

**Meeting Agenda
King County Flood Control District Advisory Committee
Renton City Hall
1:00-3:30 pm
Friday April 27, 2012**

- 1:00 p.m. Item 1: Welcome and Meeting Overview**
- *Agenda Review*
 - *Introductions*
 - *March Meeting Summary*
- 1:10 p.m. Item 2: Independent Expert Panel Review of Water and Land Resources Division's Project Scoping and Implementation Practices (Discussion Item)**
See attached issue paper
- 1:50 p.m. Item 3: Flood Plan Update: Equity, Social Justice and Outreach to Underserved Populations (Discussion Item)**
See attached issue paper
- 2:30 p.m. Item 4: Flood Plan Update: Levee Vegetation and Federal Funding (Discussion Item)**
See attached issue paper
- 3:15 p.m. Next Steps and Upcoming Meetings**
- 3:30 p.m. Adjourn**

March 30, 2012

Meeting Attendees

Committee Members

Jim Berger, City of Carnation
Dick Bonewits, King County Unincorporated Area Councils
Mike Cero, City of Mercer Island
Suzette Cooke, City of Kent
Don Davidson, City of Bellevue
Kenneth Hearing, City of North Bend
Fred Jarret, King County
Matt Larson, City of Snoqualmie
Dennis Law, City of Renton
Robert Lee, City of Lake Forest Park
Marlla Mhoon, City of Covington
Bill Pelozza, City of Auburn
Bill Thomas, City of Algona
Erin Weaver, City of Maple Valley

King County Department of Natural Resources and Parks, Water and Land Resources Division Staff

Steve Bleifus, Flood Hazard Reduction Services Section Manager
Brian Murray, Policy and Programs Supervisor
Joanna Ritchey, Deputy Director

Committee Staff

Margaret Norton-Arnold, Facilitator
Fala Frazier, Administrative Assistant

Key Meeting Accomplishments

The advisory committee reviewed and commented on two key elements of the 2012 Flood Plan Update.

2012 Flood Plan Update Scope and Process Review

The primary focus of this meeting was on two key elements of the 2012 Flood Plan Update. The process to update the 2006 Flood Plan is currently underway. A citizens committee is providing feedback on the plan elements. The District Board of Supervisors has also requested that the Flood Control District Advisory Committee provide guidance to the Plan as it is being developed.

Coastal Flooding. The first issue was related to funding for coastal flooding projects. In 2011 the District allocated \$30 million toward the rebuilding of the City of Seattle's seawall over the 6-year capital program timeframe. At issue is the question of whether or not the District should fund other coastal projects in the future. Brian provided an overview Powerpoint presentation that included five

possible alternatives to approach these projects. Advisory committee members were provided with a copy of the Powerpoint.

The members present were unanimous in their opinion that the District should not expand its mission, time, staff resources, or money into the coastal flooding arena. They acknowledged that Seattle's project was an appropriate and important use of District funds, but also view that effort as a one-time expenditure and do not believe additional coastal projects should be funded through the District.

Numerous concerns were raised. Members said, for example, that it was difficult for them to craft a blanket recommendation without more details on the risks and needs that have been identified along the coastline. Members expressed concern about "mission creep," that is, the District moving beyond its original focus on the major, and frequently-flooding, rivers in King County. The group also raised significant concerns about the District's existing CIP list, and the number of projects that still must be constructed. They do not want to "dilute" the District's resources by expanding beyond these projects, which, again, are focused on the County's major rivers.

A representative quote from the group: Irrespective of the magnitude of coastal issues, we'd better take care of the rivers we talked about in the beginning. Funding for the seawall was a stretch. We extended ourselves because of economic issues. We are in a dangerous position of promising more than we can follow up with. Let's not get involved in coastal priorities. Let's stick to what we started out to do.

Urban Flooding and Small Streams. The second issue for discussion was related to urban flooding and small streams. Two questions were posed to the advisory committee: should the Opportunity Fund be adjusted or revised in order to ensure urban/small stream flooding is fully addressed; and, under what conditions should the Flood Control District consider funding small stream flooding or urban stormwater problems?

Advisory committee members were unanimous in their support of the existing Opportunity Fund. They appreciate the assistance it has provided in their communities, and do not believe that the percentage allocation or the process for fund disbursement should be altered.

Members also felt that local flooding problems on small and urban streams should continue to be the responsibility of the local jurisdiction. A number of cities have their own stormwater utilities, and are satisfied with the scope of authority and mission of these localized utilities. A representative quote:

The small streams issue should be set against the criteria for flooding. The opportunity funds should be applied first to small streams. When the projects are more local, there should be a stormwater plan in place. We should not say yes to expanding the District to address small stream issues before we understand why a stormwater utility wouldn't be taking care of those issues. If it's a local problem take care of it locally.

Members did say that this policy could and should be revisited if necessary, however: *If we do find that flooding on a small stream is preventing the District from achieving goals on the major rivers, then it might be appropriate to talk about changing our policy. Otherwise, let's keep trying to get through the major project list we have already established.*

NOTE: Following the meeting the City of Seattle offered comments supporting a risk-based approach to flooding problems in King County, to include coastal areas and small streams that are not currently the focus of the District's flood plan.

Next Meeting

The next meeting will be held on April 27 at 1:00; location is Renton City Hall.

Independent Expert Panel Report

- The project is part of DNRP's emphasis on increased efficiency and effectiveness, and responds to complaints about engineering and construction methods.
- DNRP Director's Office contracted with Montgomery Watson Harza (MWH) to manage the review, including vetting potential Panel members, developing the scope of the review with the assembled Panel, and coordinating the Panel's work through product delivery.
- The Panel evaluated how well project scoping and implementation practices for river and floodplain projects address the specific policy objectives of protecting public safety, preventing property damage from flooding, recovering salmon, and providing recreation.
- WLRD sections involved included the River and Floodplain Management Section; the Rural and Regional Services Section – Ecological Restoration and Engineering Services Unit; and the Stormwater Services Section

Independent Expert Panel Report

- The Panel included
 - Dr. Paul DeVries, P.E., R2 Resource Consultants;
 - Dr. Chris Frissell;
 - Dr. Yung-Hsin Sun, P.E., MWH;
 - Dr. Doug Whittaker, Confluence Research and Consulting;
 - Tracy Yount, Sapere Consulting.
- The Panel convened twice in Seattle to meet with staff from relevant WLRD sections/programs to explore aspects of the project delivery process; meet with stakeholders to gain perspective on concerns about the subject projects; visit project sites; and conduct Panel business.
- The project site visits included the Cedar Rapids project, the Lower Tolt Floodplain Reconnection project, the Herzmann Levee (Cedar), and other projects on the Cedar and Green River providing examples of bank stabilization and other project types

Independent Expert Panel Report

- Guiding Questions for the project:
 - Are King County project implementation practices considered appropriate, adequate, and reasonable relative to standard professional practice?
 - What specific improvements could be implemented to better ensure that projects effectively balance all project objectives and meet industry standards?
- Focus areas included:
 - Project effectiveness
 - Balancing project objectives
 - Use of appropriate standards and practices
 - Engagement of outside stakeholders
 - Standard safety components
 - King County practices

Independent Expert Panel Report

- The Panel found (p. 67) that “... WLRD uses scientifically accepted principles for managing floodplains within the context of balancing other stated policy objectives” and that “... no consistent or systemic design or siting failures invalidate the new approaches to floodplain management or urge a moratorium on additional projects.”
- The Panel (p. 67) “... recommends several connected procedural reforms that will better help select, design, construct, and monitor projects (or address post-project impacts as necessary).” They recommend actions including:
 - Communicate an overarching river management strategy;
 - Clarify objectives at the project scale;
 - Involve stakeholders earlier in project development;
 - Involve stakeholders more formally and systematically;
 - Recognize and manage inherent uncertainties;
 - Standardize and act on project monitoring;
 - Comprehensively assess and manage current programmatic risk

Expert Panel Major Findings and Recommendations

#1

General support for ecological/dynamic floodplain management strategies

The scientific literature supports a shift from “hard engineering” to “ecological/dynamic” floodplain management strategies when possible. King County has missed opportunities to clearly describe these strategies and show how individual projects meet strategic goals or fit with current scientific theory and practice.

Develop a Strategic River Management Plan for river and floodplain project. This document should:

- Summarize the legal drivers and policy mandates that encourage use of ecological/dynamic floodplain management strategies when possible.
- Broadly describe the scientific and applied practice support for implementing ecological/dynamic floodplain strategies (while also identifying when more traditional approaches may be needed).
- Clearly document WLRD’s river and floodplain management strategy, including project objectives and implementation approaches at the multi-basin, watershed, and river segment scale.
- Summarize programmatic processes by which individual projects are selected, funded, designed and sited, constructed, and monitored.
- Connect policy and programmatic elements to existing FHMP and WRIA plans.
- Suggest potential improvements in the upcoming revision of the FHMP to more clearly identify strategic planning objectives, management actions, and criteria for project selection and implementation.
- Be concise and accessible to staff, agencies, stakeholders and the general public.

Expert Panel Major Findings and Recommendations

#2

Project-level objectives need clarity

County ordinances and policies prescribe the overall management directives and goals, but individual projects may have more specific objectives contributing to the overall goals, with prioritized actions associated with river basin, segment, and site considerations. These specific objectives should be clarified and linked to larger basin strategies, and potential tradeoffs identified between objectives. Improved objectives will better communicate why an individual project has been developed, what it intends to accomplish, how it fits with other projects, and how it collectively contributes to the overall program goals.

Based on the overall management plan(s) that delineate the overall goals and specific objectives (anticipated outcomes) from specific projects, develop concise summaries for individual projects. This short standardized document for each project should:

- Clarify site-specific project goals and objectives and explain how they fit into the larger basin-wide or multi-basin strategies.
- Identify potential tradeoffs between objectives for individual projects.
- Communicate key project features and illustrate potential outcomes to help the public and stakeholders understand how those will help meet larger strategic objectives.

Expert Panel Major Findings and Recommendations

#3

Public and stakeholder collaboration should more timely and uniform

County procedures for public and stakeholder input during project planning, design and review could be more uniformly implemented to encourage stronger public support and stakeholder engagement.

Encourage earlier and more collaborative stakeholder involvement:

- Encourage stakeholder engagement at basin-wide river management and strategic planning scales.
- Develop earlier recognition when projects will have substantial recreational safety impacts and match levels of engagement with recreation stakeholders.
- Design opportunities for stakeholders and the public to address potential problems through initial design and siting decisions, developing outreach to warn of potential hazards, or post-project mitigation.

Expert Panel Major Findings and Recommendations

#4

Engagement of stakeholders regarding recreational usage should be more formal

Public safety continues to be a primary concern as floodplain projects are conceived and implemented. Increased large wood recruitment, placed wood, and engineered log jams are likely to increase hazards for recreation users in some river segments. Formalized collaboration with recreation stakeholders and external recreation experts through the project lifecycle can improve project design and siting. Systematic inventories and explicit criteria can also help assess potential hazards in light of recreation use factors to help guide potential management actions to reduce, mitigate, or warn users about hazards.

Develop a dedicated “Office of River Public Use” (one to two staff) to coordinate recreational aspects of projects. This office should:

- Encourage recreation stakeholder involvement in project selection, design, and siting.
- Invite external recreational expertise to assist with recreation-sensitive projects.
- Participate in project designs as an independent advisor.
- Support or initiate recreation use monitoring to anticipate the types and amounts of recreation use that may be exposed to project related hazards, and develop management actions that can reduce risks from these hazards.
- Support hazard monitoring to inform systematic public outreach programs.
- Support and maintain a systematic record of wood-related safety or injury incidents.
- Serve as a liaison to river recreation users.
- Work with stakeholders and education/outreach specialists to raise awareness of river safety and potential hazards.

Expert Panel Major Findings and Recommendations

#5

Uncertain aspects of project consequences should be recognized

Dynamic flood plain management strategies have inherently uncertain consequences even as standards can assure that projects' structural designs are sound. Project siting involves experimentation that increases the need for systematic monitoring and potential post-project mitigation to address flood management, ecological response, or recreation hazards. The extent of uncertainty should also be explicitly acknowledged to stakeholders and the public throughout the project life cycle.

Acknowledge inherent uncertainty with some project outcomes and identify responsibilities to mitigate adverse impacts (when possible) or avoid similar problems in future projects. This includes:

- Improving documentation of considerations and recommendations in siting and design of structures to reflect the project-specific needs and local hydrological and hydraulic conditions.
- Improving project-specific conceptual or feasibility planning document(s) that illustrate broader agreements about project objective priorities, proposed project details, anticipated and potential beneficial and adverse outcomes, performance measures and indicators of success.
- Properly characterizing the reliability and longevity of structural designs and siting decisions relative to intended outcomes during the design phase.
- Establish efficient and comprehensive monitoring to identify whether designs and siting are providing ecological, recreation, or flood protection successes so policy makers can review potential trade-offs for future projects.
- Revise both internal and external (public) documents to clearly identify project uncertainty, and avoid implying that project outcomes can be predicted with great certainty.

Expert Panel Major Findings and Recommendations

#6

Standardize project monitoring and improve post-project mitigation response

WLRD conducts monitoring and post-project mitigation, but efforts are uneven and opportunities exist for improvement. Monitoring should assess cumulative effects across multiple projects in a basin, focusing on simple measures of ecological and flood management effectiveness that can help assess whether structure design and siting are achieving stated project objectives.

Establish standardized project monitoring approaches for all WLRD projects at watershed, river segment, and project scales. Monitoring should:

- Focus on simple measures of effectiveness and tests of design and siting assumptions.
- Include river-scale monitoring and evaluations to determine cumulative basin-wide project effectiveness.
- Examine levels of recreation hazards in higher use recreation segments, and assess the proportion associated with placed or engineered large wood projects vs. natural large wood recruitment.
- Formalize regular public monitoring reports at the river basin level.
- Proactively communicate through reporting and/or documentation the nature of unexpected or undesired project performance and the selected remedial actions.

Expert Panel Major Findings and Recommendations

#7

Lack of integrated program elements creates an increased risk profile

A comprehensive program that includes objectives, system definition, regulatory strategy, stakeholder strategy, and aligned project procedures is not currently present.

Independent but related program elements have converged to increase the County's enterprise-level risk profile. These include the use of experimental designs, recent program expansion, inconsistent application of procedures, varied levels of stakeholder involvement, and intermittent success in consistently balancing or communicating varied objectives.

Perform a comprehensive programmatic risk assessment that includes:

- Risk Assessment - Perform a risk assessment that evaluates the impact to the DNRP of procedures, policy changes, organizational changes, new and reassigned staff, and new processes etc. that relate to department actions and objectives.
- Program Assessment/Define System - Define how interrelated programs, procedures, objectives, and policies relate to each other to better prepare for intended and unintended consequences of planned actions.
- Regulatory Strategy - Develop (or formalize) an enterprise level regulatory strategy in conjunction with oversight agencies that is built upon objectives and legal drivers. Focus on the paradigm evolution of King County flood/safety project balance with environmental restoration objectives.

Formalize and Integrate enterprise level regulatory strategies and objectives within the project identification, scoping, design, and execution procedures.

Establish formal policy, program planning, project coordination, and dispute resolution frameworks with each regulatory organization that have action or funding authority over King County.

- Stakeholder Strategy - Create a stakeholder engagement strategy that incorporates risk assessment findings, paradigm shifts, competing regulation prioritization, and lessons learned that influence project execution.



The King County Flood Hazard Management Plan & Equity and Social Justice

With a Focus on Outreach to
Underserved and Vulnerable Populations

Saffa Bardaro, Communications Specialist

Equity and Social Justice

As Defined by King County

- **Equity** - Everyone has equal access to opportunities that enable them to attain their full potential.
- **Social justice** - Requires the fair distribution of public goods, institutional resources and life opportunities for all people.

King County Objectives to Achieve Equity and Social Justice

1. Consider equity impacts in all decision making;
2. Build community trust, improve customer service and institute robust civic engagement; and
3. Promote fairness and opportunity in County government practices.

Our primary **public service** roles are to:

- 1. Assess** flood and erosion risks in King County;
- 2. Communicate** flood risks to the public; and
- 3. Reduce** flood risks, including repairing and maintaining levees.

Vulnerable Populations

As Defined by Public Health – Seattle & King County

- Limited English or non-English proficient
- Deaf
- Immigrant communities
- Blind
- Physically disabled
- Deaf-blind
- Hard of hearing
- Mentally ill
- Developmentally disabled
- Impoverished
- Seniors
- Children
- Undocumented persons
- Medically dependent or medically compromised
- Chemically dependent
- Homeless and shelter dependent
- Clients of criminal justice system
- Emerging or transient special needs

Percentage of population living in the floodplain speaking a language other than English at home

- < 47% - Chinese languages (combined)
- < 37% - Spanish
- < 31% - Vietnamese
- < 17% - African languages (combined)
- < 15% - Korean
- < 11% - Russian

US Census Bureau, American Community Survey, 2005 - 2009

Flood Risk Reduction Projects

- Are sited and designed to mitigate flood and erosion impacts regardless of the economic group or population.
- Are prioritized, selected and implemented based on risks associated with death, human injury, and potential land use damage.

Flood Elevation Program

- Assists property owners with costs of raising a structure above flood level.
- Eligibility is based on cost-effectiveness and level of risk of the structure.
- Participants need to pay up to 25%, out of pocket, of the project cost (\$70K-\$120K) and any relocation costs needed if necessary.



Flood Risk, Preparedness and Safety Communication

- Translation services available.
- All printed materials available in Spanish.
- Flood safety video in 21 languages.
- Partner with emergency response community organizations



**American
Red Cross**

Serving King & Kitsap Counties

The Question

How should the King County Flood Hazard Management Plan be used to direct our efforts to ensure we are **providing services equitably?**

Discussion Point #1

What networks can we build or enhance to improve our delivery of the Flood Education and Flood Preparedness Program to vulnerable or historically underserved populations?

Discussion Point #2

How can we assess the effectiveness of outreach to vulnerable and underserved populations, knowing that this is a very difficult population to assess by traditional survey methodology?

Discussion Point #3

What networks can we build or enhance to improve our delivery of the Flood Elevation Program to vulnerable or historically underserved populations?

What alternative mitigation options could be proposed for special needs, such as low-income, physical or developmental disabilities?

2006 KING COUNTY FLOOD HAZARD MANAGEMENT PLAN UPDATE
March 2012

TOPIC:

Equity and Social Justice: Outreach to Vulnerable and Underserved Populations

STATEMENT OF ISSUE:

The River and Floodplain Management Section's (RFMS) public service roles are primarily to:

1. **assess** flood and erosion risks in King County;
2. **communicate** flood risks to the public; and
3. **reduce** flood risks, including repairing and maintaining levees.

How should the King County Flood Hazard Management Plan be used to direct our efforts to ensure that the River and Floodplain Management program is providing these services equitably throughout King County?

BACKGROUND:

The King County Equity and Social Justice Initiative¹ (ESJI) directs all King County government services to be done in a fair and just manner – ensuring that those without traditional access to resources are being served – and to view the development of all policy, procedures and communication through this lens.

King County also has an Executive Order in place, establishing criteria for a Written Language Translation² process that requires a reasonable effort be made to provide all print materials in the languages spoken by the target audience.

Lastly, the King County Flood Control District has directed the River and Floodplain Management Program to ensure that we are reaching vulnerable populations³ in our public outreach and education efforts.

RFMS, in response to these directives, has:

- Produced and promoted flood safety videos in the top 21 languages spoken in King County
- Provided language translation services available 24 hours a day to callers
- Developed maps based on King County 2010 census data to show the predominant language(s) spoken in the King County floodplain
- Produced all flood outreach materials in Spanish.
- Inserted directions for contacting King County, translated into 21 languages, into all critical flood information mailings sent countywide.
- Improved communication coordination with Public Health – Seattle & King County, Office of Emergency Management, and the American Red Cross Serving Kitsap and King County.

¹ King County Equity and Social Justice Initiative - <http://www.kingcounty.gov/exec/equity.aspx>

² Written Language Translation - <http://www.kingcounty.gov/operations/policies/executive/itaeo/inf142aeo.aspx>

³ Vulnerable Population Segments - <http://www.kingcounty.gov/healthservices/health/preparedness/VPAT/segments.aspx>

2006 KING COUNTY FLOOD HAZARD MANAGEMENT PLAN UPDATE
March 2012

- Accounted for vulnerable population segments that may be positively or negatively affect by future outcomes of a levee setback planning study in the Lower Green River valley. Study results found that the study area included a larger percentage of vulnerable population than King County and the Puget Sound as a whole. Therefore, residents of the study area stand to benefit the most from ecosystem services provided by flood risk reduction services, contributing to the goals of King County’s Equity and Social Justice Initiative.

Flood risk reduction projects are sited and designed to mitigate flood and erosion impacts regardless of the economic group or population. Flood risk reduction project priority, selection and implementation are based on risks associated with death, human injury, and potential land use damage.

King County considers equity and social justice impacts in their public information and education programs to provide fairness and opportunity for all people, particularly for people with limited English proficiency or when decisions that have a negative impact on fairness and opportunity are unavoidable, steps are implemented that, mitigate the negative impact.

DISCUSSION

1. What networks can we build or enhance to improve our delivery of the Flood Education and Flood Preparedness Program⁴ to vulnerable or historically underserved populations⁵?
 - **Example:** As a lesson learned from Hurricane Katrina, a recommendation is to formally coordinate with regional animal services and shelter organizations to improve messaging and logistics for evacuating with animals.
2. How can we assess the effectiveness of outreach to vulnerable and underserved populations, knowing that this is a very difficult population to assess by traditional survey methodology?
3. What networks can we build or enhance to improve our delivery of the flood risk reduction programs to vulnerable or historically underserved populations? What alternative mitigation options could be proposed for special needs, such as low-income, physical or developmental disabilities?
 - **Example:** While all flood risk reduction projects and acquisitions are prioritized on the basis of flood risk, regardless of income, race or language spoken, the Flood Elevation Program⁶ is only available to those who can pay up to 25 percent, out of pocket, of the project cost (\$70K-\$120K) and any relocation costs needed if necessary. Additionally, property owners must pay for project costs up front and then be reimbursed by the county after project milestones are achieved. These requirements can make it difficult or impossible for residents without sufficient financial resources to participate in the elevation program.
 - **Suggestions:** Internships to provide training in the field and small business outreach.

⁴ **4.5.1** “The King County Flood Hazard Education and Flood Preparedness Program is designed to increase awareness of locally available resources and information to help citizens prepare for flood events and prevent, minimize, and recover from flood damage.”

⁵ Physically disabled; blind; deaf, deaf-blind, or hard of hearing; mentally ill; developmentally disabled; impoverished; seniors; children; immigrant communities; limited English or non-English proficient; undocumented persons; medically dependent or medically compromised; chemically dependent; homeless and shelter dependent; clients of criminal justice system; and emerging or transient special needs.

⁶ Flood Buyout and Elevation Program - <http://www.kingcounty.gov/environment/waterandland/flooding/buyout.aspx>



King County Flood Hazard Management Plan Update
Advisory Committee Meeting
April 27, 2012



U.S. Army Corps of Engineers' *Current Levee Vegetation Policy*

National Levee Vegetation Policy:

- All vegetation 2" DBH or greater must be removed
- Based on belief that vegetation compromises structural integrity and inspections needs
- Not science-based policy

Existing Seattle District Regional Variance:

- Allows trees and bushes up to 4" DBH in clumps at 30-foot centers
- Allows for 'engineering discretion'



U.S. Army Corps of Engineers' *Proposed* National Levee Vegetation Variance Policy (“PGL”)



*Kent Shops-Narita Levee, Green River, Kent, WA
2010*

- One size fits all approach to all levees across the nation
- All regional variances would be repealed
- Variances applied to individual levee systems rather than by region –maybe by reach/river systems
- Complex and costly approval process effectively making variances nearly impossible to obtain

Why does the U.S. Army Corps of Engineers care about vegetation anyway?

- Ability to inspect for damages
- Emergency access
- Catalyst for piping and seepage
- Bank saturation and slumping
- Wind throw



U.S. Army Corps of Engineers Inspection, Horseshoe Bend Levee, Green River, Kent, Washington

What are the impacts to local governments?

- “Pay to Play”
 - \$95–\$174M for King County alone
- Habitat impacts
 - Removal of at least 13,600 trees in King County alone
- Potential liability
 - ESA and CWA third party lawsuit?
 - Pending 60-day notices from NGOs
- Fiscal responsibility
 - What are the highest priority threats to the public safety?
- Public perception
 - Over 85,000 trees and other native vegetation planted by volunteers since ESA listings



Tukwila, WA, 2010

What do we want instead?



Create regional program and process that provides for:

1. Safe and effective levees
2. Functional habitat
3. Cost effective use of scarce public resources
4. Use adaptive management

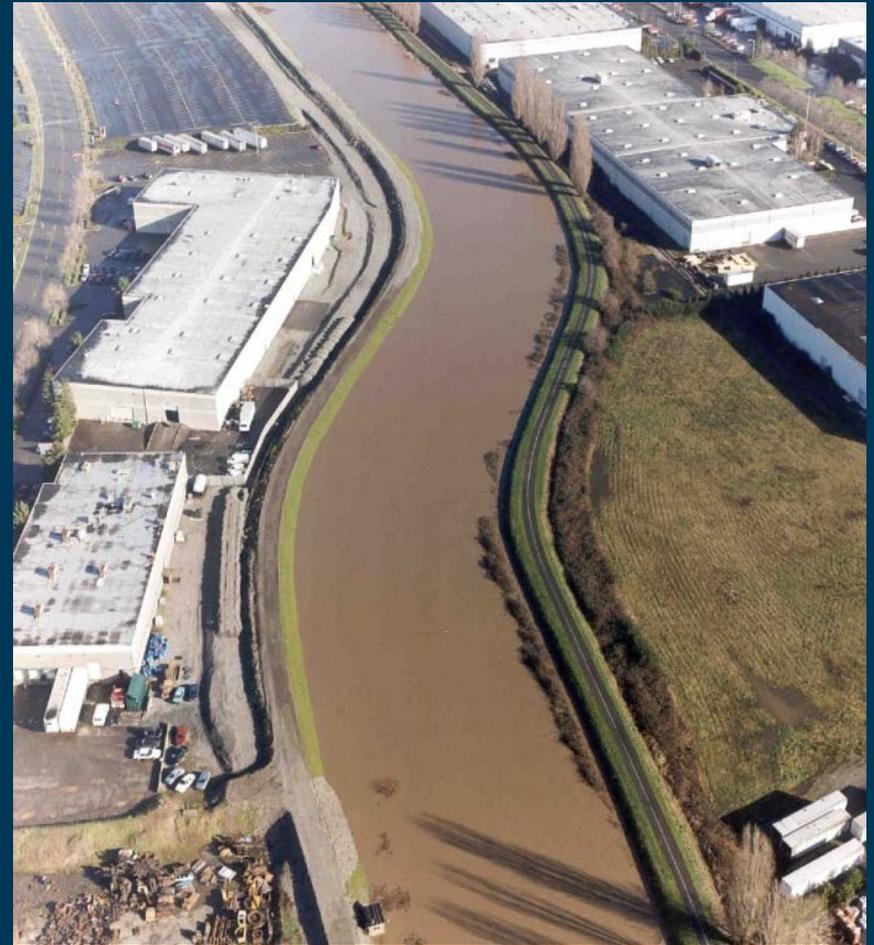
How do we get there and bring resolution to this issue (if possible)?

Track 1 – National Effort: Targeted outreach – “full court press” – to provide room in the Corps of Engineers’ proposed vegetation policy

Track 2 – Regional/Local Effort: Collaborating with Corps of Engineers, other stakeholder agencies and Native American Tribes to develop a functional and cost-effective regional variance program/template for local levee managers

System-Wide Improvement Framework ("SWIF")

- Prioritizes funding based on risk across the river system
- Variances developed within risk-based levee improvement strategy
- Collaborative, multi-stakeholder planning effort
- 2-yr extension in PL 84-99 eligibility while SWIF developed
- Seattle District Corps cost estimate is @ \$1.9M



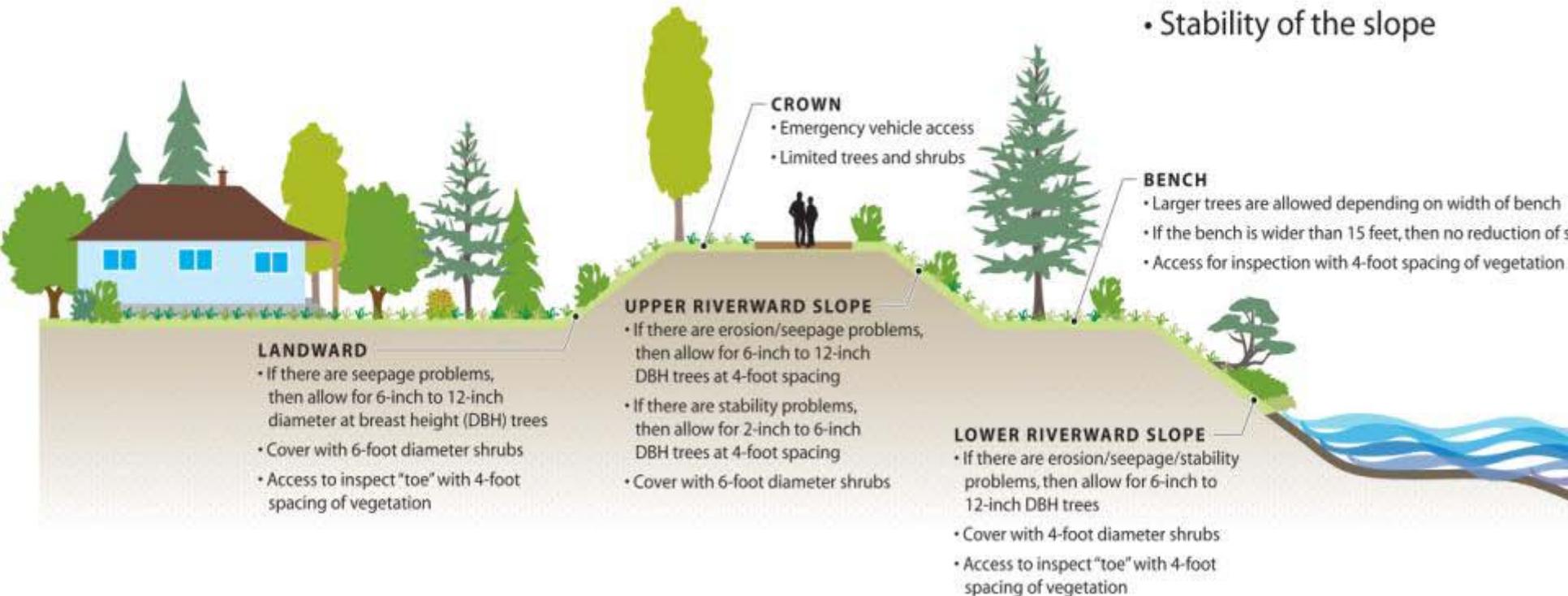
Levee Vegetation Management Proposal - July 8, 2011

LEVEE OPERATIONS

- Access for emergency vehicles and repairs
- Inspection by engineers for damages

LEVEE INTEGRITY*

- Conveyance of the river
- Seepage through the levee
- Erosion of the levee surface
- Stability of the slope

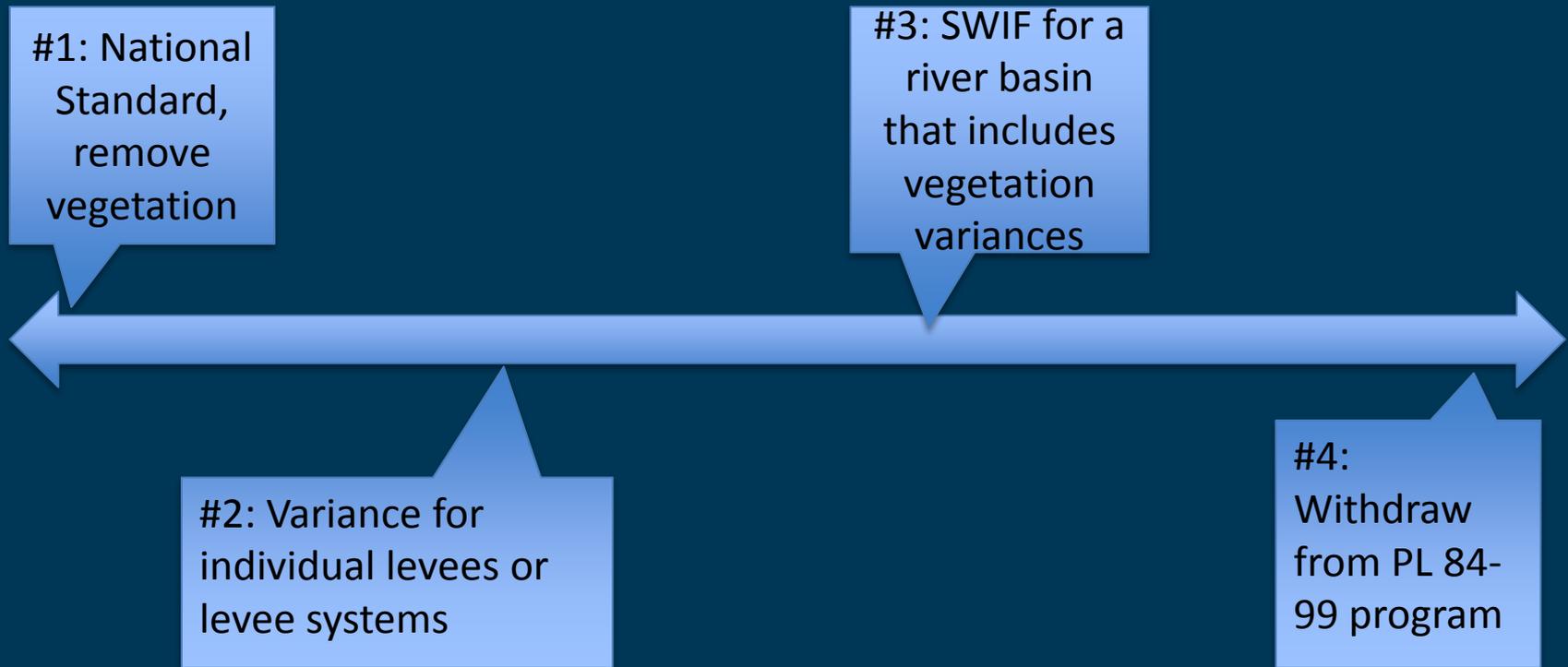


Seattle District Levee Vegetation Framework Project:

U.S. Army Corp. of Engineers, Seattle District; National Marine Fisheries Service; Puget Sound Partnership; King County; Washington State Department of Ecology; U.S. Fish and Wildlife Service; Muckelshoot Indian Tribe; Washington State Department of Fish and Wildlife; and Federal Emergency Management Agency

*The fewer concerns with the integrity of the levees, the greater flexibility allowed.

How should the FCD engage with the Corps on Levee Vegetation Management and funding eligibility under PL 84-99?



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2012 KING COUNTY FLOOD HAZARD MANAGEMENT PLAN UPDATE
March 6, 2012

TOPIC:

Levee vegetation and eligibility for US Army Corps of Engineers (Corps) levee repair funding

STATEMENT OF ISSUE:

How should the Flood Control District engage with the Corps on levee vegetation management and disaster funding eligibility under the PL 84-99 program?

Local governments in the Puget Sound region continue to be caught between conflicting federal mandates: we are required to degrade riparian areas identified as critical habitat for federally listed species so that we can retain our eligibility for federal PL 84-99 funding for critical public safety projects. In other words, to comply with one federal mandate we must risk violating both the Endangered Species and Clean Water Acts. Since 2009 the State of California Department of Fish and Game and several environmental organizations have filed a notice of intent to sue the Corps over vegetation management policies.

BACKGROUND:

- Since the early 1990s King County has successfully constructed levee projects that rely on native riparian vegetation as a primary means of erosion protection.
- Under Public Law 84-99 (PL 84-99), the Corps is authorized to provide emergency assistance to cost-share and construct levee repairs following a disaster event. Eligibility for this cost-sharing program requires that levee sponsors comply with the Corps Rehabilitation and Inspection Program (RIP), which requires the removal of vegetation greater than 2 inches in diameter from levees.
- Through an existing regional variance the Corps' Seattle District allows the presence of vegetation up to 4 inches in diameter.
- While the purpose of these Corps standards is solely eligibility for federal disaster funding, they are often incorrectly perceived as federal guidance for maintenance necessary for levee accreditation by FEMA. Land behind FEMA accredited levees is not subject to federal insurance requirements or floodplain development regulations. To the degree that the Corps is considered the authority on levee safety, their standards are often cited as the default maintenance standard even for levees outside the PL 84-99 program.
- Federal funding levels under PL 84-99 vary considerably. Since 1990 Corps funding of levee repairs in King County has totaled \$27 million, including \$25 million received in 2008-9 alone. The 2008-9 level of Corps funding was unique in the last 20 years.

The Corps has proposed the following changes to the policy for local vegetation variances:

- To apply for a variance, local levee operators will need to submit a variance request for individual levee systems, but may look at river systems in a larger planning context. Variances for each individual levee would require approval at multiple levels, with a final decision by Corps Headquarters rather than the local District.
- Responsibility for providing the engineering justification and federal environmental compliance for the variance shifts from the local Corps District to the local sponsor (i.e., King County).

- Drafts of the PGL Corps Policy Guidance Letter (PGL) to date have not included clear standards for an acceptable variance – while the required submittals are clear the criteria against which these submittals will be evaluated is not.
- Along with the PGL revisions, the Corps is also proposing changes to the System-Wide Improvement Framework (SWIF). Under a SWIF, any risk to levee stability posed by vegetation can be prioritized alongside other levee safety risks, with the target of eventual compliance with a levee variance from the national standard developed under the PGL / SWIF process. The two may be used in combination to develop a prioritized SWIF that includes vegetation variances for specific levee segments. A SWIF would be developed collaboratively by multiple parties including the Corps, County, tribes, federal and state agencies, and other local governments, and be used to inform a capital budget that addresses the most pressing levee stability issues along a river system.

King County has been working with a team of state and federal partners (including the Corps Seattle District) to develop a two-pronged approach to achieving the following goals for levee vegetation management in Western Washington:

1. *Safe and Effective Levees*: resilient structures that can be accessed and inspected during floods.
2. *Functional Habitat*: in many densely developed locations our levees are our riverbanks.
3. *Cost-Effective*: use limited resources to address the worst problems first.
4. *Science-Based*: responsive to new information and research.

With these goals in mind, the team has been pursuing a science-based federal policy that reflects regional conditions and provides flexibility from uniform national standards, support for other stated federal habitat and clean water goals, appropriate prioritization of levee vegetation alongside other known levee safety risks, and a commitment to future research.

In pursuit of these objectives we have worked with state and federal colleagues on a two-pronged levee vegetation strategy to (1) apply political pressure to revise the PGL so that regional approaches would be allowed and (2) participated, at the invitation of the Corps Seattle District, in the levee vegetation framework effort to develop an alternative vegetation management proposal with the Corps, federal and state agencies, and the Muckleshoot Tribe.

In part due to the political pressure, the draft PGL policy was delayed several times before being released for public comment in February 2012. The Corps is also proposing changes to the System-Wide Improvement Framework (SWIF), an alternative that allows vegetation to be prioritized against other levee safety risks with the long-term intent of bringing all PL 84-99 levees into compliance with either the national standard or individual variances issued under the revised PGL. The work group convened by the Seattle District has developed a Levee Vegetation Management Framework as an alternative to the national standard. This Framework has not been reviewed and approved by Corps Headquarters, but has been described as a ‘powerful tool’ in helping to address multiple floodplain objectives It been evaluated for Endangered Species Act (ESA)/or Clean Water Act (CWA) compliance. The Flood Control District is currently working with the Puget Sound Partnership and the Corps to host a workshop on how the Framework might be implemented via a SWIF and vegetation variances to support the four goals listed above.

ALTERNATIVES TO CONSIDER:

1. Comply with national standard; no variances or SWIFs.
PRO: Eligible for Corps levee repair funding if it is available.

- CON: Depending on Corps requirements, would divert up to \$165M from high-priority risk reduction needs to remove vegetation and root systems, patch levees, and mitigate for the removal of vegetation; inconsistent with Endangered Species Act and Clean Water Act objectives; does not reflect regional conditions.
2. Apply for variances under the new PGL from the Corps; no SWIF.
PRO: If approved by the Corps, funding eligibility is maintained.
CON: Uncertain what constitutes an acceptable variance, and unclear whether such a variance would comply with ESA and CWA. Time and money spent on variance application and review process will be diverted from risk reduction projects.
3. SWIF plus individual levee variances
PRO: Prioritizes funding based on risk over a larger geographic scale as above; variances would enable some additional vegetation to remain on levees while maintaining federal funding eligibility
CON: Unclear what constitutes an acceptable SWIF or variance. Assumes that some vegetation will eventually be removed over a longer timeframe if not consistent with variance. Development and approval of a SWIF and variances will divert resources from existing work program, although significant work has already been completed for the Green River. ESA and CWA compliance are uncertain.
4. Withdrawal from PL 84-99 (would not include Horseshoe Bend and Tukwila federal levees)
PRO: Reduced ESA/CWA liability. Increased ability to support ecological objectives as part of public safety flood risk reduction program.
CON: Does not contribute to regional effort to resolve problem of conflicting federal mandates. Ineligibility for federal levee repair funding. May increase legal exposure related to levee performance should a levee breach occur.

ADDITIONAL RESOURCES:

Levee Vegetation Symposium Keynote Speech (2007)

<https://www.kingcounty.gov/environment/waterandland/flooding/ron-sims-levee-vegetation-speech/video-transcript.aspx>

Overview of Levee Vegetation Management and Army Corps Funding Eligibility (2010)

http://your.kingcounty.gov/dnrp/library/water-and-land/flooding/kcfzcd/Overview_Levee_Vegetation_Board_042610.pdf

Federal Executives Letter on Levee Vegetation (USACE Northwest Division, EPA, and National Marine Fisheries Service, 2010) (attached)

Army Corps of Engineers Levee Vegetation Research Fact Sheet (Sept 2011)

http://wri.usace.army.mil/documents/woody_vegetation_report/FactSheet-Woody_Vegetation_Report.pdf

Levee Vegetation Presentation - Floodplain Management Association (Sept 2011)

http://www.floodplain.org/cmsAdmin/uploads/Murray-Trees_on_Levees.pdf
