

# King County Flood Hazard Management Plan Update Citizen's Committee Meeting # 5

MINUTES JUNE 12, 2012

MERCER ISLAND COMMUNITY AND EVENT CENTER

FACILITATOR	Tamie Kellogg, Kellogg Consulting Inc.
NOTE TAKER	Melissa Plotsky
ATTENDING	<b>Committee Members:</b> Leonard Carlson, Bob Freitag, Dave Gashler, Warren Halverson, Joe Herr, Molly Lawrence, Keith Swenson, Joseph Wartman, Brian Winslow <b>King County Staff and Consultants:</b> Saffa Bardaro, Steve Bleifuhs, Terry Butler, Brian Murray, Monica Walker
NOT ATTENDING	<b>Committee Members:</b> Nicole Hagestad, John King, Martha Parker, Jeff Randall, Jon Scholes, and Steven Stanley

## AGENDA TOPICS

5 MINUTES	WELCOME AND STAFF INTRODUCTIONS	TAMIE KELLOGG
	Tamie Kellogg welcomed meeting attendees and thanked them for participating, briefly introduced the purpose of the meeting, and had all members briefly introduce themselves.	
5 MINUTES	WELCOME	KJRI LUND
	I wanted to thank all of you for serving on the Citizens Advisory Committee and helping us put together the update to the Flood Plan. We're all aware that this Flood Plan is an incredibly important job and we really appreciate all the time you're spending on the advance work to read through all the issue papers we've been giving to you, your expertise and the thorough comments that you've been giving us after each meeting. So, thank you very much. I will be hanging around here to watch the deliberations.	
5 MINUTES	HOUSEKEEPING	TAMIE KELLOGG
DISCUSSION	Tamie went over March meeting minutes and asked for feedback on the Summary sections. There were no comments or changes to meeting minutes.	
75 MINUTES	CAPITAL PROJECT PRIORITIZATION, SEQUENCING APPROACH, AND ELIGIBILITY CRITERIA	BRIAN MURRAY
DISCUSSION	<p><b>Key questions:</b></p> <ol style="list-style-type: none"> <li>1. Should the FHMP update better define eligibility and ineligibility requirements for project funding and implementation through enhancement of FHMP policy to include an eligibility filter?</li> <li>2. Should the Plan update provide enhanced criteria that clearly identify when flood damage repairs are necessary?</li> <li>3. Should the FHMP update strengthen the project prioritization and sequencing process criteria so that all project proposals are evaluated and screened against pertinent FHMP policies, receiving points if specified plan policy components are met and to better reflect the current annual CIP criteria which have evolved over the past four years since the KCFCD was established?</li> </ol>	
SUMMARY OF COMMITTEE COMMENTS	<p>In general, the Committee felt the criteria used to select projects was working, but several people expressed more emphasis being placed on considering the ecological value of natural resources, such as the value of protecting a wetland for flood storage. Committee members expressed concern about "mission creep" or "scope creep" that could jeopardize the ability for the Flood control District to complete the high priority flood risk reduction projects if money gets diverted for other purposes, or for flood risk reduction projects that are lower priority based on risk. There appeared to be support for using some of the District funding to support the work of the WRIAs because of the nexus between salmon recovery and flood risk reduction, although not all Committee members agreed. Several Committee members supported funding actions outside floodplains, such as purchasing development rights in the upper watersheds, as a viable tool for reducing flooding. A suggestion was made to consider using performance-based measures for selecting projects similar to what is used in earthquake planning. Concern was raised that a lot of new projects are being added when the projects identified in the 2006 Flood Plan had not all been completed, but the Committee was assured</p>	

	<p>very few new projects are expected to be added to the Action Plan in the update and a significant number of projects have been completed. The Committee did not seem to support using compliance with FEMA's Biological Opinion, prepared to set standards for implementing the National Flood Insurance Program in the Puget Sound region, as criteria for funding flood risk reduction projects. The Committee wanted to maintain focus on rivers and streams; if the criteria could help maintain this focus, there was support. Comments from the general public supported the protection of ecosystem services and emphasized the need to address climate change in the plan update.</p>
QUESTIONS/COMMENTS	KING COUNTY RESPONSE
<p>Who does all the deciding on this?</p>	<p><b>[Brian Murray]</b> The way this works since 2007 is that we, the staff, go through and we propose the numbers and we go out and we talk to the basin technical committees, which includes staff. We go through our assumptions and kind of talk about why we've scored things the way we have -- and then we adjust things based on the input we've heard.</p>
<p>So there is a consensus someplace?</p>	<p><b>[Brian Murray]</b> Yes. At root it's a qualitative process, a very subjective process, with a very quantitative approach. I'll get into it more shortly in the presentation.</p>
<p>Eminent domain. Can you use eminent domain or have you used eminent domain?</p>	<p><b>[Brian Murray]</b> That's one of our discussions in the next meeting. There's going to be an issue paper on that topic. We do have the authority to take back property. It's very rarely used. It's happened twice. There was a situation in a mobile home park where every other owner had sold but one mobile home owner was unwilling to. It wasn't an easy decision by any stretch and there was a lot of discussion about having appropriate negotiations with landowners. We'll be talking about that in a lot more depth in the next meeting.</p>
<p>Question about evaluating the factors. Is there any weighting or scale applied?</p>	<p><b>[Brian Murray]</b> Yes, we do have a weighting system for project readiness, which is the landowner permitting part and it has a bigger weight to it than, say, the partnerships and leveraging.</p>
<p>As far as the decision criteria matrix, it looks pretty solid to me. If you wanted to add a section in related to solutions and then tie that into the matrix, I think it would be very worthwhile. The caution I would have would be mission creep – and that is the creep of the mission of the Flood Control District away from flood control for rivers and streams. If you wanted to add a solution that had to do with economic development, salmon recovery or some other area that isn't really correlated to the significance of the decision making matrix – and distorts it -- I think you'd be making a mistake, but I do think you need some sort of a solution part.</p>	<p><b>[Brian Murray]</b> So to follow up, right now we score those things as Multi-objective Projects and they have relatively fewer points than the Project Readiness score. What we try to do is recognize that we have projects that have other things going on, but those aren't part of our flood risk evaluation. We want to stay focused on Implementation and we want to stay focused on the big public safety, flood risk concerns so that we can tackle projects more quickly.</p>
<p>One mission that I saw is risks to natural capital. There's a lot of discussion going on about if there's risk from the loss of that service, then there's a risk. For instance, if you have a wetland, there are risks to the wetland. The wetland provides a service – it provides storage, it provides a variety of services. So, if there's a risk to the loss of that storage, then there's a risk. In your matrix and thought process, you're looking at risks to capital – but not looking at a wetland as having a natural function and seeing that a risk to that is a risk to flood services. You could actually develop a thought process that looks at risks to natural capital and risks to billed capital. If you think that way, then things become apparent. So, you know, that natural bank has value. If it goes, then you have to build something to maintain it.</p> <p>When it comes to wetlands, which I think are important, I think we should first focus on rivers and streams and flood risks to them.</p>	<p><b>[Tamie Kellogg]</b> What do you think about better defining and adding in specific eligibility or ineligibility requirements? Do you think that approach should be taken?</p>
<p>I didn't understand what he said at all. He said that wetlands are not part of rivers and streams.</p>	
<p>No, I didn't say that. What I meant was that when it comes to wetlands are they, for example, like sea walls? Are they part of the Flood Control District? It's like funding for WRIA – I don't even know</p>	

<p>what a WRIA is. I think I know what it is, but it's not related to flood control. Essentially my point is that in a conversation about Mission, meaning the overall package, I'd like to reinforce –</p>	
<p>But where does water come from? I mean, once it hits the ground, where does it come from? Are we only going to consider the stream itself in the flood plan or are we going to consider that which interrupts the flow and impacts the stream?</p> <p>I don't know if that question is one we should really try to answer here. Because we could also ask the question, "Where does rain come from?" and get into a fervent discussion. I think the more pragmatic issue is taxing people ten cents per thousand -- and I testified in that and I'm supportive of it. But what I'm saying is that we need to keep our focus. I think our criteria are good. Rivers and streams. And, I think that in terms of solutions we should take a look at what the solutions are and build it in. But don't build it in if our economic development to the Green River is going to [muffled]. Let me give you an example: acquisition of houses. If you acquire three to five houses somewhere in Snoqualmie or Cedar River and you pay \$3 million dollars for it, would that be equal to exercising flood control on Kimble Creek or Cedar Creek? One might say "yes." And, the way they would say "yes," is if the solution started to drive the process. And, the process really should focus on rivers and creeks. Now, we can go talk about wetlands and other things, but that's essentially what my point was in terms of this decision.</p>	
<p>I couldn't disagree with you more, but agree with you also. I think we need to concentrate on corridors and wetlands. That's fine. And, I think that, for instance, a low-impact development ordinance for some activity could remove that completely. I'm going to give you an example, also. In Iowa City, there's —</p>	
<p>Base your example in King County and the expenses for which I'm being taxed for.</p>	
<p>Alright. I'll mention that there were some development rights purchased some 70 \$450,000 rights in the upper watershed which would directly impact the amount of discharge that would be that watershed's rivers. I think that the importance of looking at issues such as purchasing development rights directly impacts flood plains and river corridors, even though it's hundreds of miles away from the basin. We should not restrict ourselves from looking at such things as purchase of 75,000 development rights as a way of reducing a flood.</p>	
<p>I don't disagree with you at all.</p>	
<p>What do you mean when you write in the header "BiOp Compliant"? What do you have in mind?</p>	<p><b>[Brian Murray]</b> So the discussion that we had before was about the RCW saying that jurisdictions should adopt the countywide plan. So, the language is not what it should be and that's been a problem state wide – to define what that means and enforce it. This is a little different. This is more like if we want to spend capital dollars and want to have some sort of threshold about who is eligible to submit proposals for projects. We previously talked a little bit about how for the jurisdiction to be eligible for national funding, it has to be in good standing with the NFIP, and this is where we have really not been doing a lot of thinking about this and how to define it. Part of being in good standing with the NFIP is that you've got to accept the biological opinion.</p>
<p>Are people who have gone through "door number three" good enough?</p>	<p><b>[Brian Murray]</b> Yes, now that we've gone past that, but, yes, just show us the form from FEMA that says that, yes, you're good.</p>
<p>I'm not really on board with your first comment that it's different.</p>	<p><b>[Brian Murray]</b> So, the basic idea is that there's some sort of threshold that says that you have to be in compliance with what is effectively a Federal –</p>
<p>The WRIA meeting is going on right over there. Can someone explain to the group what WRIs are and what the relationship is to the Flood</p>	<p><b>[Brian Murray]</b> WRIA stands for Water Resource Inventory Area. It's an acronym that's</p>

Control District?	<p>used for the watershed based salmon recovery efforts that contributed to the federally adopted salmon recovery plan. The WRIA that we're in right now is WRIA 8, which is the governmental acronym for the Cedar/Sammamish Watershed in Lake Washington. So, the basic situation is that the King Conservation District has had funding for various different types of programs. One of those programs is watershed grants for watershed management activities. Those funding recommendations are developed by each WRIA watershed group. That group comes up with its annual recommendations. They would submit that to the King Conservation District, then the Conservation District go through their decision making process and decide whether or not they would support funding for those projects. And, it's not just salmon recovery, but it's habitat and water quality. The idea is integrated watershed management for fish, floods, and water quality all together in that pot of money.</p> <p>The basic situation is the approach used for the KCD [King Conservation District] assessment was ruled to be invalid in another district county, but the KCD has the same model, so there was a problem there. The funds collected in 2012 for city programs, for the KCD's programs, and then a portion of that funding for the watershed grants is not available. The question was, what do we as a region do to meet this short-term 2012 funding gap where the WRIs were expecting between Snoqualmie (which is part of WRIA 7), the Cedar/Sammamish and the Green were expecting to get a total combined of \$3 million. What do we do? Do we just let everybody defer their projects and wait? Or do we find some way to provide some funding for them. Then, the bigger question is, what do we do in the long-term if you want that to be part of the funding mix for all of these regional projects? The Flood Control District under the RCW is authorized to provide funding for eligible activities that include watershed management activities. There are a whole laundry list of things that are considered to be under the umbrella of watershed management activities – from water quality, habitat, water planning, and all sorts of stuff. The decision was made by Flood District Board of Supervisors on the 14<sup>th</sup> of May, not too long ago, to take some of the fund balance that we had in 2012 and provide for that \$3 million shortfall, just to meet that need. The question that is being discussed in the room next door is what do we do about the KCD funding issue? The Flood District, as I mentioned, is an eligible activity, so that is a possibility to help with that long-term need.</p>
So, when you say "in good standing with the biological opinion" that's pretty nebulous. Are you talking about the WRIA or are you talking about the science?	<p><b>[Brian Murray]</b> I'm sorry, let me clarify. It's good standing with the National Flood Insurance Program, meaning that community is eligible. With the biological opinion, they have these three different doors for jurisdictions to get approved. They wouldn't be doing any sort of review or requiring anything of them except to say that FEMA has accepted their submittal. There are many legal reasons why that may or may not be true, but it ties back to being in good standing with NFIP.</p>
Without talking specifics about the biological opinion, I'd like	

<p>something in the Plan that kind of reinforces the aspect that that really there's no difference with the objectives of the WRIAs and objectives of the flood plain management. If you look at water, it's either too much, too little or too dirty. And, if water falls on a landscape that has some biology and some zoology [? muffled], it can go through the natural processes and you don't have the kinds of flooding. And, so, when you help salmon, you protect homes on lower rivers automatically. There are some short-term objectives that might be different, but in terms of long-term objectives, when water on vegetation and water is allowed to penetrate and stand and work its way through the soil and become clean, it also takes a long time to get there and does all sorts of positive things. I think there are some definite objectives.</p>	
<p>I suggest that you just leave it as NFIP compliant and leave the biological opinion out of it because FEMA is going to decision about whether or not the jurisdictions are compliant. The King County Flood Control District doesn't have to get in the business of trying to figure out whether or not they're compliant because FEMA is going to submit some letter saying that you're not compliant or that the jurisdictions haven't done what they needed to do.</p>	
<p>I want to return to the bigger question of prioritizing projects once eligibility has been determined. I'm a huge advocate of performance-based or consequence-based decision making for infrastructure projects. The idea with that is that you look at the hazard and the hazard is what is the return period of the flood. You can project it over a lifecycle of 50 years, then relate it to what the physical consequences would be and then, in turn, I guess relate it to what the consequences are, specifically, in terms of dollars and downtime, capital losses, human losses and downtime is a flood capital loss. So, that covers one of the aspects. Then on the project implementation side you can look at what the different approaches might be to mitigate that risk, and to see how those compare on an annualized cost basis with what your actual consequences are, in terms of dollar losses. It's much more quantitative, so I think it's a more rational and kind of fair way of doing this. It's revolutionized earthquake engineering. It's relatively new, I've been working on it for about ten years, but it's changed the way we make decisions about something as uncertain as earthquakes, which is the same with floods. It might be worth considering that as an approach. I'm not going to say that's a very standard approach today, but it's evolving very quickly. The Corps has done a version of this in New Orleans in trying to prioritize what levee segments should be upgraded following Katrina.</p>	
<p>Back to the source of funding and what was authorized by public in the past. I just suggest that if WRIA is a flood control -- streams and rivers -- major issue or orientation, then you need to look at combining the Conservation District with this district and getting the funding from the conservation district or taxing the public and tell them what you're taxing them for. But to take funding for that shortfall over the year and then using a larger picture scope and then to build it in for what was authorized by the public is an inappropriate use of funds, in my opinion. You mentioned that in terms of taking a look at mapping, do you have to do that in the project or are you saying now that maybe it should be done before the project and who pays for it?</p>	<p><b>[Brian Murray]</b> We have now all the flood insurance studies, all the floodplain maps. There is a lot of technical work done at the project site level. The point here was that if somebody comes to you with a project that they just want to do to replace or rebuild a levee or a revetment somewhere upstream that has not been mapped as having a mapped floodplain, then our first step might be before we start to talk about whether or not we should do project x or evaluate project x, we should have a better understanding of the full extent of the flood situation there. And, mapping the situation there would be more appropriate as a first step. Then we could talk about what are the hazards, what are the risks and exposures of those hazards and what sort of actions might be appropriate to reduce flood risks. Recognize that the solution isn't just to build something at that site. There may be things elsewhere in the system, elsewhere in the reach that contribute reducing flood risk. Maybe things that aren't on the channel.</p>
<p>I want to say that I couldn't agree with Warren more on that. I think there are some tremendous opportunities. The other point is what was just said about performance based planning. I would agree with that when it comes to performance based on <i>scenarios</i>. There has been a</p>	<p><b>[Tamie Kellogg]</b> I want to pose another piece of the question. The second part, which is should there be some enhanced criteria around when repairs are necessary. Do you think the plan</p>

<p>lot of effort in other fields in looking at scenarios. I think that looking at a 10-year or 20-year or 15-year scenario, taking into account development changes and flow, changes in climate, it's much better than just looking at the structures [? muffled].</p>	<p>should include more specificity around enhanced criteria that looks at identifying when flood repairs are necessary?</p>
<p>Many things have to be opportunistic just because after a flood is where the opportunities are. When doing buyouts, if you say a new development is going in, [muffled], this area is now flood prone. We're going to kind of work with this area and if we can't buy this land and we're going to have to buy you after a flood, that kind of thinking is really hard to sell. It's very hard to not be opportunistic.</p>	
<p>I think in a previous presentation there was a suggestion to build the bank out. I think there's a term for it (setback levee). I'd be interested in your opinion on setback levees and are there any plans for them? It did sound like a very viable idea, but a very expensive one.</p>	<p><b>[Brian Murray]</b> It's very much part of our work program and proposals from the 2006 Plan in a lot of locations. There are some locations where we have more room to work with and others where we have less. That influences the appropriate strategy and the cost. It's very project specific, about which approach gets you to a short-term and a long-term solution. Going back the MWH [Montgomery Watson Harza] report, that external independent review we had. The issues that came up in that discussion were around, you've got a river that has been constrained and confined in a lot of locations. So the question becomes, what is your tolerance for a dynamic river? And, just how unconstrained and unconfined do you want it to be? As we talked about in that report, there's been a fair amount of analysis done for projects to try and get at some of those questions.</p>
<p>That answers my question, but I just urge you that if you think that it's a viable alternative to put the money into it because I trust your scientific knowledge and understanding of the rivers would be able to help reduce the flood issues we're experiencing.</p>	
<p>This is an interesting discussion from the perspective of do we keep slapping a band aid on it or do we stop the person from getting stabbed. I think there's probably a balance between the two. We could theoretically take that perspective to the extreme and eliminate all of the levees eventually. Because that would make sure we don't have to do repairs. But, certainly, as a general principle, some element of not just sticking a band aid on and sending the kid back into the fight, but figuring out a way to not have the kid be in the fight in the first place. I think that's a better long-term strategy.</p>	
<p>This is very long-term, but I just returned yesterday from my family farmstead in Kansas. When I was 5 years old in 1941, I can recall moving to this homestead farm that was in horrible condition from bad farming practices. It was virtually totally ruined. This was right before Dustbowl and conservation of land was what it was all about, so there was some federal money that came in made it possible for my father and others to improve those old farmsteads. Ironically, it's what we're talking about. It captured the water up there and it helped the soil there. There's been at least 60 to 65 years of fantastic production. All the farms are beautifully productive and what have you to an amazing degree. There are huge herds of deer that I didn't see in all the time I was growing up on the farm. Not a single animal. Now, the pheasant hunting is fantastic. In fact, all types of natural life have returned. Granted, there are some huge floods that are still going down on the Mississippi River, but I can't help but reflect back and think thank God there was something that was done back then that kept a lot of that water up there and made this entire country more rich. I can't help but think that when it comes down to the business of partnerships that a certain amount of money would quite frankly be well spent to leverage the local communities in turn to leverage private and public entities to use better methodologies, whether they're rain gardens for individual parcels, or better agricultural practices -- anything that can be done to keep the water where it falls. It's got to ultimately benefit us down stream. I do think this is interconnected. I think it means that we really need to place our priorities somehow -- maybe there's a certain set aside to leverage other projects that will ultimately get to that. That, as I say, is a long-term vision, but I know it's possible.</p>	

<p>If FEMA had listened to you when they did the buyout, they would have been farther ahead. The series of overlays where they put everything into the flood insurance box was, I think, where they made the mistake.</p>	
<p><b>[Public Comment]</b> I think what Warren was talking about in terms of mission creep is a very good point. And, I think that a lot of these criteria can be very elastic. So, it is something to be careful about. And, in terms of long- term versus short-term, the whole idea that was brought up about scenarios really fits with the idea of planning for climate change. Which is something I think should be specifically addressed in the Plan. The other thing I wanted to say about what was talked about in terms of natural capital, which could also be called ecosystem services, which is a little bit more technical of a term, but it puts the water resources and the services that wetlands do provide in a different context.</p>	
<p>So, why are we answering this question? Since we wrote this Plan in 2006 no one knows if there are projects that have been done or completed. Have we had successes? And, if we have, and that's working, then why are we going to then reexamine and make stiffer criteria? I mean you're going to have more projects than you know what to do with. That's a fact. You have more projects than you have more funding for. And, why have we not gotten to projects that were considered primary before the 2006 Plan. And, now you're asking to build layers on top of how to prioritize project. I don't get it. It's this whole idea that more government is better and we're just layering and layering and nothing gets done. The more people you bring in, the more people to get opinions from, the farther and farther that work goes out. I just don't understand why are we asking to make the criteria different or put more layers on it, when we can't get it done now?</p>	<p><b>[Brian Murray]</b> In terms of what we've gotten done, we've gotten done 62 projects since 2008. And, there are a bunch of other home elevations and activities that have also been completed. You're absolutely right, that we've got more than we can afford to do. But the main reason that we wanted to bring this forward as a topic for discussion, is to make sure that we do stay focused on addressing the high priority needs and the things that we have talked about in that 2006 Plan. We have a couple years of practice applying these criteria and as we start reaching out and talking about all the different needs that are out there, you go from a \$3 million a year program to a \$40 million a year program, which is where we're at now, and everyone who has a project with any sort of access or connection to flooding at all is going to bring it forward. So, it becomes that much more critical to hear how the criteria are applied to solve all of this. I think that's the main reason that we wanted to discuss all this, to make sure that we stay on track. To make sure that the policies that we've got in the Plan are clearly and adequately reflected in the prioritization of these projects, for precisely the reasons you brought up.</p>
<p>I agree with Warren that we should stay focused and the key thing is to keep the focus on flooding. We don't want to do what Seattle did in requesting the money to fix the Sea Wall, which has nothing to do with what this Plan in 2006 was focused on. If this is going to bring that focus back, then I understand that. Otherwise, I question it. I understand what you're saying in that if the criteria and the focus had been there when Seattle came for funding for the Sea Wall that you could have told them to take a hike.</p>	<p><b>[Brian Murray]</b> At the other end of the spectrum is just funding things as they come through the door, and that's the exact opposite of where we want to be. We want to be strategic and focused. The idea is to take the policies that we've got that we think are pretty good and keep them focused on the right projects.</p>
<p>Where does the whole habitat issue and restoration come into play in the criteria? Is it in the criteria now?</p>	<p><b>[Brian Murray]</b> It does. It's on the implementation scoring. Often, the Partnerships are funded from the Salmon Board or the KCD. We give a point for various different types of planning documents. We're starting to recognize that there are a lot of different objectives for a functioning floodplain that go beyond flood risk protection. So, if we have a project that helps us meet other objectives, then that should be recognized, not in the prioritization, but in the implementation.</p>
<p>I want to ask that you consider changing the emphasis. What I would like you to do is put a priority on capital that is natural capital or ecological services argument, first. If you have an area – a forest or something like that that is protected and storing water – and who writes an application for the forest? Nobody does. But, if you consider projects that exploit natural capital and ecological services, a higher priority (and you don't have to maintain it), it might get away from that "paint it green" type of thing. When you look at the Corps standards, they don't look at the environment as natural capital as</p>	

<p>providing the services that reduces flooding. And, the reason I mention wetlands is that a wetland provides services: it stores water, it prevents flooding from downstream, and it provides water. And, it only works if it is healthy . It only works if it has an active biology and an active zoology to keep it going. If it doesn't, it no longer works. It dries up and no longer stores water. That relationship is key. I don't know who would be the advocate -- does the preservation of natural capital have an advocate? Does natural capital have someone to write their own project? I'd like to see that somehow it's recognized. That a very high priority is given to the preservation of natural capital and ecological services.</p>	
<p>Government tends to build and expand and that's one of their main functions. It seems to me that when you're talking about river systems, they aren't static. They're dynamic. Including wetlands. They're not just sitting there. From year to year these things are going to change dramatically. It seems that you should prioritize the projects and focus on getting them finished in that time frame and then prioritize and do the things that are needing the work and can most efficiently get done. And, not have 18,000 things and none get done and then go back and add 25,000 more and you still have the same amount of money. I'm not sure I get the feeling that is being done.</p>	<p><b>[Brian Murray]</b> I think that's going to come through more when we talk about the Action Plan. And the prioritization of the basins.</p>
<p>Do recognize that from year to year that the priorities would change because these are dynamic systems?</p>	<p><b>[Brian Murray]</b> Absolutely. And we purposely reevaluate the implementation each year just to make sure that it recognizes any changes. So, for instance, if we have a major flood event, then it shifts some of the other things around in terms of prioritization. I totally agree and we're not looking at bringing on a large number of new things that we've never heard of before. Because we've got a pretty good understanding of most of these systems.</p>
<p>But you do have to be open to the new things if they need to get done.</p>	<p><b>[Brian Murray]</b> Absolutely.</p>
<p>In your comments, Bob, I don't hear you distinguishing between the open field and leaving it there to collect water versus the next stage of moving toward the developed community. New development is required to contain and percolate waters. Again, it is in the domain of what you described. But then we can get over to a situation where you're actually trying to recreate some natural capital that starts to butt heads with a flood control project. I agree with your comments managing things naturally. And, then we get to the other side of the spectrum and I don't hear any distinguishing between that in that discussion.</p>	
<p>I just think the model of iterative decision making for climate change in Washington State is similar to what is being talked about.</p>	
<p>Interesting comment about the different aspects of the problems of flooding. I identify with the one about wetlands. I'd encourage people to think about what has been created by man recently and the disasters that have occurred on the part of property owners. I would look at that from a holistic perspective. But, I would ask you all to take a more assertive role with your other governmental agencies, to be able to do things. If you take a look at these projects having to do with the creeks, I just have this feeling that when they go against all these layers of bureaucracy, nothing gets done because it's just too hard to get it done.</p>	

<p>65 MINUTES GRAVEL AND SEDIMENT MANAGEMENT TERRY BUTLER</p>	
<p><b>DISCUSSION</b></p>	<p><b>Key question:</b> King County proposes to implement the existing sediment management program as described in Flood Plan Section 4.3.1, with minor edits to update it. Do you agree with this proposal?</p>
<p><b>SUMMARY OF COMMITTEE COMMENTS</b></p>	<p>Committee members, as well as Councilmember Lambert, had strong reaction against the proposal to change the term "sediment removal" to "dredging" because dredging is a very politically-charged word. There appeared to be general support for monitoring, but a suggestion was made to include monitoring smaller streams as well since sediment build-up in the stream is also impacting property owners. There was debate about whether sediment removal should be considered a short-term solution or long-term solution. The debate seemed to be mostly semantics. Committee members seem to understand that sediment build-up is a natural process, but some argued if routine sediment</p>

	<p>removal is conducted, the action should be considered a long-term solution. Others argued the frequent need for sediment removal makes it a short-term solution because the action needs to be repeated. Committee members discussed the costs associated with gravel removal and how that compared with other flood risk reduction actions, such as building higher levees, setting back levees, or home buy-outs. In general, Committee members believe gravel removal is a tool that has been underutilized and King County should re-evaluate when it might be the appropriate solution. Councilmember Lambert asked why all the studies considered gravel bar scalping rather than dredging and believed if dredging was considered, the action would be more cost-effective. She also stated her belief there is a market for dredged materials that would reduce the project costs. A public citizen pointed out that King County has failed to implement the agreement with the Army Corps of Engineers to maintain the outlet to Lake Sammamish on the Sammamish River at Marymoor Park and asks that be included in the sediment management program. One Committee member felt transfer of development rights should also be considered to address the impacts from sediments build-up and resultant flooding. Comments sent in by one Committee member that was unable to attend the meeting felt there needed to be better notification to cities that are impacted. In addition, a better solution would be to restrict development in areas that are, or could be, impacted by sediment accumulation.</p>
QUESTIONS/COMMENTS	KING COUNTY RESPONSE
I do endorse the word "dredging."	
I do not endorse the word "dredging."	
I do not endorse the word "dredging" because it's politically charged as hell. "Gravel removal" is not nearly as politically charged as "dredging." If you want to guarantee we won't do it? Use the word "dredging."	
<p><b>[Kathy Lambert]</b> I think she's so right that I've been using the word "fredging" because they think of it like the F-word. But it is politically charged. Do I care if the words are "gravel removal" or not? I don't care about that or not, but I do not think we should use a politically charged word like "dredging" or "fredging" because it's not going to get done if it's politically charged.</p>	
When was the last time that King County did the last thing that is defined?	<p><b>[Terry Butler]</b> Probably in the 70s.</p> <p><b>[Steve Bleifuhs]</b> I just wanted to add that we contributed funding to the lower Cedar River dredging project back in 1998.</p>
This is a big deal because the sediment budgets are increasing as global warming is increasing. There's a group meeting on this. They call it "sediment management."	<p><b>[Terry Butler]</b> They do and we'll continue to call this program Sediment Management probably.</p>
Since you haven't dredged since 1970, sediment removal has been done.	<p><b>[Terry Butler]</b> I stand corrected that there was a 1998 project in dredging the lower Cedar River and King County participated in that. But I don't know of any others since then.</p>
So basically, we're not doing any gravel removal and dredging. We're doing sediment removal. Is that true for rivers and streams?	<p><b>[Terry Butler]</b> I do believe that some of the dredging has been done in some of the smaller channels.</p>
Why isn't gravel or dredging part of long-term plan? Why is it considered short-term?	<p><b>[Terry Butler]</b> Because after the excavation is done, the flood benefits from dredging might persist for maybe 10-years. Then, if you're using it as a strategy, then it needs to be repeated.</p>
It seems to me that dredging should be done on a periodic basis. And, why that wouldn't be long-term, I don't know.	<p><b>[Terry Butler]</b> Well, each repetition might be relatively short-term, but in the approach you're describing, where it would be done over and over again, it might be considered a longer-term approach.</p>
<p><b>[Kathy Lambert]</b> I'm concerned about a short-term need: Super Sacks. First of all, they're so unbelievably expensive that it's really not a good short-term option. You just spent \$4.3 million to putting them up and close to the same amount taking them down. It's not really a good short-term option if it is going to cost that much. That concerns me.</p>	
I've got a question because in the first slide you talked about replacing the term "gravel removal" with "dredging." So are we to read that	

<p>everywhere it says “gravel removal” that you’re going to change it to “dredging?” So you’re going to have “dredge the Snoqualmie river” instead of “gravel removal?” Those are two distinct, different things in the perception of the public. If you put that word “dredging” in there, you are going to hear from every last person. “Gravel removal” we all understand. “Dredging” is not a term you want to apply to people’s pristine rivers. You’ve got a problem. If you had changed it, you’d have sees the impact.</p>	
<p>I want to step back for a second. The reason that we have dredging issues is because the river becomes so confined it can’t really move the sediment properly. There are ways to at least improve that where if you don’t have dredging, or you put the dredging under the responsibility of the owner. Let’s say a flood comes down and destroys a home. We could establish transfer development rights receiving areas within cities. So cities could say, “I think it’s a value to have a wider river both for flood storage, for sediment. We’re going to set a huge sediment budget in the future and if a home gets destroyed, it’s unfortunate, but we’re not going to rebuild it to try and protect it. But what we are going to do is say that the home has a value.” Let’s say that if it’s a \$500,000 home, you can get some type of development rights so that the city itself that is now benefitting from a wider river. Sediment is a very big issue now. It’s going to become a huge issue as global warming changes the world we live in. I think that when it comes to dredging, that ultimately it’s going to be overwhelming.</p>	
<p>Could you restate what 4.3.1 is?</p>	<p><b>[Terry Butler]</b> Section 4.3.1 is called Sediment Management. The Sediment Management Program has two main components. Those are channel monitoring and sediment management actions.</p>
<p>It would seem to me that it would seem very valuable to monitor the major rivers annually. The question that I would have is that in the Cedar River it has been found that the gravel or sediment in it has reduced the capacity of the river. Because I’m not down on the Cedar River and represent the Snoqualmie River, it would be very interesting to me to know exactly where that river is and the benchmark that you’re using against it. That’s my first suggestion. Underneath that, I would suggest that the last floods, and I’ve been through two or three of them, carry tremendous sediment, down not only the river but to all of the creeks and destroy all the runways of those creeks. We could say that is nature at work, but really it isn’t because man has made that problem. We’ve had a problem for four [40?]years and we didn’t have that problem before that. Now we’re really starting to see a problem. What happens, in terms of wetlands, is that it has increased the wetlands completely, so a 40-acre farm has lost five to ten acres just in the last couple of years. The reason that is happening is that the streams are not running. The streams are clogged. It’s because of the flooding. I think when you take a look at sediment or gravel, you’ve got to think about points in time and when this occurred. Extend it from the river and as capacity changes, gravel removal should be done or dredging. But also look at your streams. Because the streams aren’t monitored at all.</p>	
<p>I wanted to defer back to what was said about “lose a house don’t take the gravel out. How would you apply that to downtown Renton? That channel that goes through Renton has an airport, has Boeing.</p>	
<p>For the areas that are built up, you’re stuck with the levee system, so maintain the levee system. But you put more stress on the levee by having more open areas upstream. Where areas of sediment collect upstream, you know, the levees produce some velocity and move some of the sediment through.</p>	
<p>But sediment doesn’t have a geographical location. It moves. That’s the very nature of it. It’s constantly re-depositing. If you go to downtown Renton and look at that channel now and you can understand why they want to move that. I don’t even think you can move rocks that size through something so tiny.</p>	
<p>I see nothing wrong with dredging an area. But, you have to understand that it’s short-term; you’ve got to think of a river like a system. If you want to dredge the entire river, do you want to dredge all reaches or just one selected reach? It’s a complicated issue. I think</p>	

<p>the solution recommended here of trying to widen the river, trying to take some of that energy and move it across that floodplain a little bit, connect the floodplain to the river. For most of it, it is a good idea. You go in there and maybe think of a way that the development right can be transferred, but there will be areas where we are stuck. But, you're not going to spend millions of dollars to defend every single reach for every single house up and down a river. You're going to say, here's a problem.</p>	
<p>I don't agree with that study that says it's going to be short-term. Eventually, they are going to widen that thing and it's going to collect more and more and more and what are we going to do? That sediment is a constant thing. We dredge rivers on a continual basis throughout the United States that are used for navigation. It's just something that goes on in the background.</p>	
<p>So you think that every river is meant to be dredged? Or do you think there's some kind of equilibrium –</p>	
<p>This group is trying to say that we want to control floods. What this is, is control the water, control the flooding. Then, yes, we are going to do what it takes to control that flooding. Or, we're not going to do anything and let the river do what it's going to do.</p>	
<p>This group is not to control flooding, it's to control flood damage, which is a big difference.</p>	
<p>That's a very interesting fundamental discussion. Are we about flood control or flood damage?</p>	
<p>I think this is an ongoing thing. In essence, you're taking his property by not doing it. If you create a wetland on his property, he can't use that now, by definition, and that shouldn't be the case. I think you have problems in that you have to keep it cleared out to control it. I just think it's one of the things you have to do. I'm sure his situation is not an isolated case.</p>	
<p>Do you have a sense of what the relative costs are for the gravel removal program? How much do you spend on gravel removal on an annual basis?</p>	<p><b>[Terry Butler]</b> There hasn't been much in the way of gravel removal recently. The Cedar River project cost a few million dollars and I believe the economics were that it panned out. It was a positive benefit/cost ratio or we wouldn't have done it.</p>
<p>I'm trying to get an idea of the cost of the long-term fix versus repeated and ongoing short-term modifications to the sediment budget.</p>	<p><b>[Brian Murray]</b> I think the South Forks study is probably a good fit for some of these analyses.</p> <p><b>[Terry Butler]</b> Good point. In that South Forks study, the three scenarios have a cost of about \$1.6- to 3.6 million dollars (every ten years). Those are simply made calculations.</p> <p><b>[Brian Murray]</b> There are a lot of other things going on there where you look at the levee improvements and the buyouts in a couple of the focal neighborhoods. That was part of the analysis, to look at is it cheaper and more cost effective to do one of these other options than to do repeatedly do some of the gravel work.</p>
<p>Are there permanent fixes for all situations we're talking about? You were talking about 500-year dykes for awhile. Is that a permanent fix? And what's the cost of a 500-year dyke? What I'm asking for is a better toolkit. I'd like to provide you with a toolkit to fix things. I think the removal of some of these things is one of the aspects of the toolkit that should be used, but isn't being used for some reason. And, I don't know the reason. And, I think that toolkit should be applied to streams and to rivers.</p>	
<p>I agree that if we're doing flood control, one of the things I see missing up there is more than just gravel. We've got more logs and sediment and debris in the river. There are certain segments of the Snoqualmie that you can walk across and not get your feet wet because there are so many logs and debris in the river. It's not being removed, it's just sitting there. But I don't see that as part of your plan at all.</p>	

<p>I think that Molly brought up a very good point that should be a discussion point here. I think that whenever you talk about flooding, you say “flood risk reduction.” You’re not talking about flooding. I think we have to, as part of this group, kind of take the stance that flooding is not bad, it’s only bad when you get in the way of it. With huge discharges on the river, the best alternative may be to spread those discharges out among a bunch of elevated homes in a controlled manner. Because the natural services provided by a floodplain (such as storing water, cleaning water, etc.) can be very positive, especially to those downstream. If you have an area downstream and a very tight levee situation, spreading the water upstream may be the solution for communities. I think that’s a fundamental question. Look at Snoqualmie, now when the river floods (even before the 205 project) the people go to away for a little while and then they come back and clean up. One more thing. Curing Snoqualmie’s flood problem by putting a huge wall around the river and changing the whole character of the town, would be infinitely more damaging to the town than having water spread out every ten years.</p>	
<p><b>[Public Comment]</b> Earlier there was a statement that widening will solve the problem versus dredging and widening will slow the flow down and you’ll get precipitated faster and get back into a situation where the sediment builds up. It’s just not an easy one-for-one solution.</p>	
<p><b>[Kathy Lambert]</b> When you did the modeling, all the models with sediment had scalping in them. Why did you do all the models on scalping without actually modeling on dredging? Because the differential between the benefits would be much reduced. – in at least one of the models that showed dredging. I’m concerned as to why all the models were scalped rather than dredged? My second one is that when you’re doing your cost allocation, you should also be looking at the fact that sediment is a valuable commodity and we have many companies that buy the sediment and are willing to go in for free and take it out. So, it could cost us nothing. When you say something costs \$3.6 million, if some people do it for free, then it won’t cost \$3.6 million. So, I’m concerned about some of the facts here.</p>	
<p>I wonder what percentage of the \$3.6 million were the permitting costs? My feeling is that a tremendous amount of money is really going through the process of getting the permits.</p>	
<p><b>[Public Comment]</b> I noticed that the Sammamish River isn’t even on your radar today, but it should be.</p> <p>In the early 1960’s the Army Corps of Engineers designed and built flood control improvements to the Sammamish River. The outlet channel to Lake Sammamish at Marymoor Park was designed with specific critical geometry to accommodate migrating salmon, navigation of small craft, and flood events that maintained Lake Sammamish at or below a specific flood level. By Resolution 25095, King County obligated itself to annually maintain the floodway to Army Corps standards, keeping it clear of debris, weeds, brush, trees, wild growth, and shoals. Unfortunately King County has not lived up to its obligation.</p> <p>With regards to sediment, several hundred yards upstream of the weir, at Marymoor Park, a storm drain laden with sediment empties into the Sammamish River. An aerial photograph documents the sediment plume. This sediment has built up shoals at the weir and now restricts and blocks flow over the weir - documented by actual flow readings from King County staff. This sediment has also traveled downstream of the weir, building shoals around debris, log jams, and root balls of the poorly maintained floodway channel, altering even more of the geometry of the floodway.</p> <p>Additionally, sediment plumes from Bear Creek - next to state highway 520 - have been photographed entering the Sammamish River, now diminishing the flood capacity of the river. It appears that the Water &amp; Land Resources Division spends more money trying to figure out ways not to do the obligated maintenance than it would cost to actually do the work.</p>	

<p>Common sense calls for clearing the problem that exists today and bringing the project into Army Corps compliance. Please add the Sammamish River to the sediment removal plan.</p> <p>Thank-you.</p>	
<p><b>[Public Comment]</b> In support of what Rory said, have color photo of Sammamish River. This is a resource you might be able to use. (See Summary of Actionable Elements for TZ Maintenance document)</p>	
<p>Can you answer Joseph's question? Take a situation in a perfect world where you don't setback. So, sediment is collecting and distributing. You're in a world of 2020, 2050. Go through that and how would a WRIA floodplain address the sediment issue.</p>	<p><b>[Terry Butler]</b> It's true that by setting the levees back, and thereby widening the channel, there would be a greater tendency for sediment to deposit. But, there is so much of an increase in the width of the floodplain that even with accumulations of sediment, there is lesser increase in the water surface elevations during the flooding. There will come a time when this continued sedimentation in this area there will be concern about sedimentation on flood levels, even with the levee setback. It's certainly much longer than what is available now. It may be several decades; it's hard to say. But it is a valid concern. One of the aspects of the levee setback approach is that there may be a need for some kind of maintenance over the long-term. There may be easier access to go into the area and strategically remove sediment. Possibly from the areas that are not in contact with flowing water. That is one strategy or approach to consider. It's not absolutely certain but it may be an involved process. It's something to consider.</p>
<p>The very first slide about dredging – are we voting on it? Has the decision already been made? Is this a change that's happening and we've said we don't like it? Is it going to go forward?</p>	<p><b>[Tamie Kellogg]</b> The predominant parts of the conversation that I heard is that you have an issue with the term and the terminology and that a fair number of people are weighing in on the idea that you should consider dredging more highly as a tool than you are using it now, and there are others who said, "I don't think you should, it's very situational." That's how I would summarize what I've heard.</p>
<p>I think most people said they wanted it. Dredging should be considered.</p>	<p><b>[Tamie Kellogg]</b> I think we're not talking about the terminology right now, but the act of doing it.</p>
<p>Tactically.</p>	<p><b>[Tamie Kellogg]</b> Moving toward consensus.  <b>[Tamie Kellogg]</b> What's tactical?  <b>[Brian Murray]</b> On terminology, loud and clear.</p>
<p>The problem I see with a lot of this is that we have to kill Peter to save Paul. There are certain areas where you are locked into a position.</p>	
<p>I don't think anyone is saying that we need to dredge the whole river.</p>	
<p>But whose gets done? Why aren't you going to do mine?</p>	<p><b>[Tamie Kellogg]</b> What I heard is that it should be a tool that is in your toolbox and it should be considered more. That's what I heard from the group, largely.</p>
<p>It seems to me that we have doubled back on the whole issue whether we're about reaching consensus or simply stating our positions and letting the folks who are responsible for this reach the best conclusion. I frankly would not state a position on it at all because we're dealing with hypotheticals and I don't think we should go down that path in trying to reach consensus.</p>	<p><b>[Brian Murray]</b> At the risk of reopening something that I shouldn't, I'm trying to capture some of this. I think what we're really after with our discussion about 4.3.1 is, as Terry described, a process by which we track and monitor and then evaluate the effects of the proposed Sediment Management actions, alongside the risk reduction actions to see is the hammer the tool or is there some other tool? We're trying to figure out if that process is a reasonable one, and is it a reasonable way to get us to an appropriate and cost effective action that's going to ultimately work, and not cost too much money. All of them are expensive, but we've got to find a way to get</p>

	<p>to something that is cost effective. The example on the White that we talked about, we're never going to stop the process of sediment coming off of a glacial Mt. Rainier. It's delivering sediment, like you guys talked about. You're just not going to end that. And, Pacific just happens to be sited at the place where Mt. Rainier has always deposited sediment. So, we've got an option there to create some more space. It doesn't solve the problem; it buys time, more cost effectively than dredging. So there's going to be a question off in the future, but hopefully it's something that costs us less. When we look at the Cedar example, it's a constructed channel. That is not where the river used to be. That's a constructed channel that was always intended to be maintained (dredged and things like that). I guess one criticism I'm hearing about the overall process and approach is that we may have a process that's reasonable, but you've never used it, it's never been applied, and you need to look at that hammer a little more frequently to see if it's something that you should use. That's good feedback. I think that has been helpful.</p>
<p>There are other ways to skin the cat. You could deal with the idea of externalities. You could say, "We're taking dredging outside of the pool of money. If you want to dredge (once you have the proper environmental reviews, etc.), you will take on the burden of doing the dredging yourself, since you're protecting your property, and there's no benefit that is shared throughout the entire community. If Auburn wants to dredge, then Auburn can dredge. And, also the idea of Transfer Development Rights is also another tool you can put into that box.</p>	
<p>TDRs are not a viable option. You can talk about them until you're purple in the face, but they are not viable.</p>	
<p>I think it's an option to discuss.</p>	
<p>I think that besides being in the toolkit, I would hope that you would look at a stream from a multiple set of solutions. That maybe you'd have to come up with two or three – and maybe that would be better, if you did two or three, for the benefit of whole stream.</p>	
<p>The Sammamish situation seems to be pretty clear cut. Is that an issue with the Conservation District?</p>	<p><b>[Brian Murray]</b> Lake Sammamish flood risk reduction actions are current and proposed.</p> <p><b>[Steve Bleifuhs]</b> As you folks are aware, the modeling has been done and the project itself, the costs associated with it – the permitting, etc., will be put in the budget for 2013.</p>
<p>I think that would be fine, if you think people can dredge own property. But I don't see how you can transfer liability downstream if they do it. That would just open up the possibility of enormous litigation. If it was done, they'd have to give immunity from anything downstream that they've had the burden of doing themselves. Otherwise, that sounds like a big nightmare to me.</p>	
<p><b>[Public Comment]</b> From my experience and from what I've heard is that if you put equity and social justice last, it often gets dropped. I'd say that we might want to put it first. That's just an observation. I also want to thank Kathy Lambert for opening up a meeting at Snoqualmie Valley last night. Going back to what Brian started meeting with on the impacts and intent and goals of the Plan. One of the things he said about the prioritization of projects and implementation... We talked about water supply systems as infrastructure, we have a food supply system, we have a food system. The Snoqualmie Valley, specifically, is one of the most productive food producing valley in this area. If we talked about it as infrastructure instead of land use, I think that would really change the definition of how flooding and environment are addressed.</p>	

**[Public Comment]** I would continue to request that the Sammamish River be added to the Sediment Removal Plan. Just because it's on the Capital Improvement Plan doesn't mean it's necessarily going to be adopted or happen.

**[Comments sent in by Committee Member]** I can't be at the next meeting due to a knee operation which confines me to home through June 12.

I've read the proposed sediment management paper which seems good. My only problem with the county's proposal for sediment management is that the cities involved should be notified, and I don't see that they are. Please notify cities where sediment management is deemed to be of concern, and urge them to let their citizens know what is going on.

On the one hand, in a recent meeting Steve Bleifuhs said the major sediment rise on the White River at Pacific causing flooding in Jan. 2009 came in with that storm. On the other hand, a USGS paper on the same subject said they had repeatedly documented warnings about this problem, and said 25% reduction in channel capacity occurred between November 2008 and January 2009. See <http://pubs.usgs.gov/sir/2010/5240/> .

The county has demolished 11 new homes in this neighborhood. It seems the town of Pacific shouldn't have allowed these new homes, "White River Estates" to have been built. Did the town know enough to make this decision properly?