new documents for the marine riparian zone. Jim Brennan was contracted through Fish and Wildlife to complete that study and they did a literature review that's up on our web site. Another report that just came out was a macro-invertebrate study on the use of the shoreline. That's a new report. We've also had some studies done.</p>

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	<p>In general, if you came to our meeting last week, there's still a lot of science that needs to be done. The Nearshore Assessment has been done since 1996 and it's being updated. Battelle is doing an alternative futures analysis with Kitsap County and through that process they're going to update our current assessment. We have the feeder bluff report coming out from Jim Johannessen and he'll be talking about that on July 8th. Those are the ones that are specific to Bainbridge Island.</p>
<p>11. <i>When I read these new studies it didn't seem like there was anything new. It was just a new study and it appeared that many of them tended to be more conservative than previous studies on the same science. Is that an accurate impression or is there really something new that we know now that we didn't know in 1995?</i></p>	<p>Libby responded that the Island was on the cutting edge in identifying feeder bluffs in its 1996 program, but a lot of jurisdictions around Puget Sound had not acknowledged that feeder bluffs were important to contribute to sediment transport and sediment drift. What is new is that we have new, more specific information that's identified to Bainbridge Island in the case of feeder bluffs.</p> <p>Ryan said that the guidelines that were established in 2003 (that we are currently working under) involved some pretty big workshops. Through that, they had a bunch of experts in the field to discuss, for instance, bulkheads. Bulkheads in the 2003 guidelines are pretty substantially regulated and they tell us exactly how to approach developing regulations for new bulkheads.</p> <p>Libby added that the guidelines were adopted in 2003. The state is talking about the entire Puget Sound and the shorelines of the state. Many jurisdictions had originally adopted their programs in the 1970's. The City's was pretty up-to-date, having adopted it in 1996. That was because we incorporated quite late. For a lot of Puget Sound areas, there's a lot of new science. In the City's case, it is blessed with the Nearshore Assessment that gave a lot of really good information about the island that a lot of jurisdictions with shoreline don't have that characterization. The County now has the next version of the characterization so they have</p>

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	<p>a pretty good science inventory and characterization of the county shorelines</p> <p>Josh added that he has worked with the city’s master program since 1996 and the city is very lucky in that its Shoreline Master Program, while it was adopted in 1996, it was very progressive. The citizens of Bainbridge Island took five years to adopt its last master program and it was very cutting-edge at the time. It has carried us well over the past fourteen years, whereas most other jurisdictions were kind of in the dark ages with the master programs and ours contained a lot of the science. Compared to Kitsap County where the change to their new Shoreline Master Program was very dramatic, I image that the changes to the city’s master program won’t be as dramatic.</p> <p>Josh went on to say that there are issues with the city’s master program. Having worked in current planning for the past 14 years with the program and with individual property owners, there are a lot of inconsistencies within the code and there are a lot of challenges with those inconsistencies and clarifications. That’s one of the reasons that the city needs to update – to help make sure that, as the city goes forward and adopts a new cord, that it has very consistent regulations and that it is very clear on what is allowed or isn’t allowed – so that there is a clear expectation to the shoreline property owners across the island.</p>
<p>12. <i>What inconsistencies and areas of concern have your department identified as things that you think must be addressed?</i></p>	<p>Josh replied that some of those have been discussed during these meetings – nonconforming regulations are certainly one, how the native vegetation zone is implemented, how that [the native vegetation zone] relates to the nonconforming regulations, bulkheads – whether or not you can repair them, replace them, build new ones, where you can build new ones, whether or not you have to build soft shore protections. There’s a lot more science now about what works as far as alternative protections, other than just a seawall or a bulkhead. We also have a lot of new science</p>

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	<p>on the impacts of seawalls and bulkheads on the nearshore environment. Ryan added that the city’s current SMP doesn’t allow for emerging technologies – for instance, the translucent boatshed cover. With the new SMP, staff would like to be able to put in some provisions where emergent technologies can be looked at, especially if they’ve been approved by Ecology. Josh added piers and docks, saying that there’s a lot of information about piers and docks and floats and stuff like that. What things are allowed within the native vegetation zone is another issue.</p>
<p>13. <i>That’s good information. I think you’re heading in the right direction but – this is a challenging question - I’m very sensitive about the use of the word “science.” I’m a structural engineer and I don’t consider increasing the factor of safety as “science.” I see a lot of things that are going on that are basically increasing buffers, increasing the factor of safety and it being labeled as “science.” I think that you need to be very careful about the use of the term. The last items you talked about – I think you’re going in the right direction.</i></p>	<p>Libby responded that that was a good comment and that staff will look at the language that they use.</p>
<p>14. <i>Presumably as you’re updating the plan, you’ll be evaluating the dimensions of the vegetation zones – whether they’re adequate at 50 feet or whether they need to be increased. Can you tell us what kind of science or what sources you’re going to go to to evaluate how the current vegetation buffers are functioning?</i></p>	<p>Ryan replied that the city’s Environmental Technical Advisory Committee (ETAC) is actually addressing that exact question. At the last ETAC they were asked to look into “Are the city’s current buffers adequate to protect the marine ecosystem and meet the no-net-loss standard? If not, come up with some suggestions on what would be the appropriate size.” Does that answer your question?</p>
<p>15. <i>What sources are they going to look to to find out the answer to the question?</i></p>	<p>Ryan responded that ETAC will be providing a bibliography that will be shared on the web site. Libby asked Ryan to talk about what is available on the city’s website. He said that the reference list is broken down into peer-reviewed articles, gray (agency) literature, and other sources. Under peer-reviewed there are some bulkhead studies done from The Coastal Science Journal and then we also have all the PSNER (Puget Sound Nearshore Ecological</p>

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	<p>Restoration project) documents. They've done a lot of work recently, trying to do almost a data gap analysis of what's missing out there for research purposes and answers to questions that people are asking here. Those are linked to our website. Under "other sources" we have the work from Don Flora and a really good article on how science and policy work together from American Fisheries. We'll be adding to that as ETAC answers these questions we've asked them to look into, we'll keep putting those up on the web site. Ecology has a pretty good reference list also, of materials that they think are relevant to the SMP update, which you can link to off our web site.</p>
<p>16. <i>I would like to know what proportion of the shoreline is nonconforming in terms of total parcel – both is use and structure. In terms of use as defined by activity commercial versus residential. I understand that the commercial side is very small as a proportion. The real issue is, for me, what proportion of the Island shoreline is currently in a nonconforming status. What is your best estimate about that proportion as we move forward with an amended master plan?</i></p>	<p>Josh said that most shoreline residences or some portion of the structure is nonconforming in some way. It may be a side yard; it may be the native vegetation zone; it may be a height limitation. Very rarely do you find a completely conforming structure. There definitely is a pretty good majority of structures out there that actually are nonconforming to the city's current regulations. Nonconforming uses, on the other hand, are probably less than 1% because most of the city's shoreline is developed with single-family residential and single-family residential is permitted in almost all of the city's shoreline jurisdictions. The few places where there is commercial development is usually already zoned for commercial. When the city incorporated back in 1991 most of those lots that were commercial along the shoreline got zoned as commercial – the use was recognized and the zoning followed suit. Again, when the city adopted the Shoreline Master Program, most of those uses were carried forward and were recognized.</p>
<p>17. <i>What is the significance of becoming increasingly nonconforming as shoreline owners? If there is really no significance, why are we making these adjustments to the regulatory framework? If essentially there's no regulatory imposition, it's as if we're waiting for something to fail or waiting for something to occur that the law will come into</i></p>	<p>Libby stated that the concern is that, as the city moves forward with its Shoreline Master Program update, if the number of nonconforming structures are increased through changes in regulation, how does that affect property owners? What kind of uses or expansion or development standards will be impacted for property owners? If it's negligible, why</p>

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<p><i>play. I'm not sure what that law is.</i></p> <p>18. <i>We hear often about stakeholders and I've heard everybody from Fish and Wildlife, Ecology, the tribes, and at one of the discussions people were bringing in Island Moms as stakeholders. What does COBI and the Planning Dept. – who are your identified stakeholders and what role do the stakeholders have in this whole process?</i></p>	<p>are the changes being made?</p> <p>Libby said that the city did a public participation plan and, unlike other jurisdictions, the way we went about doing ours was getting input early before we even started developing the plan. Part of our discussion was identifying stakeholders. Within that community meeting, someone threw out Island Moms as stakeholders. The City has an accepted plan that identifies the stakeholders that were provided at that meeting. What came out of that – we have a lot of stakeholders on the Island. The shoreline is a natural resource of our city and a lot of people live on Bainbridge Island because it's an island, so the shore is very important and how we protect it and what goes on there is of interest to a lot of citizens. Shoreline property owners, for instance, have a different interest than say Island Moms so the level of involvement will be different. The public participation was drafted to engage everybody who is interested and devised different ways depending on the level of interest for them to be engaged.</p>
<p>Shoreline Education Series, July 8, 2010</p>	
<p>1. <i>If beach nourishment was used, how would you select the amount or type of material that might be used?</i></p>	<p>Jim said that beach nourishment is adding sediment to a beach by artificial means – barge, boat, whatever means. He said that he has worked on a lot of those projects, including some for Bainbridge Island parks. Each site is different. The question was how much and what materials – each site would have a historic research (not the same as mentioned earlier) but actually looking at short change to add a little more data to what we've done. How much has it eroded? What are the erosion rates? How much has it been filled – percent perhaps? What are the causes of erosion? Is it just the loss of sediments by wakes, by particular structures? There would be some analysis of the problem first. The mapping of sediment sources that exist in that particular site and in neighboring reference sites, similar, more natural conditions – all of those things would be weighed to figure out what material would go in.</p>

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	<p>If it's a highly eroding site, lots of times we have to go to gravel – larger sizes are more stable. Seattle Parks, for example, have been nourished with gravel in the past. Many of them had very little beaches thirty years ago, twenty years ago, before nourishment occurred. So it might be beaches there that weren't even there a generation back because it's been so heavily modified. Where the energy is lower, where the erosion is lower, we can get finer gravel and sometimes sand sizes – that has to do with the erosion rate and the wave energy. All of those have to be considered.</p> <p>How much material? That would be how long do we want to keep materials from eroding back to a certain point. Again, that goes back to those same data sources – what are the rates of erosion, transport? What are the margins of safety we have to keep? Do we certain structures we have to protect on this particular site we're talking about? So all that has to be weighed in. Is the city, the feds, or whoever is going to do this, are they ready to renourish this, to sign up for a schedule, because then you can add less. All that has to be weighed.</p>
<p>2. <i>Do you have specific examples of shoreline erosion or accretion documented by changes between historic maps, photos, and current maps? Did you find any shrinkage of accretion shore forms? If so, where?</i></p>	<p>The latter one is easier to answer – did we see accretion shore forms shrinking, so to speak. We didn't look at those in that kind of detail I showed with the feeder bluff mapping. The protocol was more heavily designed to map the feeder bluffs, current and historic. We didn't do a detailed analysis of all the accretion beaches. We did do a little bit of additional work where we looked at two particular drift cells and we did see that the upper beaches had lost a significant amount of area between the earliest data of about 1961 and the present conditions. So a lot of the beaches, as you know, upper intertidal and mid-tidal, steeper, sometimes gravelly beach, there's a flatter sand flat down around the low tide line. Sometimes it's coarse; sometimes it's mud; sometimes it's sand – there's usually a break in slope. That break in slope usually shows up in air photos that were taken at low tide pretty well. So when we looked at a</p>

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	<p>couple of drift cells in good detail with additional historic work, we saw the upper beaches were losing area in all reaches along the drift cell, except the very end portion where it had actually grown in both places. The losses far outweighed the gains, however. We saw the accretion shore forms shift around – in one case, shrink a bit; in one case grow a little bit – but certainly adjusting.</p>
<p>3. <i>In an effort to reach mutually beneficial solutions to the problems of shoreline process loss versus shoreline owners' interests in keeping their yards from falling into the Sound, please discuss island-wide beach nourishment to overcome the perceived loss of sediment due to property protection bulkheads.</i></p>	<p>Jim replied that, on the practical side of that is money. That's the most important factor for that question as far as he can see. He has designed a lot of nourishment projects and done budgets, talked to contractors, overseen construction – all of that. The project range for beach nourishment has been \$100 - \$500 a foot just to do the beach nourishment project. Those are not island-wide. Also, for a larger project the material for the nourishment would need to come from someplace like DuPont/Steilacoom. The supply of those materials is dwindling and subsequently the cost is rising. Transportation costs are also rising. In previous years, the costs have really been going up measurably and you need a maintenance schedule of some sort, so it can get pretty expensive in large areas.</p> <p>Ryan added that, from an update standpoint, to meet the condition of no net loss, mitigation of new development's impacts on the nearshore – one of the tools that can be used for modifying a shoreline would be a beach nourishment regime. That's to be decided through this process – how we do that.</p>
<p>4. <i>Can you compare the costs of beach nourishment against the costs of home loss?</i></p>	<p>Jim replied that the cost of beach nourishment is certainly less the cost of home loss. With that said, the erosion rates we're talking about – through other work where we've carefully measured on Bainbridge and close in to Bainbridge – are typically a couple of inches per year on the long-term average. The higher rates we'd expect to see on Bainbridge would be 4-6</p>

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	<p>inches per year, averaged over a three decade period. So you might lose 5 feet or 8 feet in one particular day and then it doesn't change at all for 20 or 30 years and then maybe another landslide happens in that same spot. So they're very episodic and a lot of the residential work done in the past has been by folks that are fairly new to their property and all of a sudden they see some major landsliding. They're rightly concerned, but it might be that a more detailed investigation says there wasn't a landslide on your property in 30 years. Home loss – the greatest danger is at the bottom of highly unstable bluffs. The top of the bank – it's usually 1-foot, 2-foot, or 5 foot at a time and, generally speaking, unless your house is closer than 5 or 10 feet, you're not likely to see home loss or loss of foundation – those things. Sometimes the perception is greater than the risk.</p>
<p>5. <i>The County has a handout on their web site that says, "Bulkheads don't stop slides. Bulkheads do little to prevent sliding of the upper bank. They simply can't withstand the sheer force of saturated, sliding soils. Is that statement correct?"</i></p>	<p>Jim replied that he thought the statement was correct. They're typically not engineered to stand above an unstable bluff. Unless it's tied down very, very deeply into something structurally sound, it's really often more of a landscaping feature. It's much easier to tie in a shoreline bulkhead down on the beach into deep, stable soils beneath it than it is to do one that's up here. Sometimes we see whole walls or whole pieces of walls coming down from the top of the bank whereas the shoreline bulkhead – if it's there – might be fine. Other times we see bulkheads being pushed down from mid-slope or from lower-slope landslides and many times we see bulkheads performing just as they were designed, but not so much at the top of the bank. When you engineer a slope, again – it's a matter of money. To work on a 50-foot unstable bluff, you could spend as much as you spent on the house to get what you're after.</p> <p>The shoreline bulkhead is designed to stop the wave attack at the toe of the bluff. Until you get a stable angle of repose projected from that bulkhead up, then you will continue to see sliding at a decreasing rate.</p>

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<p>6. <i>What will happen as the island continues to be modified with armoring? How would beach nourishment help or hurt the island?</i></p>	<p>There is no one exact point where everything changes, but as the feeder bluff sources become more limited, each one becomes more valuable. Or the loss of each one would be felt in that particular drift cell to some extent. Whether we can measure or not; it's very difficult. As you've seen, more than half of the feeder bluffs are already bulkheaded, which is well above the Puget Sound average. The remaining sources are thought to be more important than if they were all still there. We have seen upper beach erosion in the few drift cells we have looked at in great detail and those were the ones that were modified (bulkheaded) more than 70% of the sediment sources. Those were the ones that were more modified than average and we did see impacts when looking very closely. You look at some of the drift cells in Rich Passage where there's not that much sediment supply - both the Port Orchard side and the Bainbridge side - where there's a lot of bulkheading and you can see with your naked eye that there's really not that much upper beach in front of those bulkheads. It doesn't take a lot of high-tech mapping to see that in many areas - not all areas.</p>
<p>7. <i>Is the feeder bluff study available online?</i></p>	<p>Yes, the feeder bluff study is available online - available in two parts because it's a very large document. The text portion is available and the maps you have to click on separately and download each one.</p>
<p>8. <i>When the language of no net loss is used in the Shoreline Management Program update process to what is that referring? To the feeder bluffs or to what?</i></p>	<p>The full term is "no net loss of ecological function." So that would be all the functions and processes in the nearshore; that would include feeder bluffs and habitat.</p>
<p>9. <i>A long time ago there was a fellow named Wolfe Bauer that put out groins that were perpendicular to the wave front to prevent further loss. With present thinking, can you support that idea - permitting Wolfe Bauer-like groins that project out against the erosion?</i></p>	<p>Wolfe Bauer was a coastal engineer (I think he's only 99 right now, so he's given his "last talk again. He's had a lot of "last" talks.) Wolfe Bauer designed a lot of beach nourishment projects. He coined the term "feeder bluff." If he was here today, he'd be far less soft-spoken and mild-mannered than we are up here. He'd be saying, "These damned</p>

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	<p>bulkheads are ruining your beaches!” He’d be pounding on the table – I’ve seen him do it many times. In highly developed and impacted areas, like Seattle’s parks, he designed a lot of beach nourishment projects. In some of those he used groins, mostly just one groin. A groin is a rock structure that goes across the shore and it goes down – usually his were fairly short and wouldn’t go all the way across the beach; they’d kind of peter out about halfway down. The idea was to build up the beach and hold it in place from moving along. He called that a drift sill, so it would stop the drift. It’s just a groin associated with a nourishment project. In only a couple of the projects he did, he had more than one groin. In many of them he had no groins, so he used them as a last resort. A groin will cause accretion on one side and erosion on the other side. People put them on their down-drift property line and their neighbor feels the pain; they feel the benefit. For that basic reason, back in the 1970’s the Shoreline Management Act more or less outlawed them unless absolutely required for something like a marina entrance, in which case they’re really a jetty. Regulatorily speaking, they’re basically not allowed in anything but a straight industrial use where they’re required – because of those down-drift impacts, because of damaging the intertidal.</p> <p>The current Shoreline Master Plan that the city has prohibits groins or drift sills.</p>
<p>10. <i>I’m particularly interested in assessment methodology. I find the geologic assessment methodology is particularly interesting and I know you couldn’t elaborate or get into detail about them, so I’m curious as to where they came from initially. And then the whole historical assessment methodology I find particularly fascinating too. So, if you could explain a little bit about them and I would certainly go to your report for more details.</i></p>	<p>Historic methods are explained in much more detail in this report. We looked for defensible measures to use. Pretty simple – greater open water causes greater waves causes greater erosion. We wanted to find a good, solid reference for that and identify it. We wanted to find somebody who has determined another connection between interpreting these maps from the 1880’s - what do these interpretations mean? So we’ve cited that to those folks who’ve done that work. We cited back to mostly peer-reviewed – not all peer-reviewed – mostly peer-reviewed articles, reports, USGS reports – things like that. Those are all listed in the report. There’s</p>

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	<p>at least several pages of references – three pages of references in small print in the back of the report – and there’s a good methods section, so I really can’t explain all that, but it’s similar to the net shore drift mapping that was done in the 1980’s and 1990’s. With net shore drift mapping, we had nine indicators of the littoral drift direction. Each of those nine, such as a stream mouth getting offset when it crosses the beach, such as identifiable sediment coming down the bluff and going one direction predominantly – each of those is backed up by detailed studies and references. We tried to do the same approach here. The geomorphic approach was done in the drift cell mapping. It replaced – and is found to be far, far more accurate than – the engineering approach from the previous generation. Since our shores are so complex – they vary every 5 feet, every 500 feet – we felt that the geomorphic approach and all this map analysis I talked about was needed to identify these feeder bluffs, as opposed to the more one-size-fits-all mapping.</p>
<p>11. <i>We’ve owned our waterfront parcel since 1958. I noticed that nothing was said about “vessel” or “ship”. Why do we need additional sediment to replace the sediment that’s been washed away? The thing you need to know is that there are 2800 to 3000 large container ships passing by in front of the east coast of Bainbridge Island to the port of Seattle and Tacoma and they’re doing 20 to 23 knots on the average. They send these tsunamis ashore. One that breached our bulkhead was at least 16 feet high and it did \$25,000 damage to our neighbors’ bulkhead. If you want to check this out for your own information, go to the website www.marinetraffic.com/ais/. You’ll see that they’re going very slowly through the straits of Juan de Fuca, but as soon as they round the corner at Port Townsend, they pick it up to 20-23 knots – and that includes the cruise ships. You have 8 arrivals a day and we have to assume as many departures. Why haven’t you studied the effects of the container passing on Bainbridge Island’s east coast?</i></p>	<p>Jim replied that they were looking at the geomorphic features. We were not looking at an analysis of existing waves. That would be an engineering analysis, so it really didn’t fit into what we were looking at. We were looking at sediment sources and weren’t trying to parse out exactly how much erosion was due to wakes and how much was due to natural storms and how much might be due to upland development or any other factor. It really wasn’t in our scope of work is the simple answer. I don’t deny that those vessel wakes are having an effect. I have studied vessel wakes a small amount – I worked on the Rich Passage ferry case years ago. I know it’s a valid issue to be talking about, but it really wasn’t within the course of our study to look at how many waves are formed today and how many might have been formed in 1900 or 1950 because we don’t have that data. That’s not to say some work couldn’t be done on that, but it just didn’t fall into what we were doing. Ryan asked if Jim knows of anyone studying the effect of vessel wakes on Puget Sound. Jim replied that there was ongoing work, particularly for</p>

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	<p>the Rich Passage fast ferry issue, and state DOT paid a lot of money for a lot of studies that I'm sure are still available through Dept. of Transportation. I think some of them have been going on until recent years - some of the monitoring. So DOT would be the source there. As far as central Sound, the main basin - I'm not sure who might be looking at that but I'm sure that somebody is.</p> <p>Libby asked Josh if that issue has come up in any of the nourishment permits. Josh responded that the one that's been mentioned here is Kitsap Transit for the past 4 or 5 years was working on a potential beach nourishment and study area at Point White and Pleasant Beach for studying fast ferry wave up in Rich Passage. Just in this past year they've cancelled that permit due to funding issues.</p>
<p>12. <i>In the reach KS17-14 there is a feeder bluff on Rockaway Beach Road. You didn't have a score up there for that but that one gets 46 ferries a day going by it, so it has a faster erosion than normal rate. If it has a fairly high score for either restoration or conservation, will the ferry wake action (which is not going to go away) be taken into account in cases like that?</i></p>	<p>Josh asked if the question was for potential for enhancement or restoration work or bulkheading...?</p>
<p>13. <i>The question is if the value of a bluff is going to be negated somewhat by the constant wave action caused by the ferries?</i></p>	<p>Ryan said that it's a good idea to take that into account. At this time, he doesn't believe that the city doesn't have any restoration in that particular area. Just north of that area we have a restoration project ongoing at this time.</p> <p>Josh added that the city, in conjunction with the property owner, just north of that area - along Rockaway Beach, right there at Creosote - has recently removed a significant portion of bulkhead and exposed a significant portion of valuable feeder bluff. As that bulkhead was removed on what was part of the old creosote packing plant, that bluff has now started to react as we would expect and started to again erode at a more natural pace. Certainly the ferry traffic and stuff is probably going to have an increased effect on that erosion just because it's additional wave energy that's hitting that slope.</p>

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<p>14. <i>Do you have insights into the predictability of hazardous slopes, faults, and slides? Is that work that was done as part of this or is that work that is coming forward? It seems to me that there are some places where you haven't got a clue and are surprised when it slides, but there are other places where it's predictable. I'm kind of curious about how that works out here on Bainbridge and in the Sound.</i></p>	<p>There was mapping in the 1907's that attempted to map unstable slopes, intermediate slopes, and stable slopes around all of our Puget Sound shorelines – that was the Coastal Zone Atlas mentioned earlier. It was reasonably well done. It also mapped deep-seated slides that have occurred in the past – large earth movements, not just landslides from the surface, but whole blocks of sediment that have moved at a larger scale. From working around the Island over the years there are certainly some areas that are more erosion-prone and landslide-prone than others – such as Rolling Bay. North and south of there are some of the more obvious stability problems. There have been a number of individual assessments for private properties all around that aren't really compiled together. I'm not sure if I'm missing another, wider mapping that's been done.</p> <p>Josh added that, from a regulatory standpoint, as individual property owners come in with a request for armoring or stabilization of sorts, then at that point, staff does a site-by-site analysis with folks like Jim – geotechnical engineers – to assess what is actually occurring on that site, what hazard is to the slope, what the potential hazard is to the home or other structures on the lot, and formulating decisions based on the current Shoreline Master Program.</p>
<p>15. <i>Given the gentleman's comments about the wakes of the shipping traffic, some time ago we experienced damage from the wakes and established that the vessel traffic service didn't monitor. When the tide is over 11 feet, they're supposed to slow to minimum wake speed. If they didn't and damage was done, we collected over a thousand dollars from the shipping company that caused the damage. Vessel Traffic Service monitors that speed and you can report who caused the damage. So, if people experience it, they should get hold of Vessel Traffic Service and file a claim against them.</i></p>	<p>Libby asked if you make the report by calling in at the time the wake's hitting.</p>

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<p>16. <i>If you experience the wake damage, where we lived at the time on Point Monroe, we figured out it was 20-25 minutes before the wake would come across. From that you could call Vessel Traffic Service and determine what the ship was and make the claim against that ship.</i></p>	<p>Libby said that it sounds like you need to report the time the wake is doing the damage to Vessel Control and they can determine...</p>
<p>17. <i>Can you explain why that historical component is important in moving forward into the future or in understanding or scoring or ranking or establishing those conservation areas? I didn't quite get how that piece fit in with the rest of everything.</i></p>	<p>It's really getting back to part of the overview of the process-based restoration planning that the statewide analysis is looking for and that counties and jurisdictions like this are looking for. It doesn't turn out to be that fruitful to look at one particular property at a time in isolation. We know we've got a lot of modified areas on this island and if we didn't have any indication of the historic nature of where the feeder bluffs were, we wouldn't know how to assess the potential impact of any one project. For example, if we know you're in a drift cell on the updrift end, there's a long beach that goes downdrift from you, and most of the feeder bluffs are all gone, it's likely that the ones remaining are likely more important with that situation opposed to a similar drift cell somewhere else, which all the historic feeder bluffs are still there. So, there are a couple of different levels – it's how they compare within this jurisdiction, it's how they compare within this jurisdiction for restoration ideas. When the city or other jurisdictions go in for some money to do a certain project, their applications are compared to everybody else's and the ones that have actually done their homework and can say "This is what it was like in the past, this is what it looks like today, these are the problems, these are the implications of those problems, and this is what we want to do" is viewed much more favorably than somebody that comes and says, "Well, we know what it's like today, we don't know what it was like yesterday – we just want to do this." There are multiple levels I'm trying to highlight here. It's a short-range planning, it's a long-range planning, it's a restoration planning, and it's making all of this data available for the Sound-wide monies. This makes it easier to plan and prioritize projects that are funded outside of the Island. They might be funded</p>

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through Washington D.C. – there’s a lot that’s going to be coming to Puget Sound, which is the next Everglades, the next Chesapeake Bay, an estuary of national significance. It’s going to get a lot of money and these are the kind of science studies they want to see before they start pumping that money into certain projects.