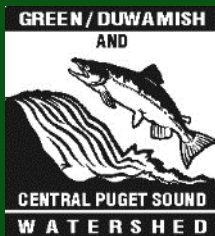


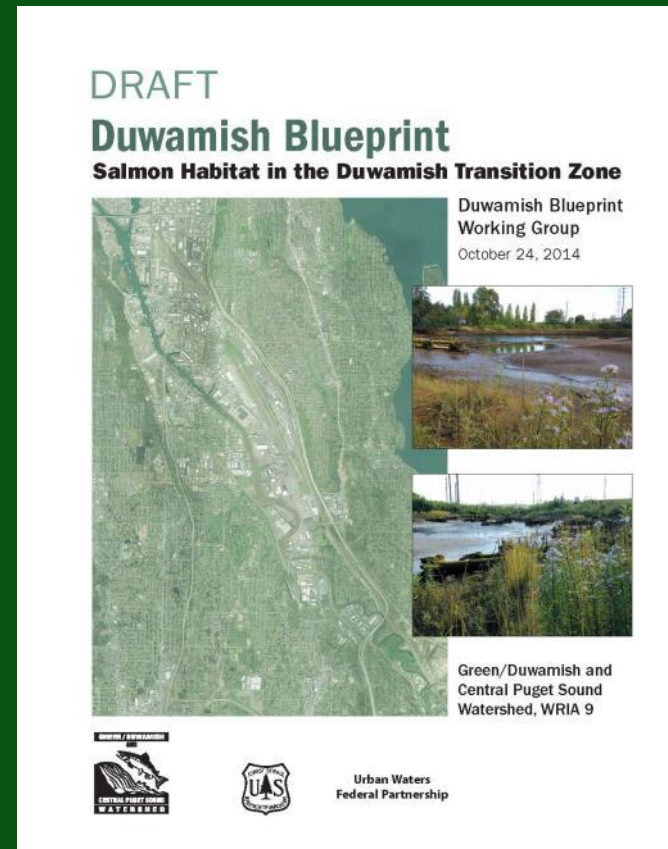
# Duwamish Blueprint: Habitat Opportunities in the Duwamish Transition Zone

November 5, 2014

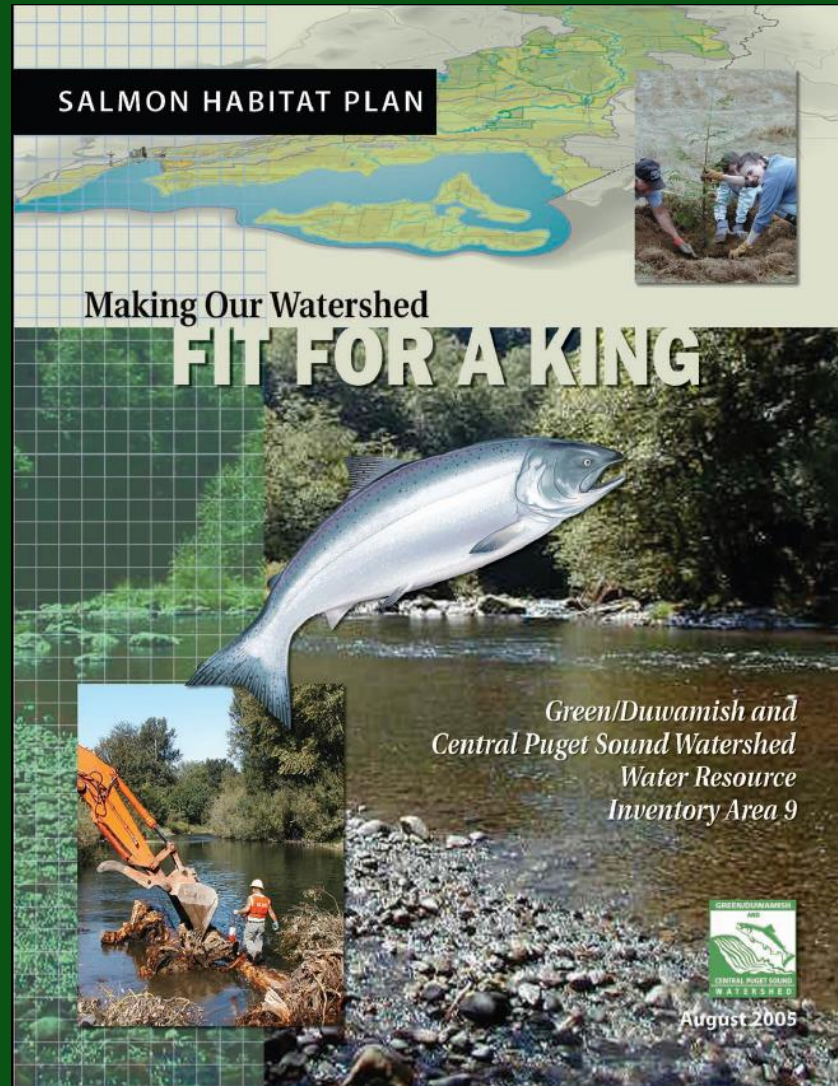
Presentation at King County's Science Seminar



Elissa Ostergaard, Planning and Stewardship Coordinator  
WRIA 9 – Green/Duwamish and Central Puget Sound Watershed



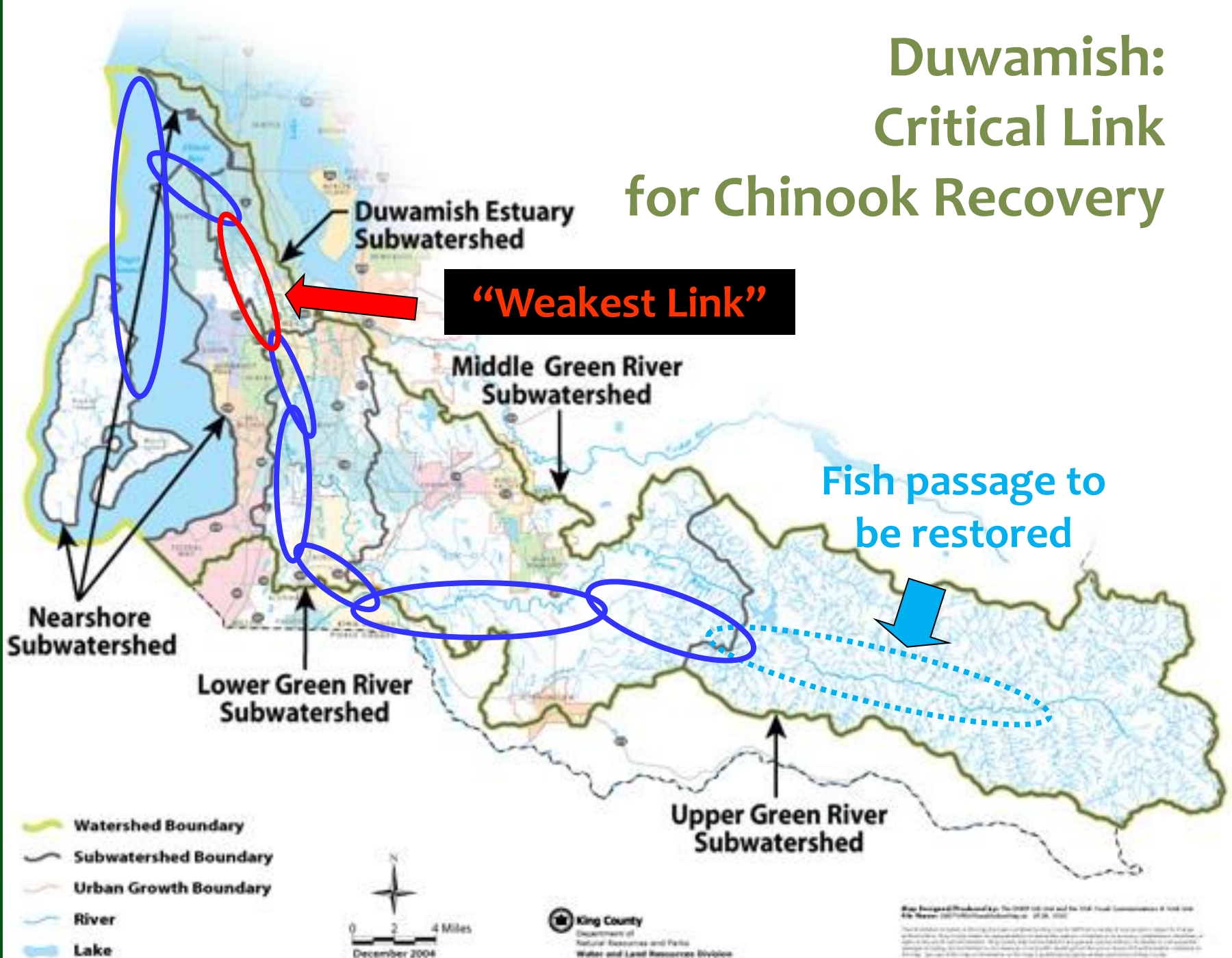
# WRIA 9 Salmon Habitat Plan



# Duwamish: Critical Link for Chinook Recovery

**“Weakest Link”**

Fish passage to  
be restored





- \* Young Chinook migrate year-round, peak February – June.
- \* Physically changing to adapt from fresh to salt water.
- \* Eat aquatic organisms—good sources are marshes with creeks flowing in and mud flats.
- \* Bugs from trees will do.
- \* Need shallow water off-channel to rest during high flows.



Juvenile Chinook salmon



## Duwamish Estuary Subwatershed

- 11 miles of river
- Lower half dredged and straightened for boat traffic
- Two large rivers diverted away (Cedar and White)
- Only 3% of original wetlands and estuary habitat remains
- High diversity – Tukwila School District most diverse in nation





# Transition Zone



- \* 9 miles long – 6 miles in Tukwila
- \* “Nursery” - small fish eat and grow as they transition to salt water
- \* Large fish survive best in Puget Sound
- \* Most important area for intertidal shallow water habitat



# Duwamish: Greatest Need, Fewest Opportunities

- \* Few undeveloped parcels
- \* Port and water-dependent uses
- \* Financial backbone of the area
- \* Equity & social justice
- \* Contamination
- \* Cultural resources
- \* Expensive



# Duwamish Blueprint: WRIA 9 partners identifying realistic opportunities

- \* Plan and strategy for Duwamish Transition Zone
- \* Duwamish Working Group partners include WRIA 9, Port of Seattle, cities of Seattle and Tukwila, King County, Boeing, Forterra, Washington Department of Fish and Wildlife, NOAA
- \* Cooperation and ability to react when opportunities arise needed
- \* Restoring a few large parcels would meet the 2025 Duwamish habitat restoration goal for Chinook recovery (40 acres of new shallow water habitat)



# Habitat Targets - Current Status

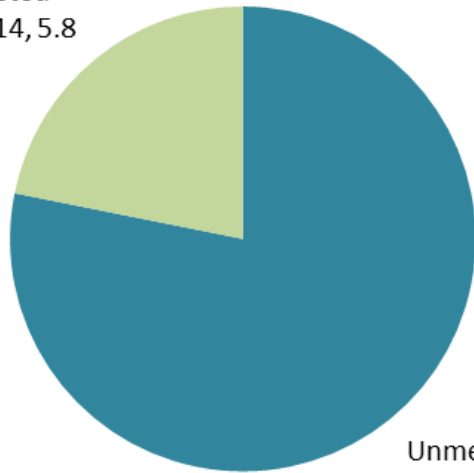
2015 goals from the 2005 Salmon Habitat Plan (WRIA 9):

- \* 26.5 acres of shallow water habitat and
- \* 3 miles of shoreline bank restored



**Shallow Water Habitat Restored (acres)**

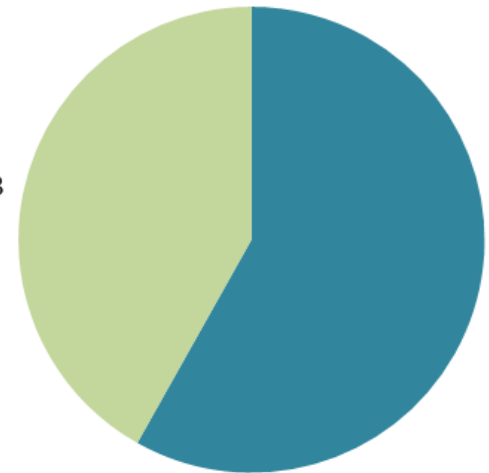
Completed  
2005-2014, 5.8



Unmet 2015  
Goal, 20.7

**Shoreline Bank Restored (miles)**

Completed  
2005-2014, 1.3



Unmet 2015  
Goal, 1.7

# New Habitat Goals



- \* 40 acres of shallow water habitat by 2025 (mud flats and marsh)

Potential –

- \* 100 acres of shallow water habitat (if all reaches restored to fullest extent)
- \* 11.7 miles of shoreline bank/riparian restoration
- \* 5,350 pieces of large woody debris

# Habitat Project Design

- \* Large projects preferred (>2 acres)
- \* Mudflat in Lower Duwamish and off-channel habitats in the upper Duwamish – most needed
- \* Brackish areas near streams are best





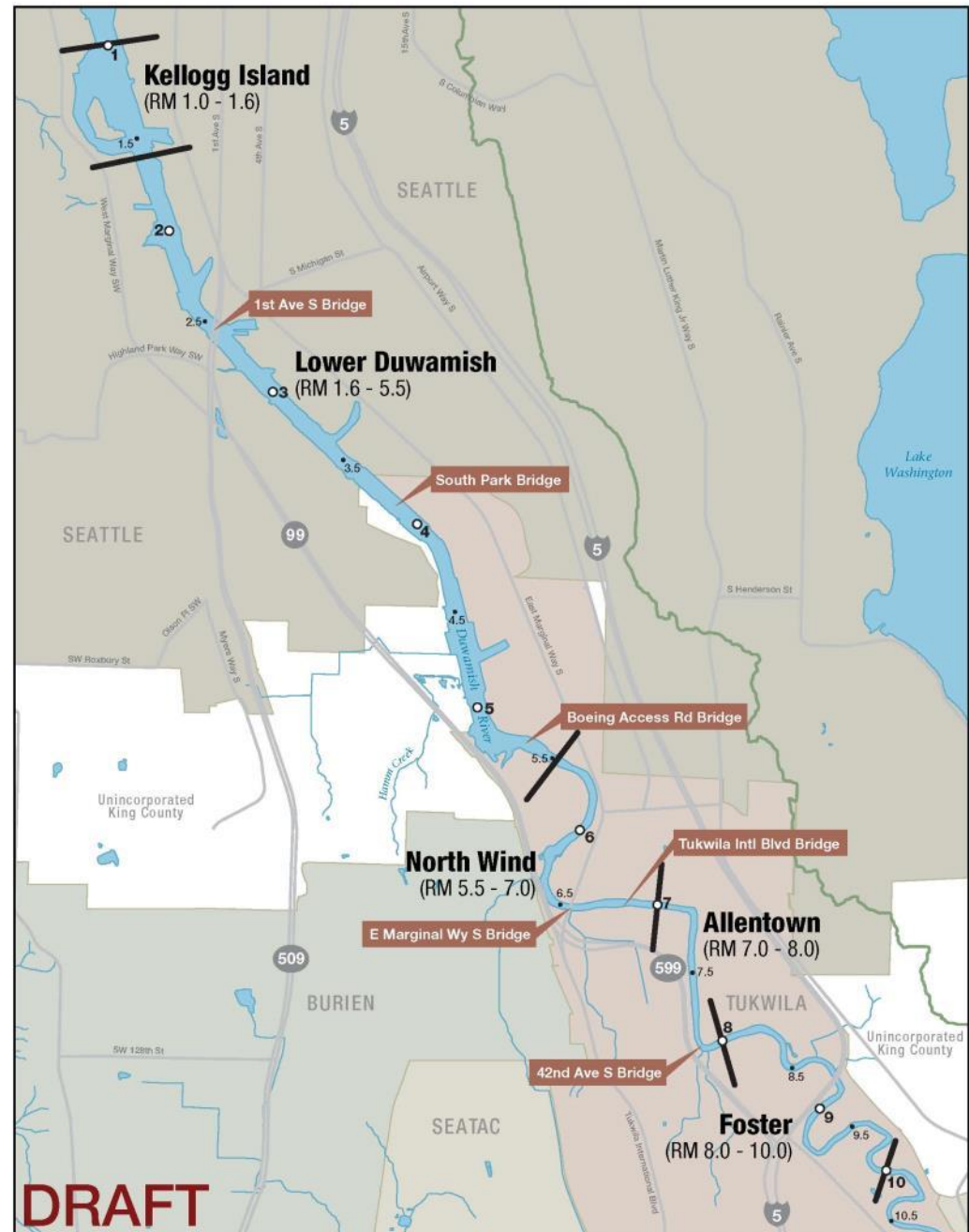
# Habitat Project Design

- \* Improve shoreline banks if more habitat can't be built
- \* Plant trees across the subwatershed
- \* Vary elevations and slope banks gradually to adapt to sea level rise



[illegible]

# Next Habitat Opportunities?



## Index Map: Duwamish Blueprint Habitat Reaches



# North Wind Reach

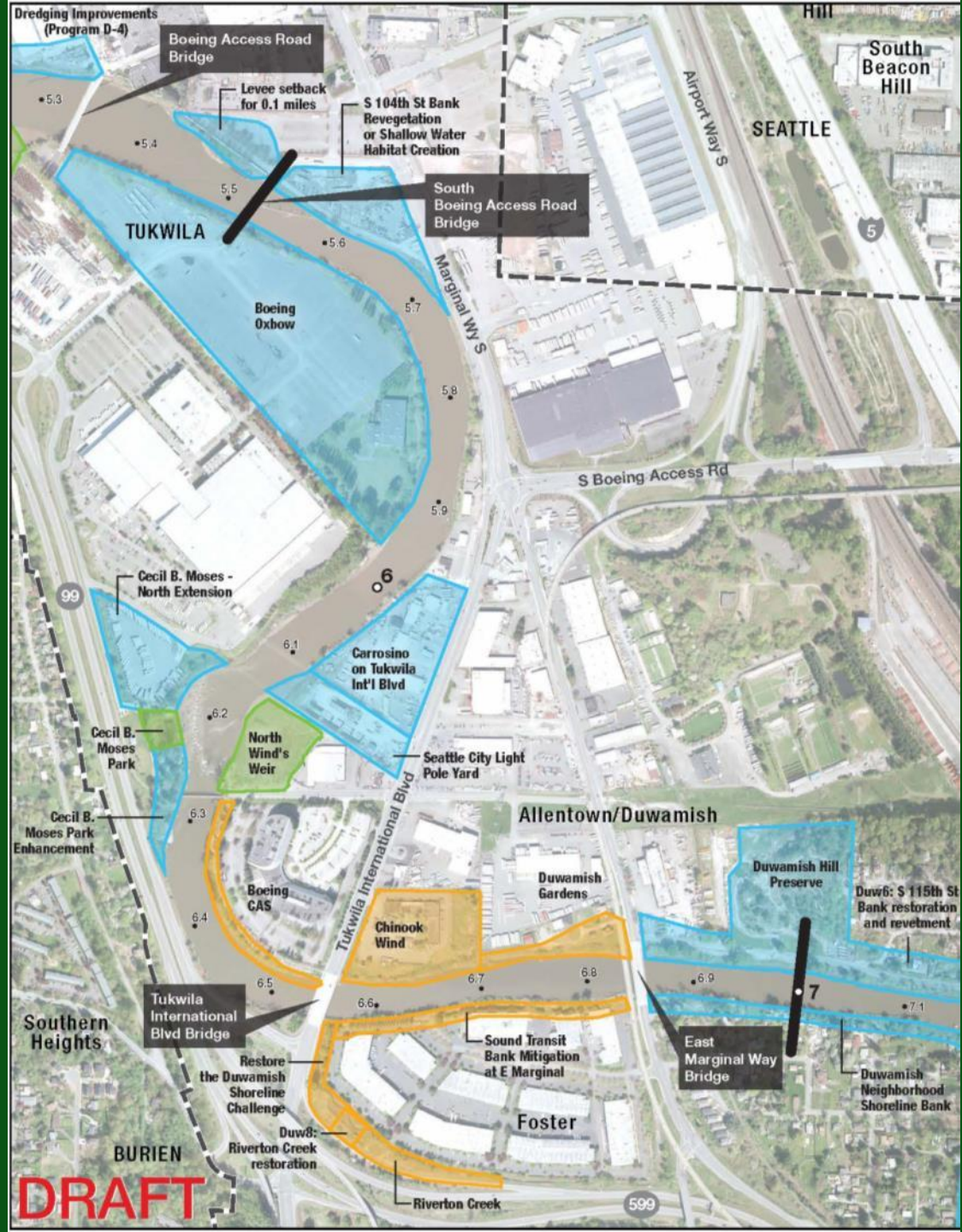
Duamish Blueprint North Wind Reach (RM 5.5-7.0) Map

## Restoration Projects



Completed  
In Progress  
Potential

— Reach Boundaries  
○ 0.1 River Miles, 1/10 Mile Increments  
■ Bridges  
--- City Boundaries





# For Sale: Chinook Wind





# Next Tukwila/WRIA 9 Project: Chinook Wind





# For Sale: Chinook Wind

- \* 5.83 acres – largest restoration site thus far
- \* \$6-7M – purchase price
- \* Hotel & parking lot
- \* Cultural resources and data recovery?
- \* Contamination?
- \* \$1,950,000 from Conservation Futures allocated to City of Tukwila for purchase – September 2014
- \* Remaining: Mitigation Reserves Program, fee-in-lieu for mitigation, salmon recovery funds, City match?

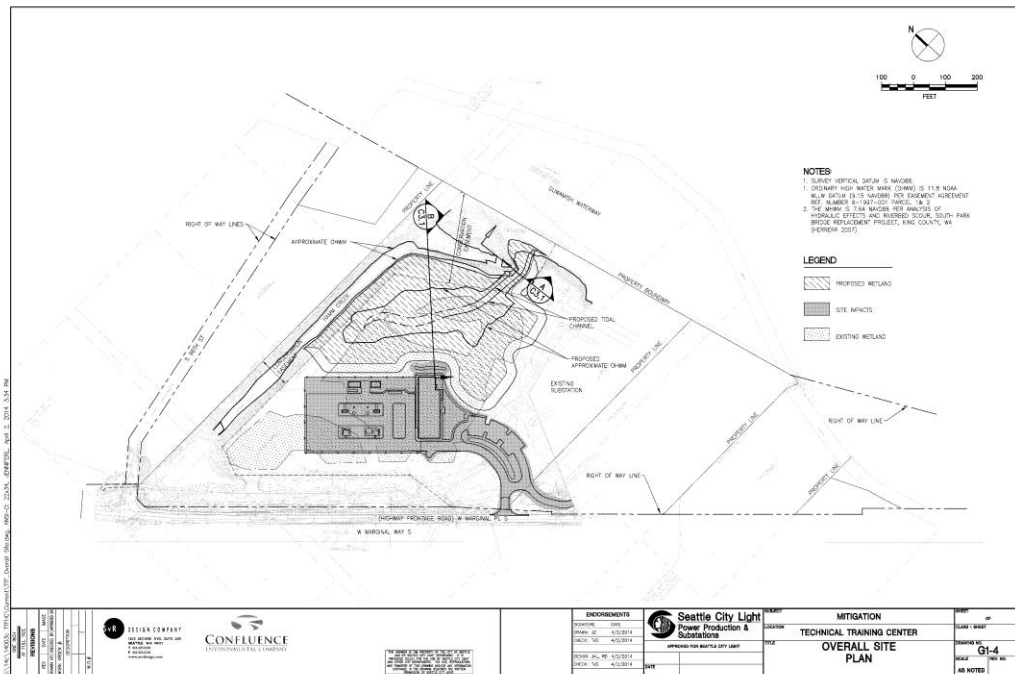


# Hamm Creek/City Light North



- \* 20 acres
- \* In Transition Zone
- \* Undeveloped
- \* Hamm Creek provides fresh water
- \* Public ownership - Seattle City Light
- \* Last, best, most cost effective place for large-scale restoration

# Latest Seattle City Light Plans for Hamm Creek/City Light North



- \* Training facility
- \* 1/3 of site habitat potential
- \* Requires new armoring to protect building
- \* Future sea level rise
- \* Alternatives analysis – other large, flat sites not on the estuary?
- \* Need public leadership for estuary restoration



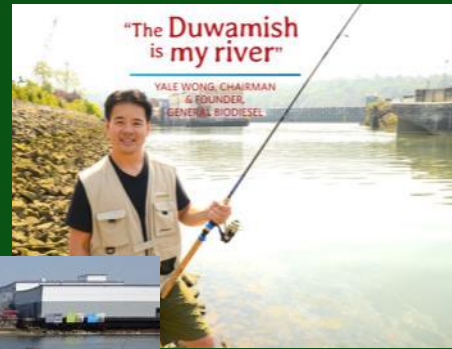
# Desimone (former Boeing) Oxbow



- \* Inside Transition Zone, just upstream of Superfund area
- \* No known contamination
- \* Lightly used parking area
- \* Over 30 acres
- \* Owner would need to be willing to sell - ?

# Funding Strategies

- \* Use mitigation and restoration funds with WRIA 9 support to project sponsors
- \* Reserve or source needed for \$multi-million opportunities that arise
- \* Equity and social justice – neighborhoods want healthy environment, trees, open space, access to the river
- \* Urban Waters Federal Partnership
- \* **Local support to focus attention on need for urban restoration at regional scale**



# Blueprint Recommendations

- \* Community involvement is critical for ongoing support and site success
- \* Strategy for watershed-wide riparian tree planting
- \* Economic & social analysis of benefits of Chinook Wind
- \* Move forward with largest projects and shorelines
- \* Part-time Duwamish Basin Steward



Community planting event at  
North Wind's Weir, Feb. 6, 2010



# Contact Information

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Seattle, WA 98104

Funding provided in part by the USDA Forest Service  
through the Urban Waters Federal Partnership

# Duwamish Blueprint Working Group

- \* Rebecca Hoff, National Oceanic & Atmospheric Administration
- \* Jeff Stern, King County
- \* Kathy Minsch, Seattle Public Utilities
- \* Andrea Cummins/Sandra Whiting/Ryan Larson, City of Tukwila
- \* Laura Arber, Washington Department of Fish and Wildlife
- \* Brian Anderson, The Boeing Company
- \* John Sloan/George Blomberg, Port of Seattle
- \* Judy Blanco/Liz Johnston, Forterra
- \* Advisory – Glen St. Amant, Muckleshoot Indian Tribe
- \* Plus subject matter experts on climate change, fish use of the Duwamish, urban forestry