

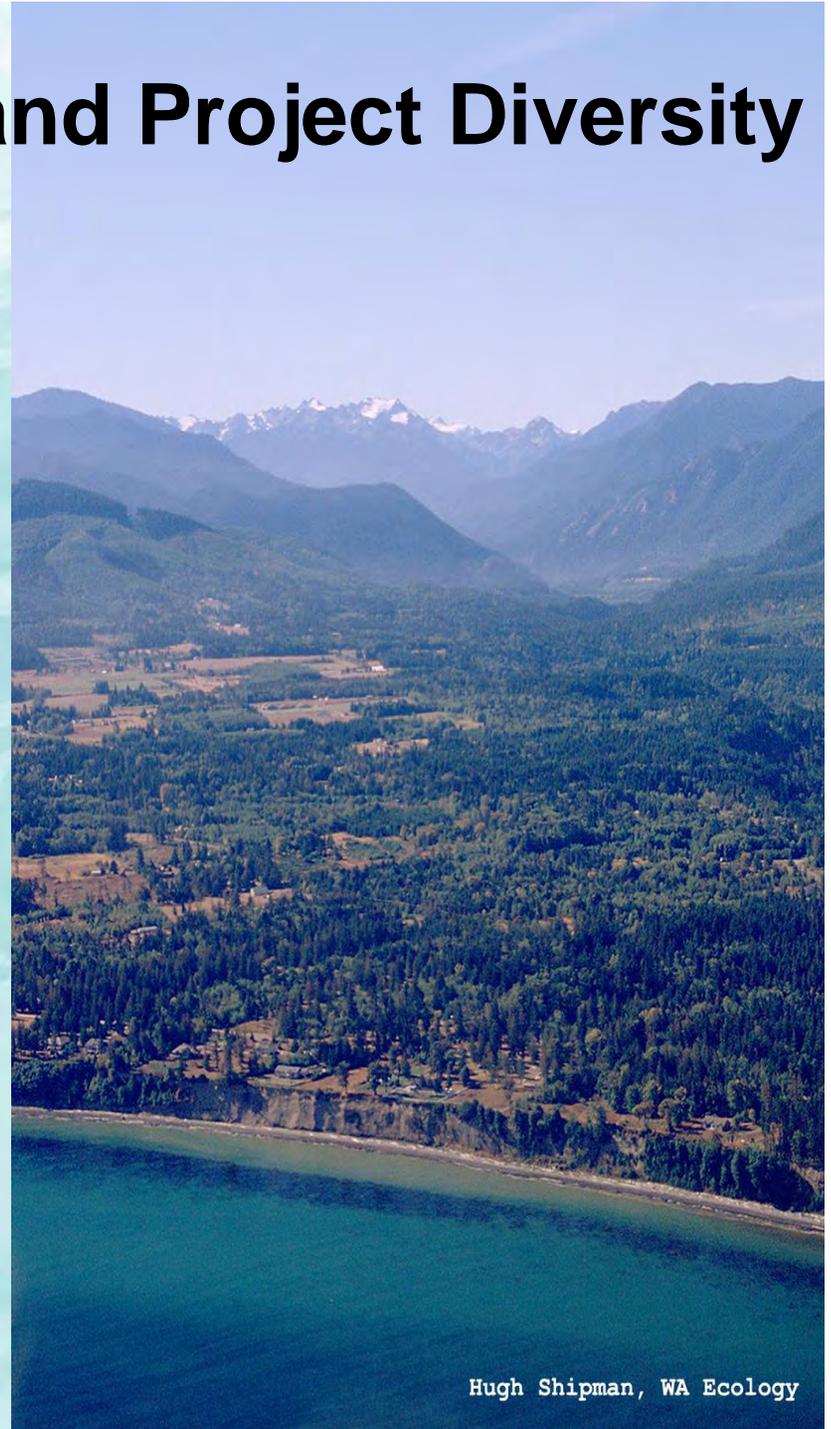
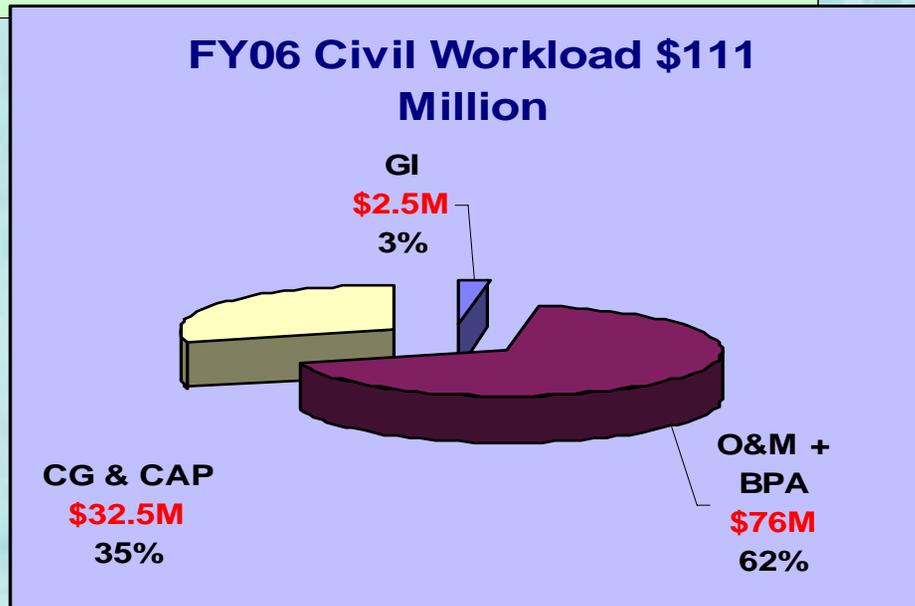
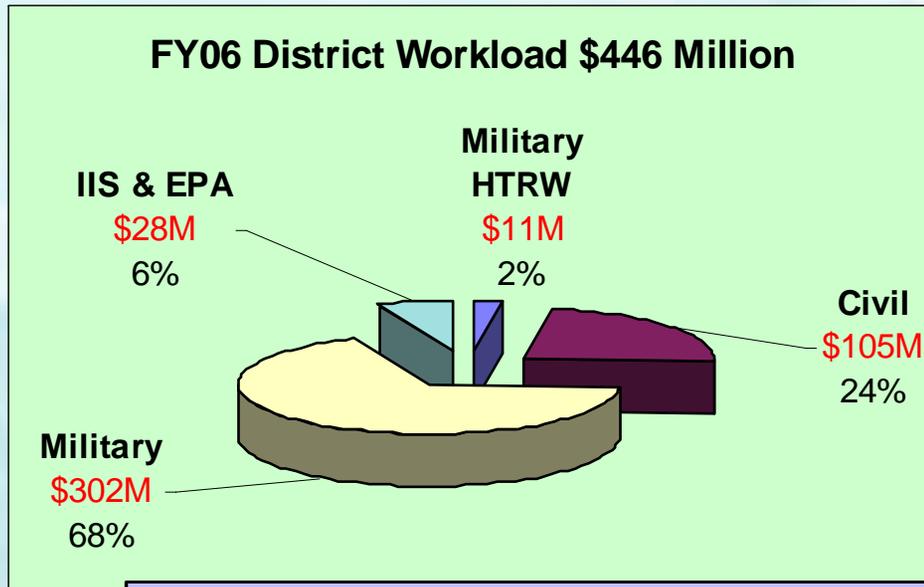
Eco Modeling and Decision-making Workshop Vicksburg, MS

**Jeffrey F. Dillon
USACE- Seattle District**

22 June 2006



Seattle District Workload and Project Diversity



Which programs/project are most likely to use eco modeling and decision making tools?

General Investigations

- Lake Washington
- Chehalis Basin
- White River

• *Puget Sound Nearshore*

Construction General

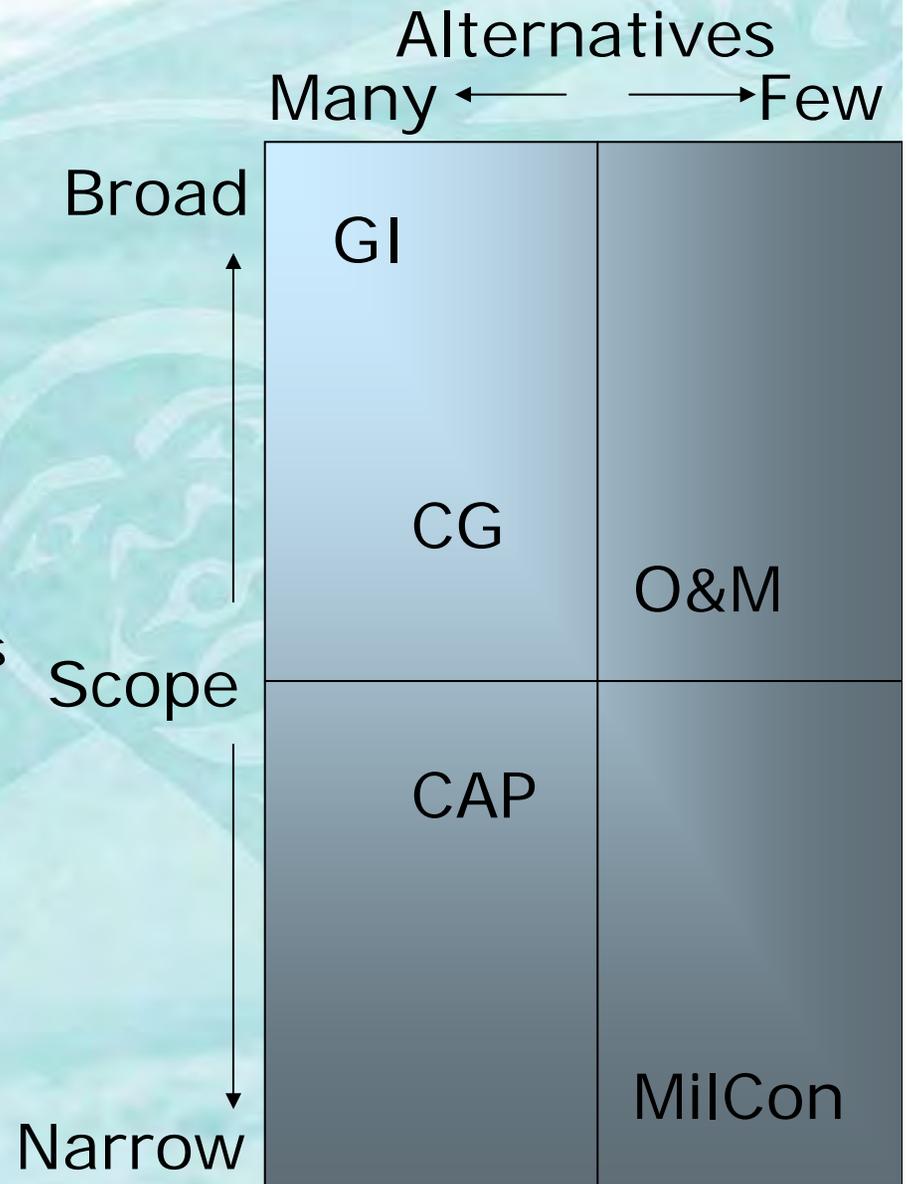
- Green – Duwamish
- Puget Sound and Adjacent Waters Restoration Program

Continuing Authorities Program

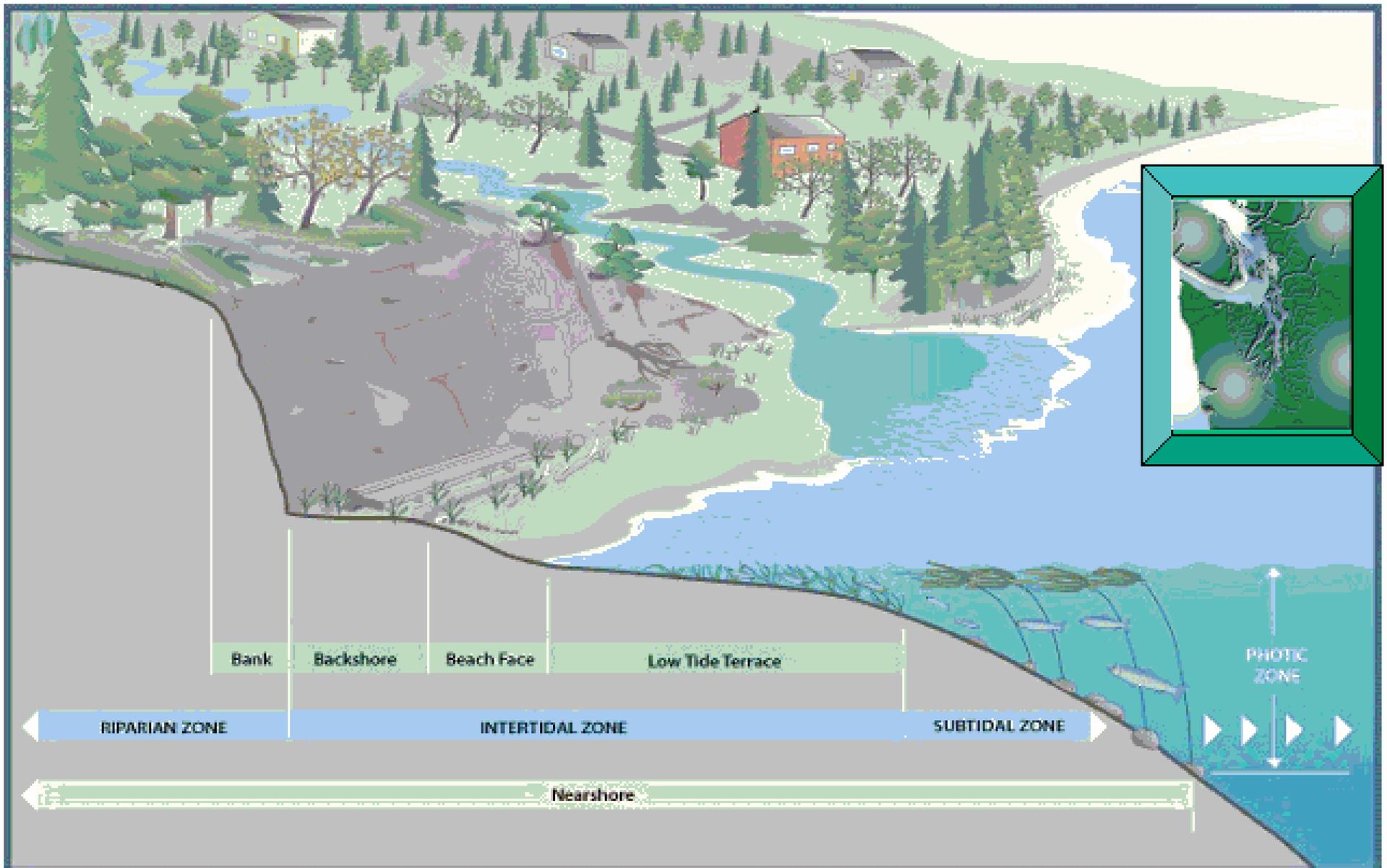
- Section 1135
- Section 206

Operations and Maintenance

- Mitigation







Puget Sound Nearshore Project



Graphic courtesy of
King County

Ecosystem Problems Being Addressed

Altered Tidal Inundation

Biotic Losses

Sediment Transport Disruption

Contamination

Intertidal Degradation/Conversion



PSNER Decisions Required

- Restoration Decisions (USACE)
 - Cost Benefit Evaluation
 - Restoration Priority Evaluation
- Modeling Decisions
 - Restoration Modeling
 - Information Systems Management?



Restoration Challenges for Puget Sound

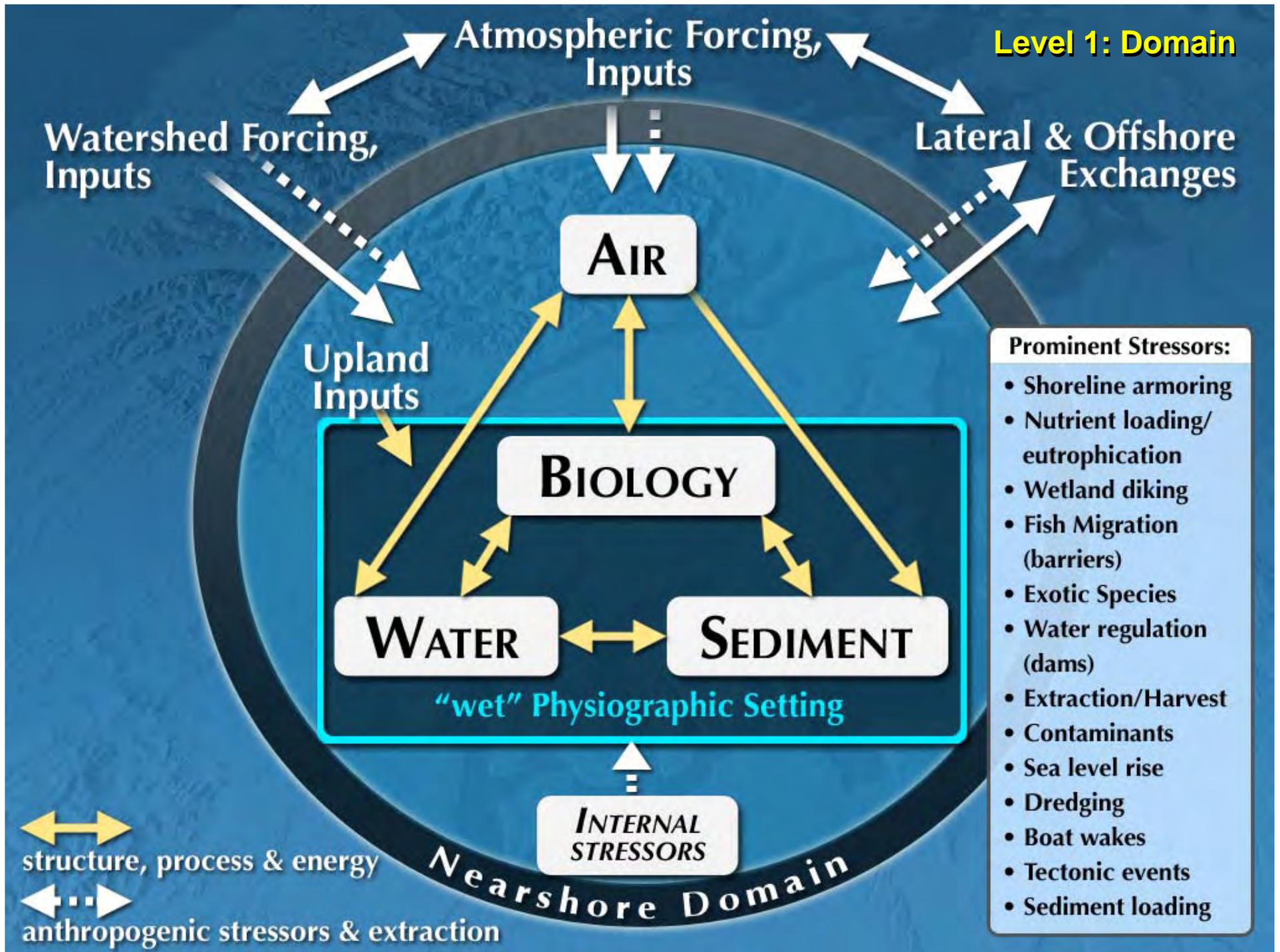
Establishing science based,
process oriented restoration.

Implementing a multi-scale
and multi-project
framework.

Understanding social
motivations and constraints
on ecosystem restoration.

Community
Regulatory
ESA





Implementing a multi-scale and multi-project nearshore restoration program.

PSNERP "Anchor"
Beach Restoration



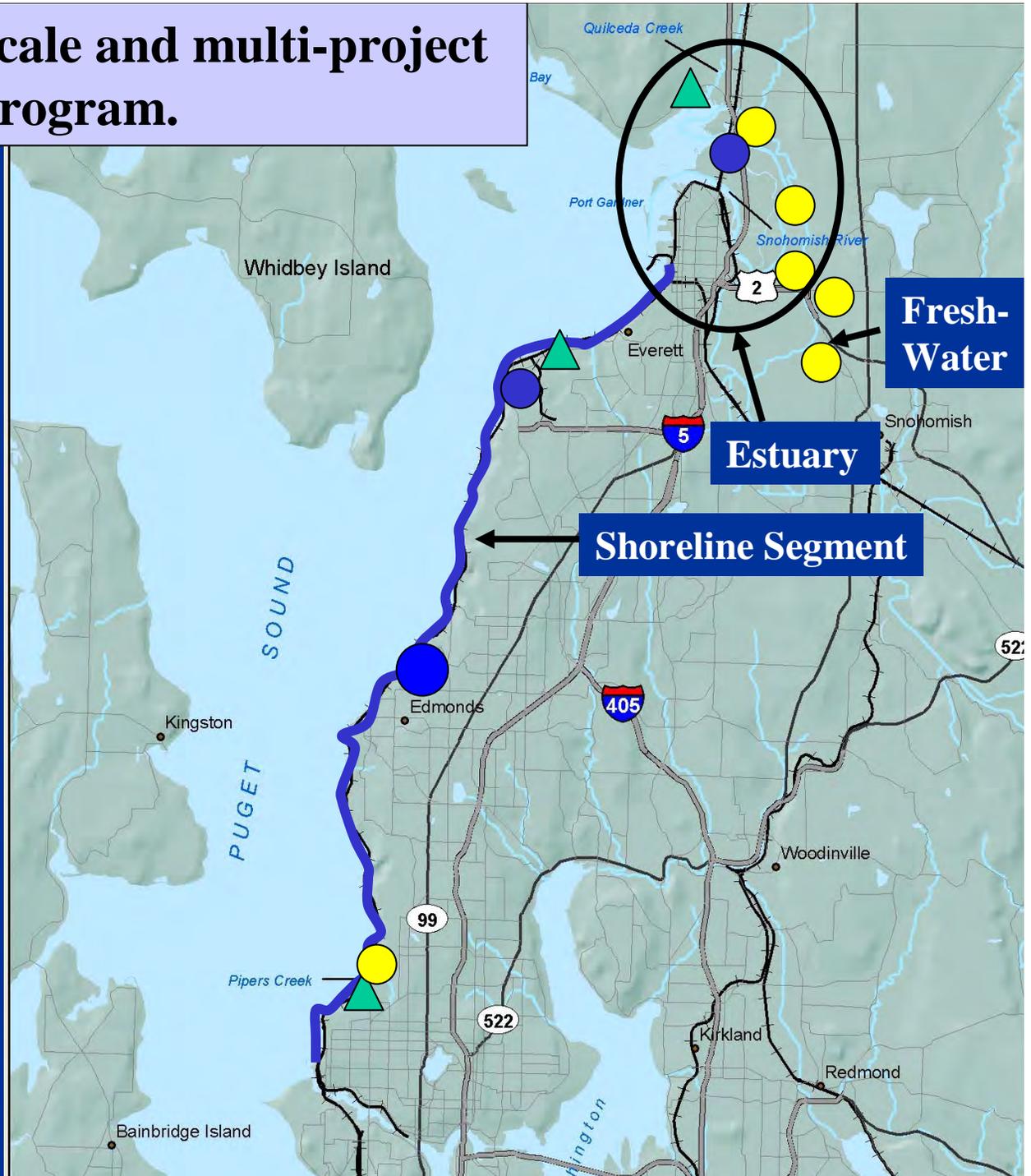
TNC/TPL/Local Land
Trust Acquisition



PSNERP Estuary
Wetland Restoration



Tribal, Lead Entity,
MRC Estuary
Restoration/Protection



Tools being developed to make decisions

Change Analysis

Spatial GIS product- Based on current data and 1890's GLO land survey maps.

Nearshore Typology

Establishing descriptive nomenclature for Puget Sound Nearshore features.

Valued Ecosystem Components.

Linking valued components of the nearshore to processes and ecosystem health.

Management Measures

20 component actions for restoration.

Monitoring/Research Plan

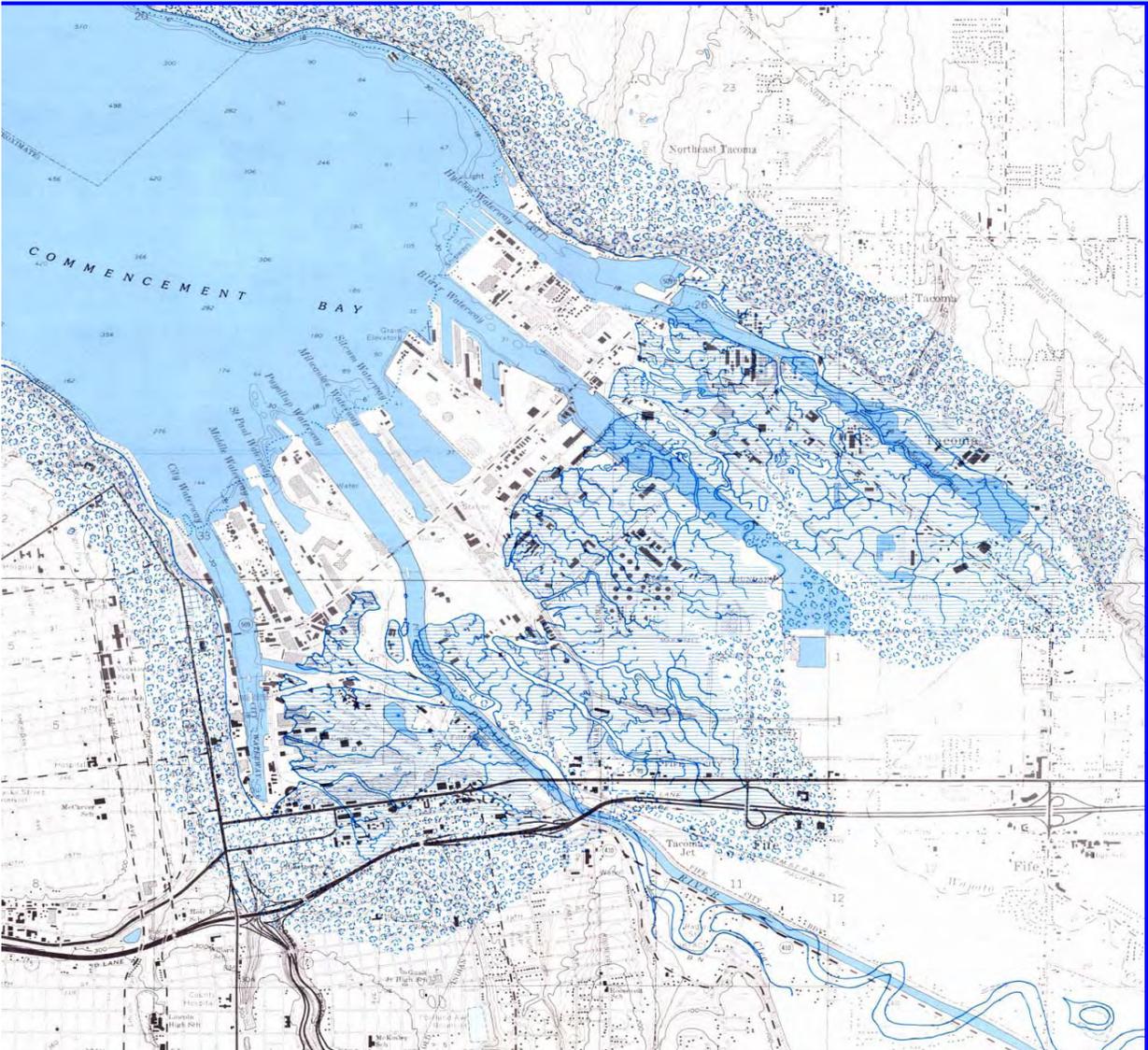
Defining mechanisms for future ecosystem change and incorporation of restoration Knowledge.

Strategic Needs Assessment Report

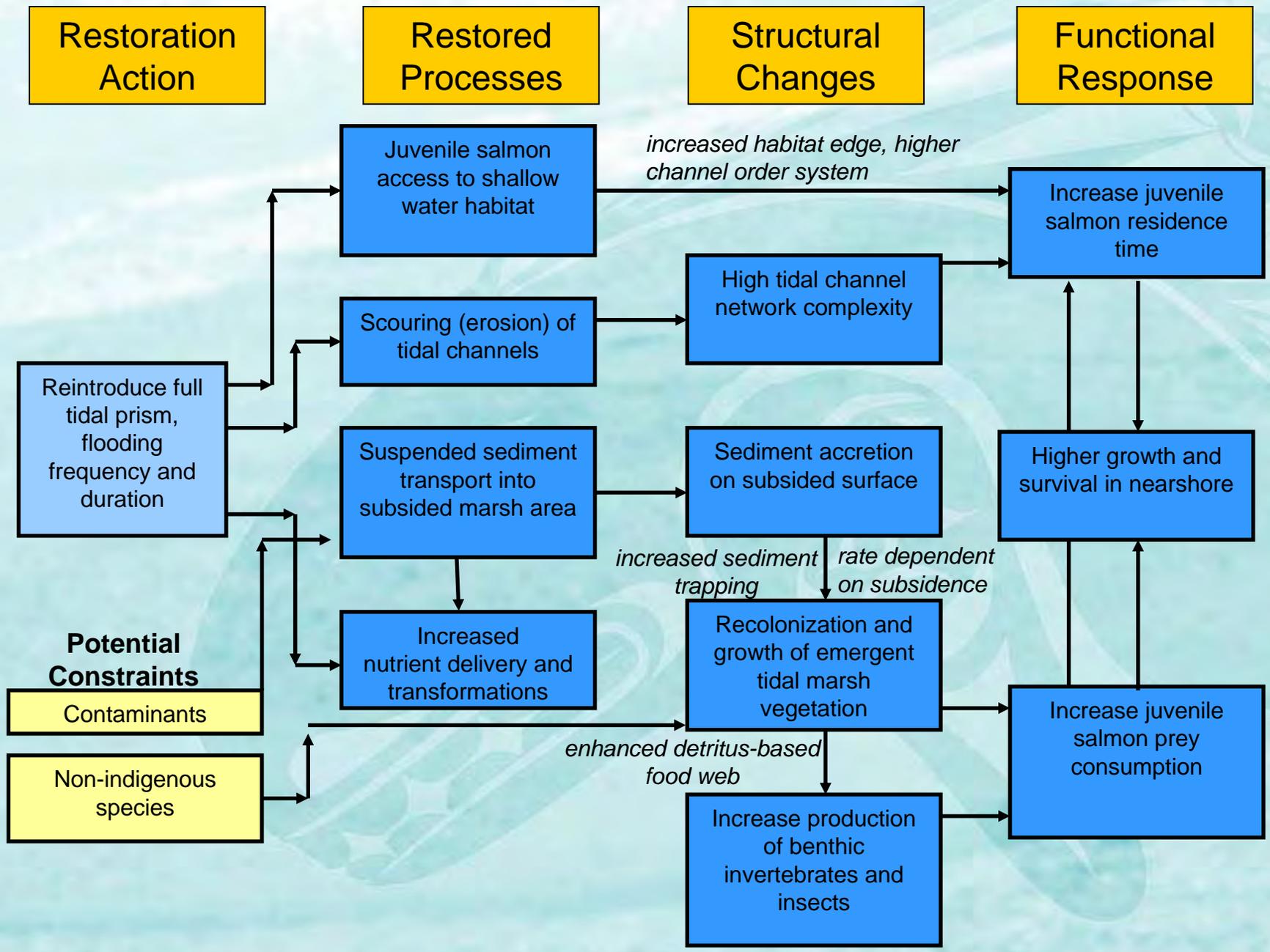
Linking the parts together and telling the story.



Puyallup River and Commencement Bay Change Analysis



Level 3 (ACTION SCENARIO SUBMODEL, dike breach) PSNERP Conceptual Model



CONCLUSIONS

- **What are we working towards.**

Common framework for restoring, protecting and managing Puget Sound.

- **What else do we need?**

Dynamic Technical Baseline

Ecosystem Scale Monitoring

Scientific Decision Support System