



Flood District Advisory
Committee
May 1, 2013

1 *protecting public safety, the regional economy and critical infrastructure.*

Presentation Overview

- Operating Budget Preview
- Capital Project Policies and Criteria
- Capital Project Status and Preview of 2014-9
- Next Steps for 2014 Budget Proposal
- Discussion Questions:
 - Questions, Comments, Additional Information for May 30?

Flood Control District Operating Programs

Flood Risk Reduction

Approach:

- Identify hazards
- Assess risk and vulnerabilities
- Build awareness of hazards
- Develop a plan and strategy to reduce risks
- Actions to avoid risk
- Actions to reduce or mitigate risk
- Evaluation and adaptation

Flood District Work Program

- Flood Preparedness, Regional Flood Warning Center, and Post Flood Recovery
- Planning, Grants, Mitigation, and Public Outreach
- Flood Hazard Assessments, Mapping, and Technical Studies
- Resource Management, Annual Maintenance, and Facility Monitoring

2014 Proposed Preliminary Draft Operating Reductions

- 2013 Adopted Budget: \$9.913M
- 2014 Budget Preliminary draft request: \$9.598M
 - Reduction reflects one-time 2013 expense of Sammamish Transition Zone maintenance, “topping off” of BRPS fuel tanks
- Financial plan assumes further reduction to @ \$9.13M in 2015 due to:
 - Reduced levee vegetation mgmt on the Green
 - SWIF includes vegetation mgmt, so 2015-2019 costs will be refined through this effort
- Detailed Operating Budget by ILA category at May 30 meeting



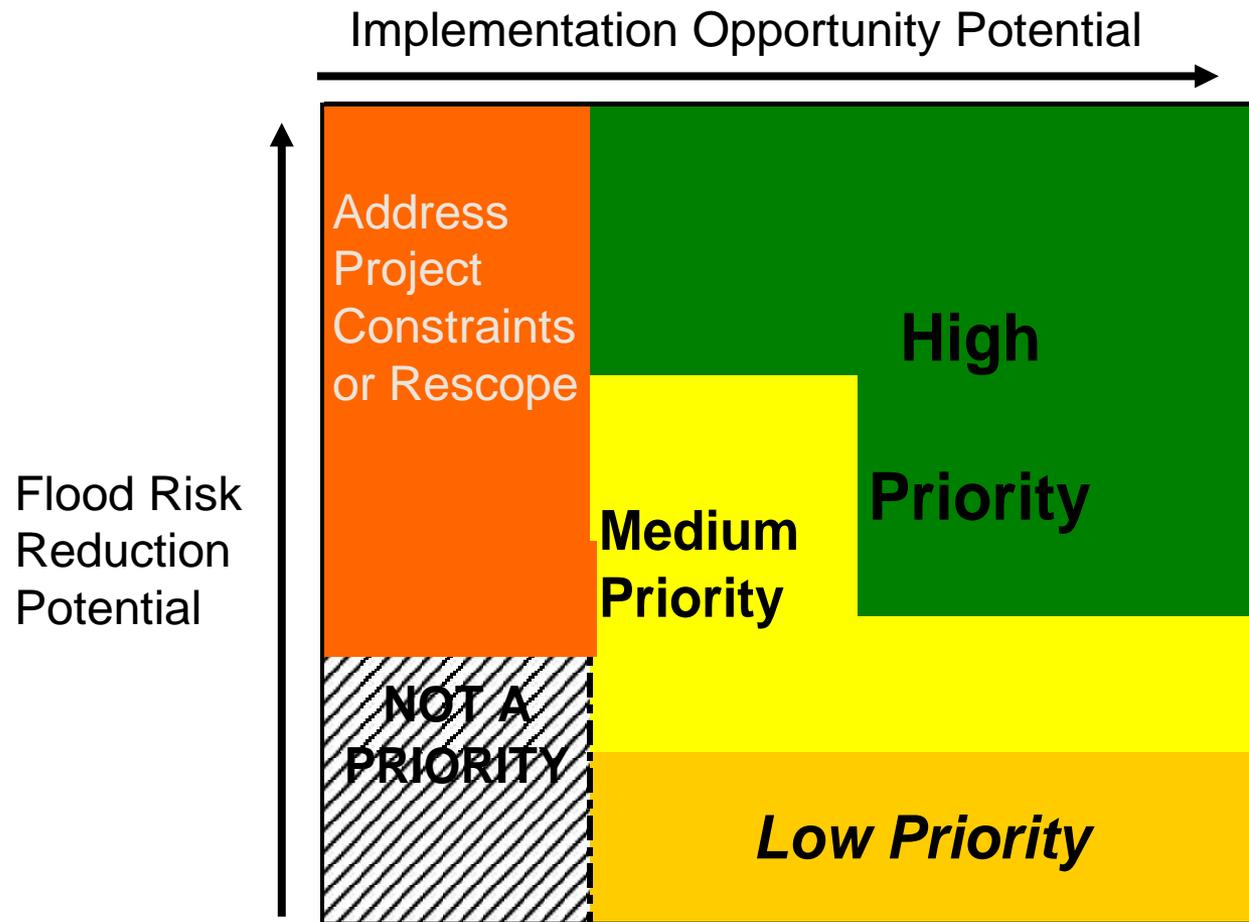
Sammamish Transition Zone



Tukwila 205

Capital Project Evaluation and 2014-9 CIP Preview

Evaluation Criteria: Project Evaluation Approach



NOTE: This is a conceptual diagram and is not intended to imply clear and distinct thresholds between these categories.

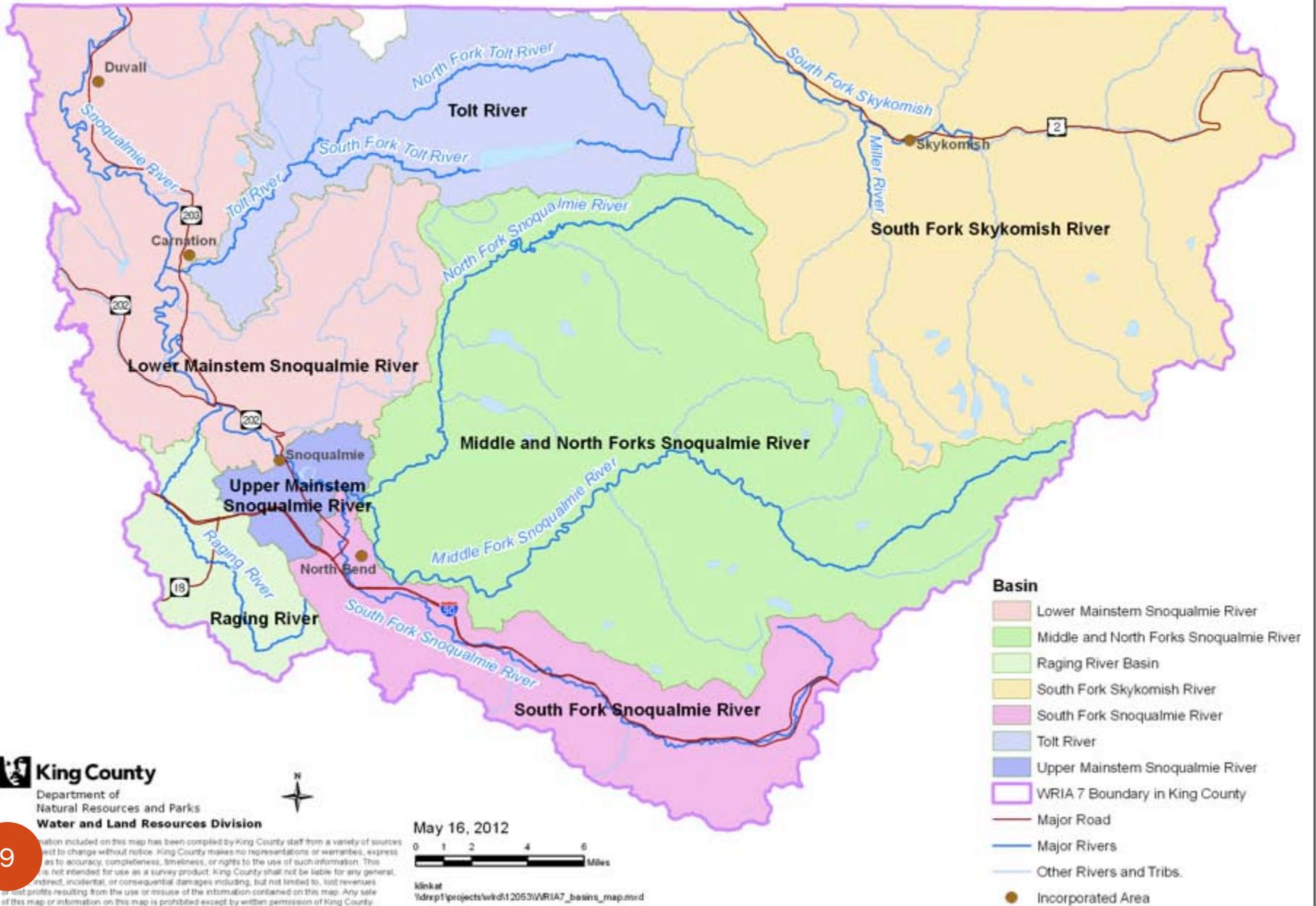
2008-2012 Capital Expenditures

	Snoqualmie /SF Skykomish	Cedar	Green	White	Countywide Miscellaneous	Seattle	Subreg'l Opp. Fund	Total
Acquisition	\$18,662,000	\$12,714,000	\$12,315,000	\$4,856,000				\$48,547,000
Levee Construction/Repair	\$2,301,000	\$3,572,000	\$7,082,000	\$484,000				\$13,439,000
Design	\$3,446,000	\$3,121,000	\$3,877,000	\$2,758,000				\$13,202,000
Elevation	\$2,735,000							\$2,735,000
Emergency Repair/Prep	\$24,000	\$120,000	\$6,489,000	\$358,000				\$6,991,000
Feasibility	\$416,000		\$780,000					\$1,196,000
Farm/Flood Task Force	\$283,000							\$283,000
Environmental Mitigation			\$35,000					\$35,000
Post-Construction Monitoring/Maint.					\$539,000			\$539,000
Payments to Jurisdictions					\$33,000	\$7,264,000	\$9,549,000	\$16,846,000
Miscellaneous					\$715,000			\$715,000
Grand Total	\$27,867,000	\$19,527,000	\$30,578,000	\$8,456,000	\$1,287,000	\$7,264,000	\$9,549,000	\$104,528,000

2008-2012 FCD Capital Accomplishments

	Snoqualmie-SF Skykomish	Cedar - Sammamish	Green - Duwamish	White River	TOTAL
Acquisition	46 properties, 160 acres	18 properties, 15 acres	6 properties, 42.6 acres	18 properties, 17.4 acres	88 properties, 235 acres
Home Elevation	50	-	-	-	50
Barns/Ag Structures	2 barn elevations	-	-	-	2
Farm Pads	26	-	-	-	26
Demolitions/ structure removal	50	76	-	11 demolished (6 relocated)	137 demolished (6 structures relocated)
Construction Projects	33	22	12	1	68

Snoqualmie Watershed



Snoqualmie Flood Risks



Flood inundation



Channel migration



Bank erosion



Alluvial fan hazards

Overall Approach

Corridor studies to determine best approaches (2013-14)

- Middle Fork
- South Fork
- Tolt
- Snoqualmie at Fall City

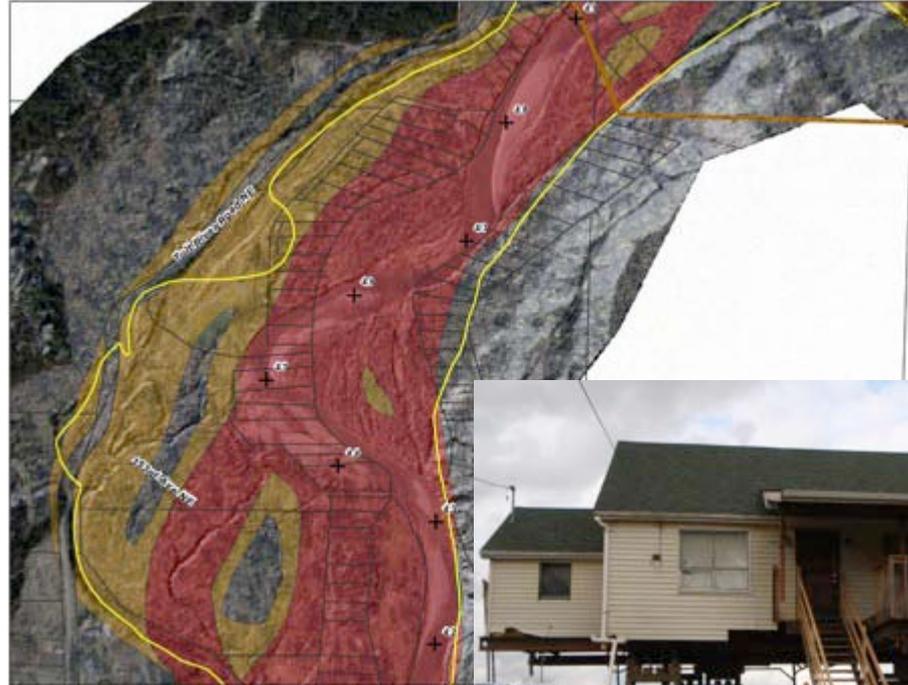
Focus on “non-structural” measures where feasible

- Buyouts
- Home elevations
- Farm pads

Protect critical infrastructure

- Levee retrofits and relocations
- Repairs when needed
- Sediment removal where appropriate

• Set back levees to allow room for floodwater and gravel storage, increase conveyance



South Fork Levee

Improvements

- Flooding and levee stability concerns
- Corridor study
- Phased implementation
- Construction starting 2015
- Possible partnership with WSDOT to expand Bendigo Blvd bridge
- Coordination with North Bend



*Levee
overtopping
along
South Fork*

Project Benefits: Improved flood protection to residential, commercial, and industrial properties, SR202 and local roads in North Bend and unincorporated King County. Reduced long-term maintenance costs

Middle & North Forks Snoqualmie

- Dynamic alluvial fan
- High channel migration and erosion risks
- Facilities require frequent and costly repairs
- Home buyouts and Middle Fork Corridor project



Middle Fork Conveyance Improvements

- Channel migration and flooding concerns
- Corridor study
- Construction beginning 2014 or 2015
- Coordination with North Bend

Channel changes 2005 to 2010



Project Benefits: Reduced risk to public safety and flooding of homes, businesses, and roads in northeastern part of North Bend and unincorporated King County. Reduced long-term maintenance costs.

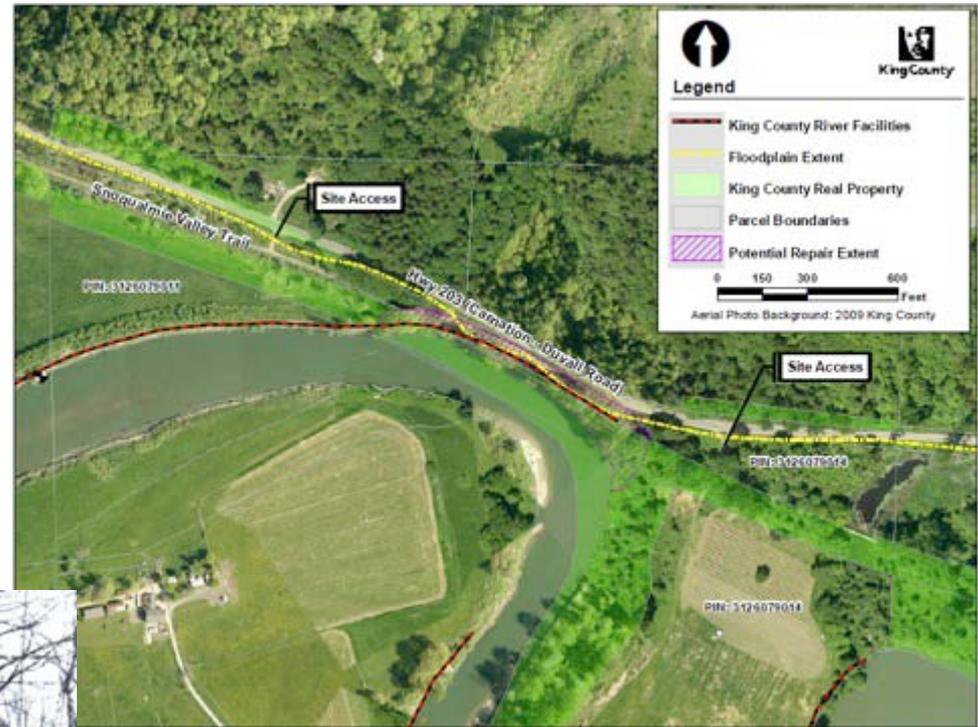
Lower Snoqualmie

- Deep, broad floodplain; levees do not limit flooding
- CIPs include home elevations, farm pads, barn elevations
- Two large-scale bank repairs
- Levee setback projects (corridor study)
- Landowner interest in basinwide study of flooding drivers



Sinerra Qualle Upper

- Rapidly eroding bank
- Protects SR 203, Snoqualmie Valley Trail
- 2014 or 2015 construction
- Possible partnership with WSDOT



Project Benefits: Provide erosion protection for SR 203, regional fiber optic trunk line, and Snoqualmie Valley Regional Trail

Winkelman

(Tolt Pipeline Protection)

- Rapidly eroding bank
- Protects SPU Tolt water supply pipeline
- 2015 construction



Project Benefit: Provides erosion protection for the Tolt River water supply pipeline, which carries 30% of potable water supply to north-end communities supplied by Seattle

Snoqualmie at Fall City and Aldair Levee

- Four potential levee setbacks
- Aldair levee seepage and geotechnical problems, very high risk
- Six properties acquired behind Aldair levee
- Costs and schedule TBD (technical analyses underway)



*Flooding at
Aldair Levee*

Tolt River

- Steep, dynamic river
- High sediment load, high channel migration risk
- Most of lower 2 miles leveed
- Tolt River Corridor Plan will establish priorities, strategy early 2014
 - Buyouts in high channel migration hazard
 - Levee setbacks to increase flood and sediment storage





Cedar River Basin

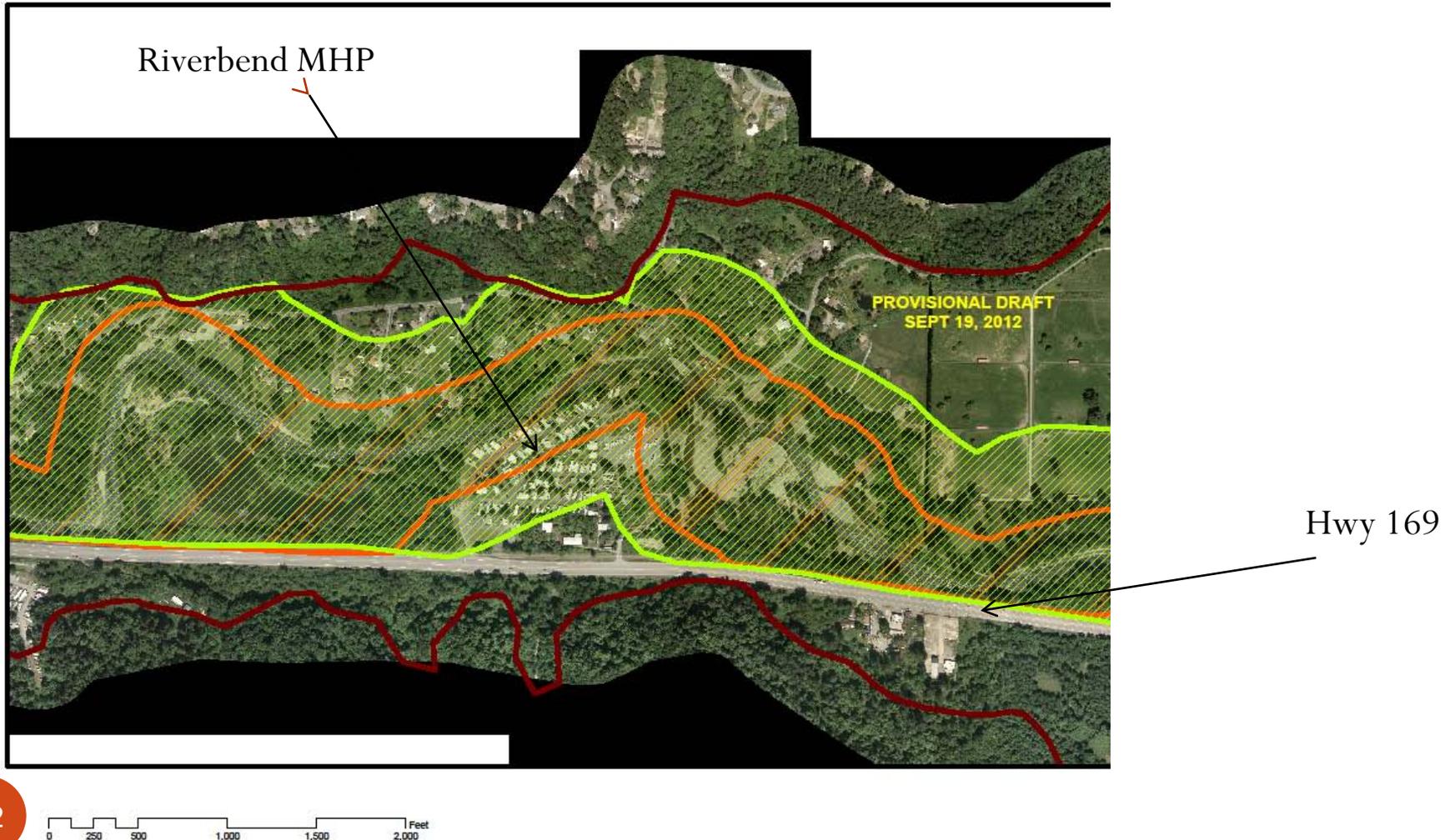
-  River/Stream
-  Other Basin Boundaries
-  Lake
-  Incorporated Area
-  Cedar River Basin

Cedar-Sammamish Strategy

- Reduce flood velocities and volumes that threaten critical public infrastructure, residential dwellings, and block sole-access roads
- Reduce public safety risks associated with neighborhood-scale flooding and channel migration
- Corridor Study to prioritize levee setbacks



Channel Migration Hazard Zone Riverbend MHP



Riverbend Mobile Home Park Status



1990 Revetment washout undermines homes.

- \$3M from Flood Control District
- 87 Mobile Homes + 55 RVs
- Appraised value: \$6.75M
- Offer extended January 2013, under negotiation
- With relocation – eliminates substantial flood/ erosion hazard risk
- 18.6 Acres - completes 4 miles of contiguous public on left (south) bank



Cedar River Gravel Removal



February 1996
Flood peak 7520 cfs in Renton

- Dredging channel to maintain capacity



January 2009
Flood peak 9470 cfs in Renton



White River Basin

-  River/Stream
-  Other Basin Boundaries
-  Lake
-  Incorporated Area
-  White River Basin

January 2009 Flood



Pacific Park

White River Estates (Pacific)



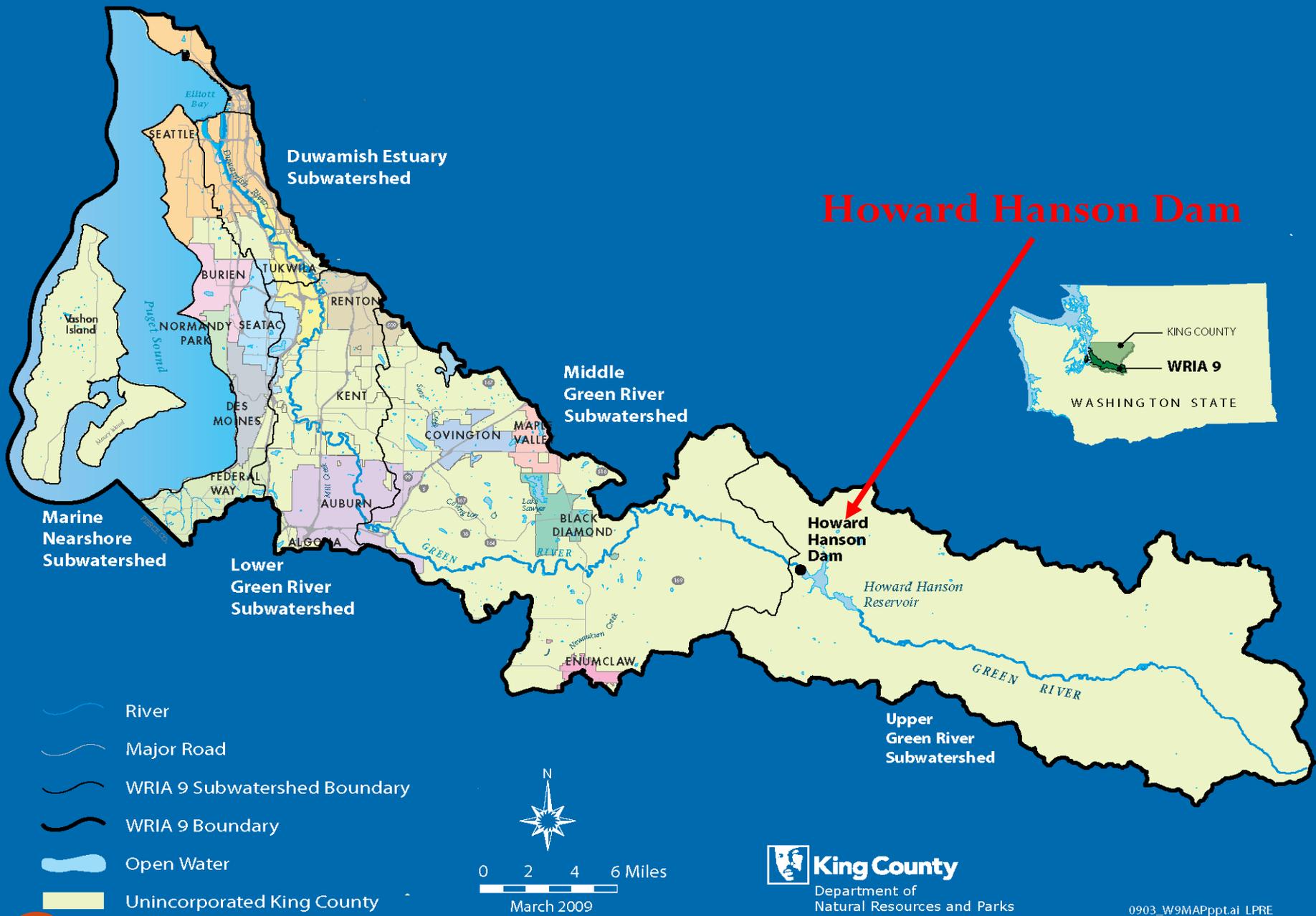
Stewart Avenue



White River: Countyline and Right Bank

- Proposed KCFCD capital projects are levee setbacks to provide increased flood capacity
- Two large-scale projects are proposed to be installed between A-Street and 8th Street bridges
 - Countyline Levee Setback
 - Right Bank (Pacific) Levee Setback





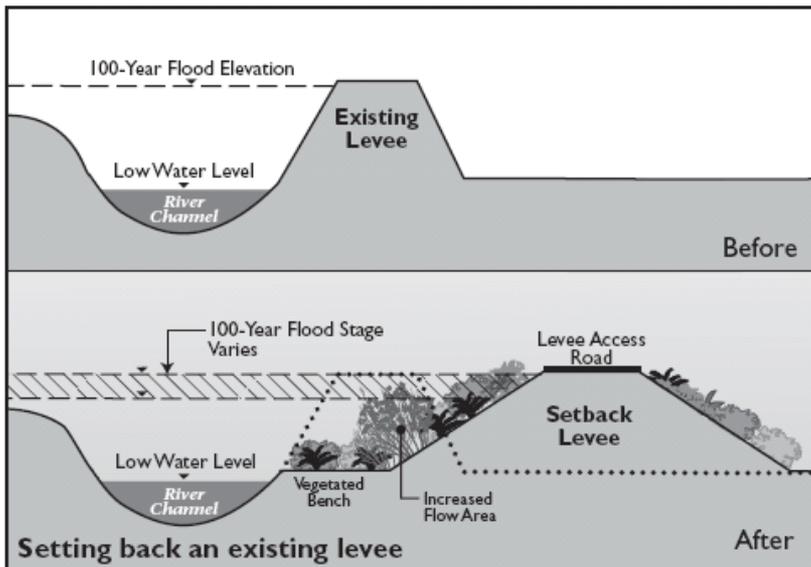
Green River Strategy

- Rehabilitate levees to current engineering designs to protect critical public infrastructure and regional distribution centers
- Although not feasible in all cases, setting back the levees is the preferred design to meet necessary geometry for a stable slope and installation of habitat features.
- Multi-Stakeholder “System-Wide Improvement Framework” to identify appropriate level of service, prioritize levee improvements, and provide alternative approach for managing vegetation



LEVEE SETBACK PROJECTS

2006 KING COUNTY FLOOD HAZARD MANAGEMENT PLAN



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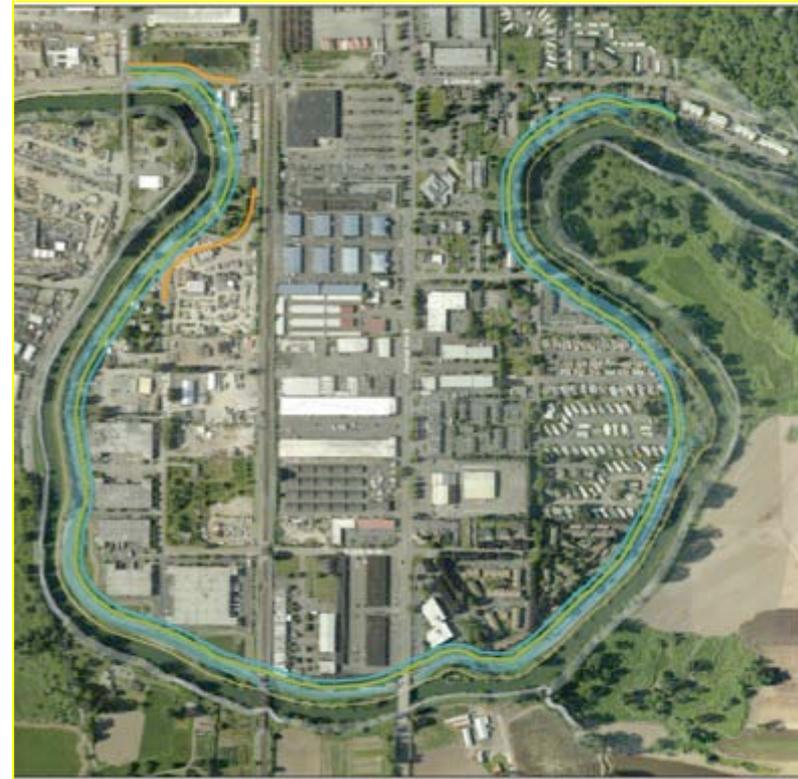
Reddington Levee Setback

- **Project Benefits:** Protect 596 residential and commercial properties with assessed value of \$680 million, designed for 0.2% annual flood (500-year)
- \$1 million state grant (terms require construction in 2013)



Horseshoe Bend Levee Rehabilitation

- Provide integrated system of stable levees to protect Kent, Renton and regionally significant land uses
- Design and construction depend on outcome of SWIF



Upper Russell Road Levee

Problem:

- Levee is too steep, structurally inadequate, and subject to chronic, ongoing, and repeated slope undercutting and slumping failures.
- Flood impacts extend north through densely developed and populated commercial and residential areas of Kent and Renton

Proposed Solution:

- Acquire needed right-of-way (no structures) and relocate Russell Road/James St intersection so levee can be set back to a stable geometry



Black River Pump Station Improvements



2014 Capital Highlights

- White:
 - Updated costs for 2 projects in Pacific (construction 2014-7)
 - Continue to hold some funding for acquisitions in channel migration areas in upper basin
- Green:
 - “SWIF” on the Green to develop shared vision and priorities for near and long-term
 - Construction at BRPS, Briscoe, Reddington, and possibly Upper Russell
- Snoqualmie:
 - Corridor planning information
 - 4 projects going to construction in 2014-5
 - Acquisition and elevation of at-risk structures
 - Farm pads and barn elevations
- Seattle:
 - Updated schedules for South Park and Seawall
- Cedar/Sammamish:
 - Feasibility of Cedar levee setbacks
 - Acquisitions of key parcels
 - 2 construction projects 2014-2016 (Cedar 205 gravel removal, Elliot Br)
 - Feasibility of Coal Creek channel improvements
 - McAleer/Lyon grant cost-share
- WRIA and SROF:
 - Status Quo for SROF
 - Inflation factor for WRIAs?
- Possible revised revenue assumptions
 - WSDOT funding for Cedar River (Elliott Bridge)
 - Conservation Futures Trust: Lower Russell/Holiday Kennel
 - FEMA mitigation grants (Home Elevation Grant under review by FEMA now)
 - Update FCD levy revenue based on latest projections

2014 Budget Development Process

- Basin-level review of project status and key changes (late April)
- **Advisory Committee May 1 2014 Budget Preview (today)**
- Joint BTC meeting May 7 to review operating proposal and combined CIP proposal
- Distribute 2014 budget proposal and CIP list by May 17
- Advisory Committee May 30: “Temperature Read”?
- Advisory Committee June 26
- Materials to be Provided:
 - Capital Project List: document proposed revisions from 2013 adopted budget
 - Capital project status proviso report; FCD annual report
 - Operating: Work Program Scope
 - All budget attachments: by basin, by project, by program, Subregional Opportunity Fund, District administrative costs
 - Financial Plan: What’s the Bottom Line?



Flood Preparedness Information

King County Flood Services

www.kingcounty.gov/flood

- King County Flood Alerts
- King County flood gage and phase information
- Sandbag distribution information

King County Flood Control District

www.kingcountyfloodcontrol.org