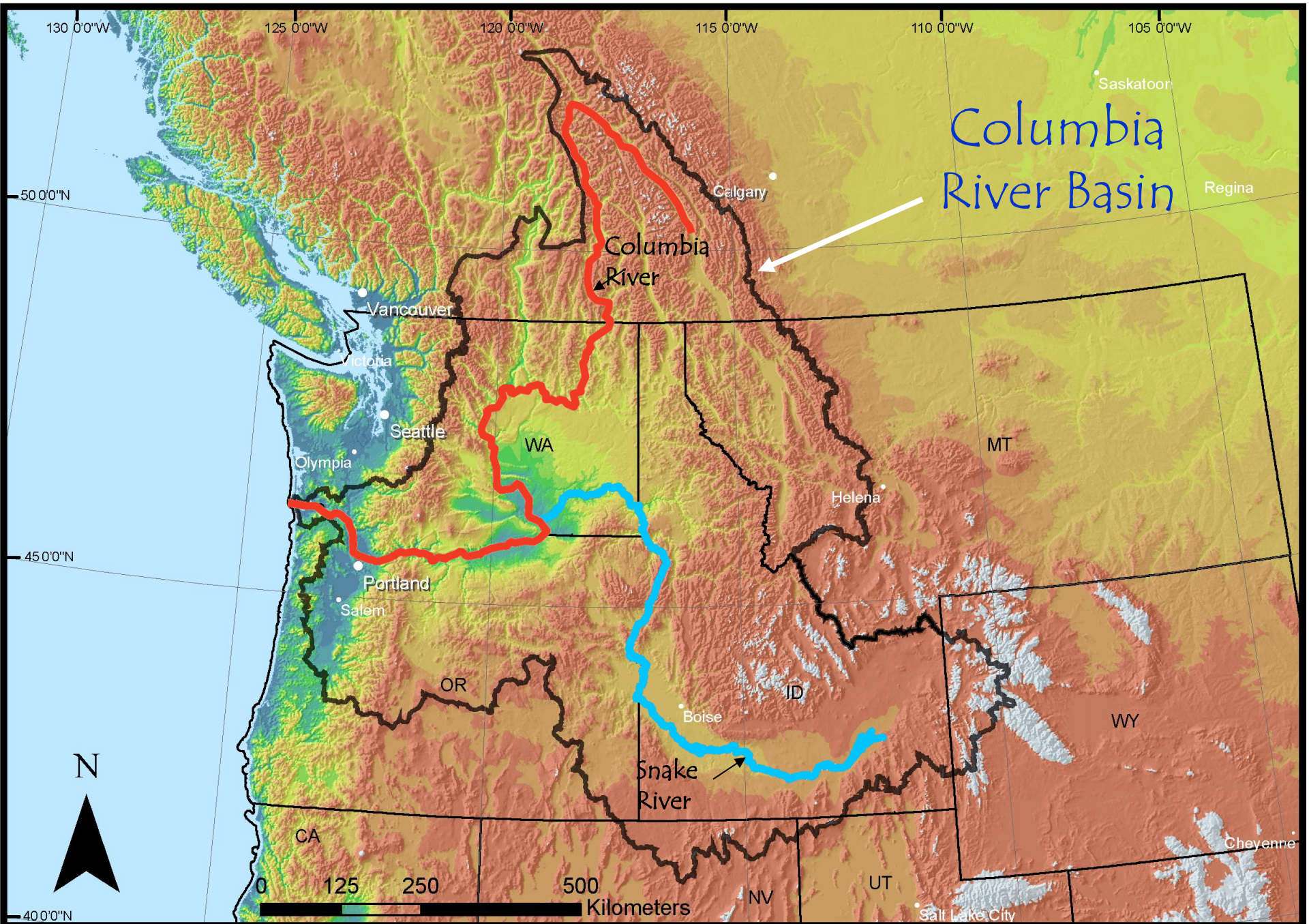
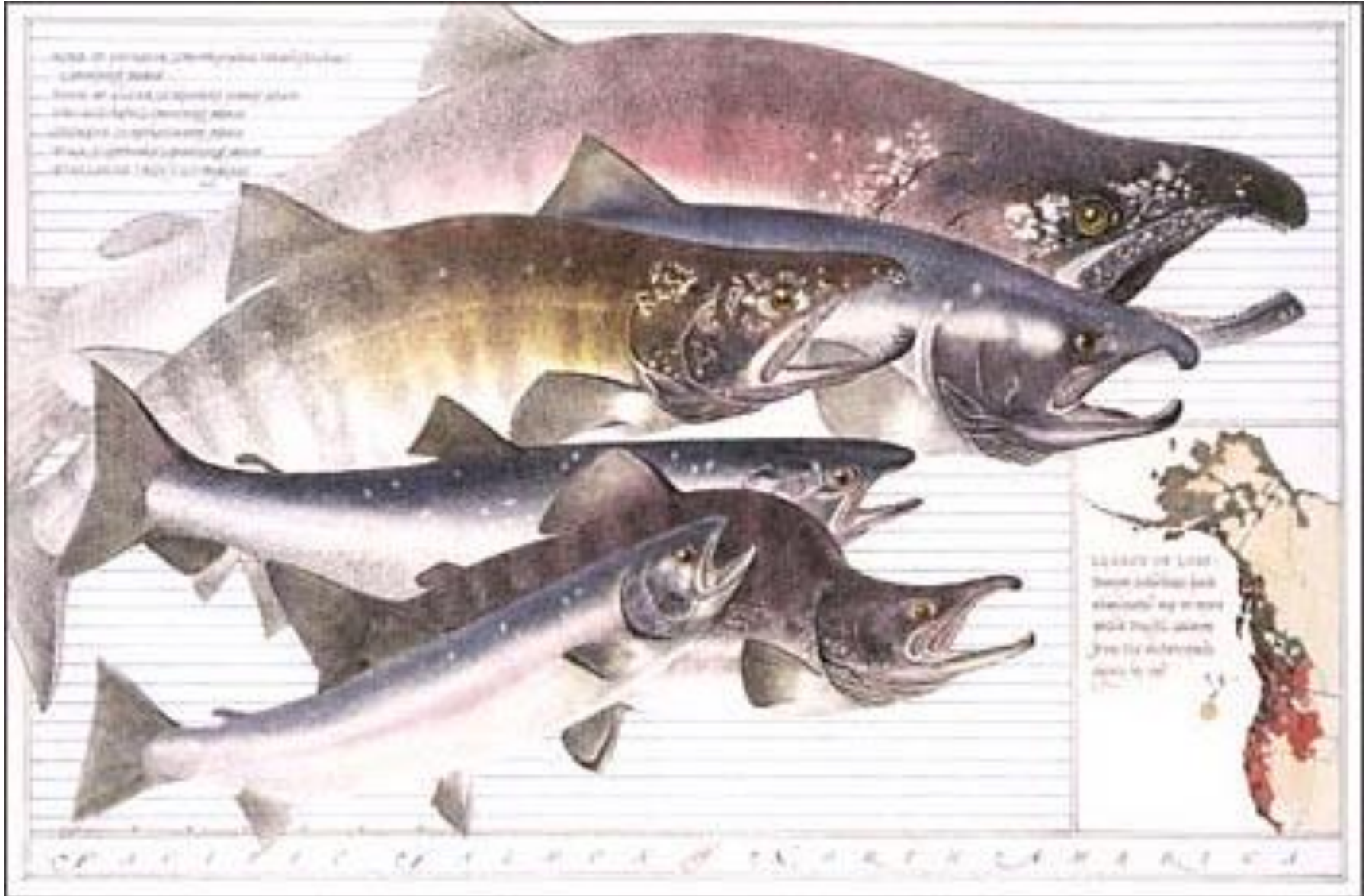




Why CHaMP?



Pacific Salmon *Oncorhynchus*



Salmonid Life Cycle



Spawners



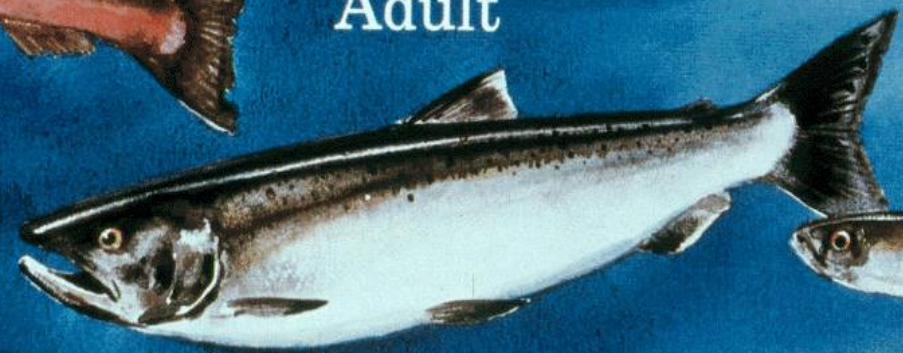
Eggs



Alevin



Adult



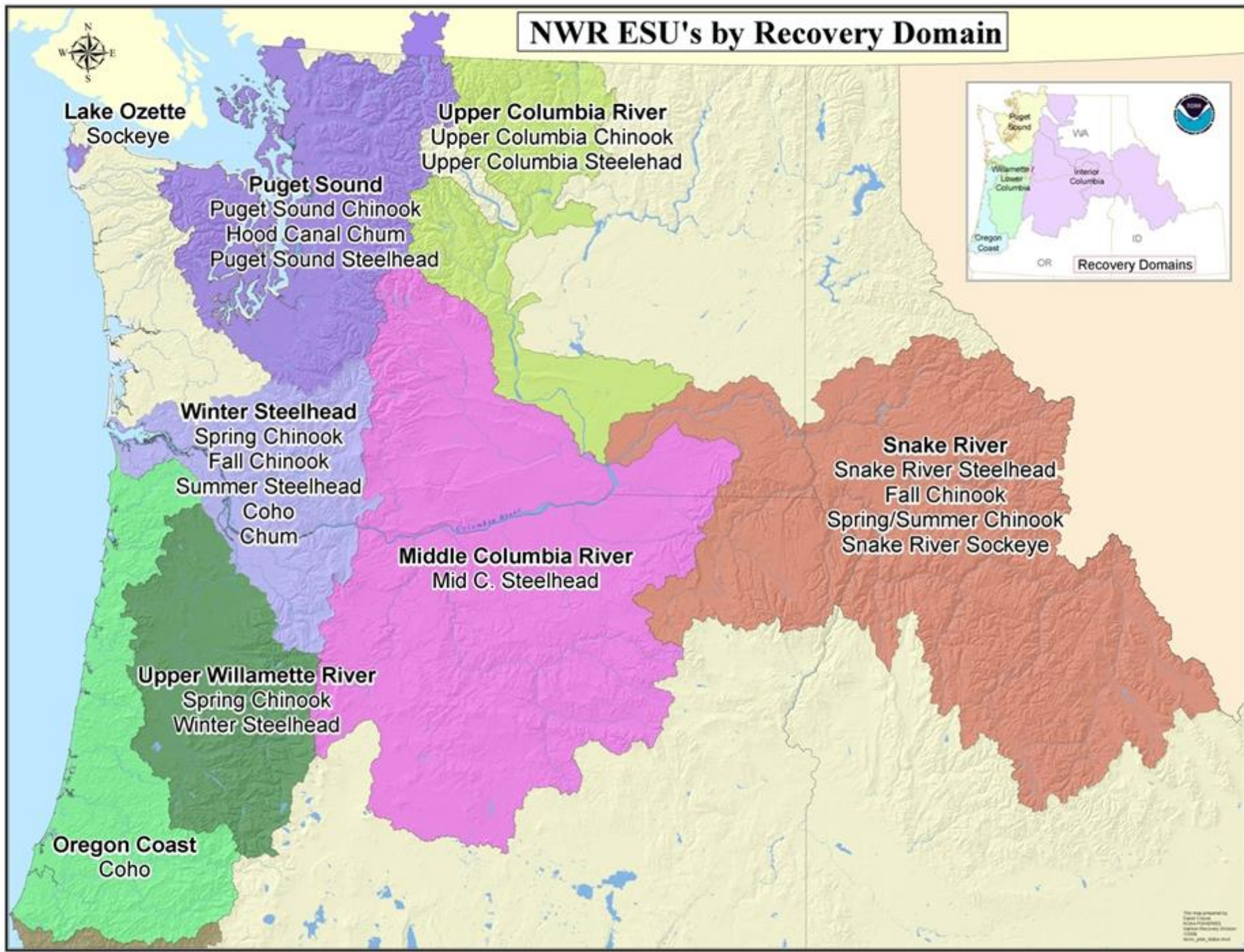
Fry



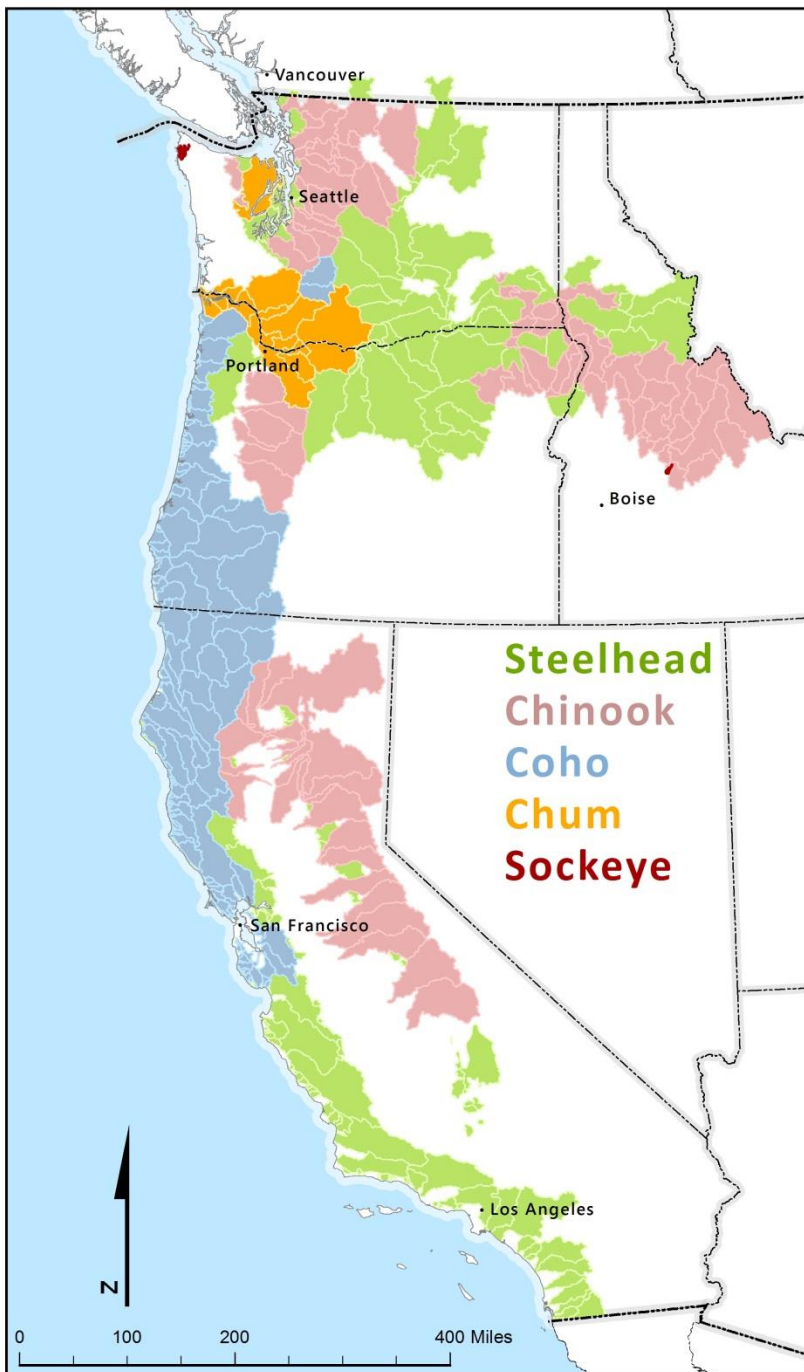
Smolt



NWR ESU's by Recovery Domain



Spatial Extent of West Coast Salmon Data Needs



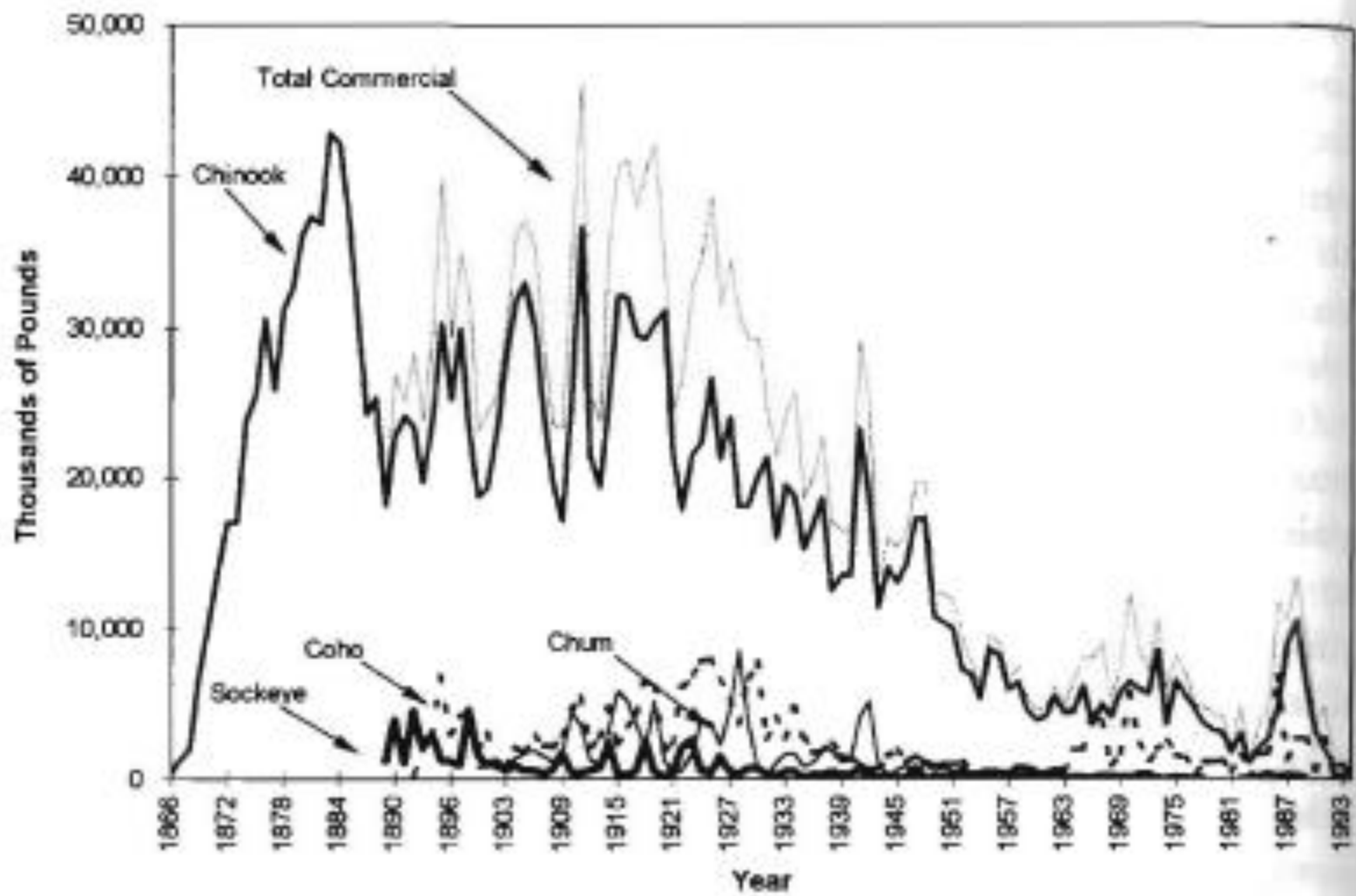
28 ESU/DPS
~600 populations

4 States
14 Ecoregions (EPA III)

The 4 Hs

- Harvest
- Hatcheries
- Habitat
- Hydro



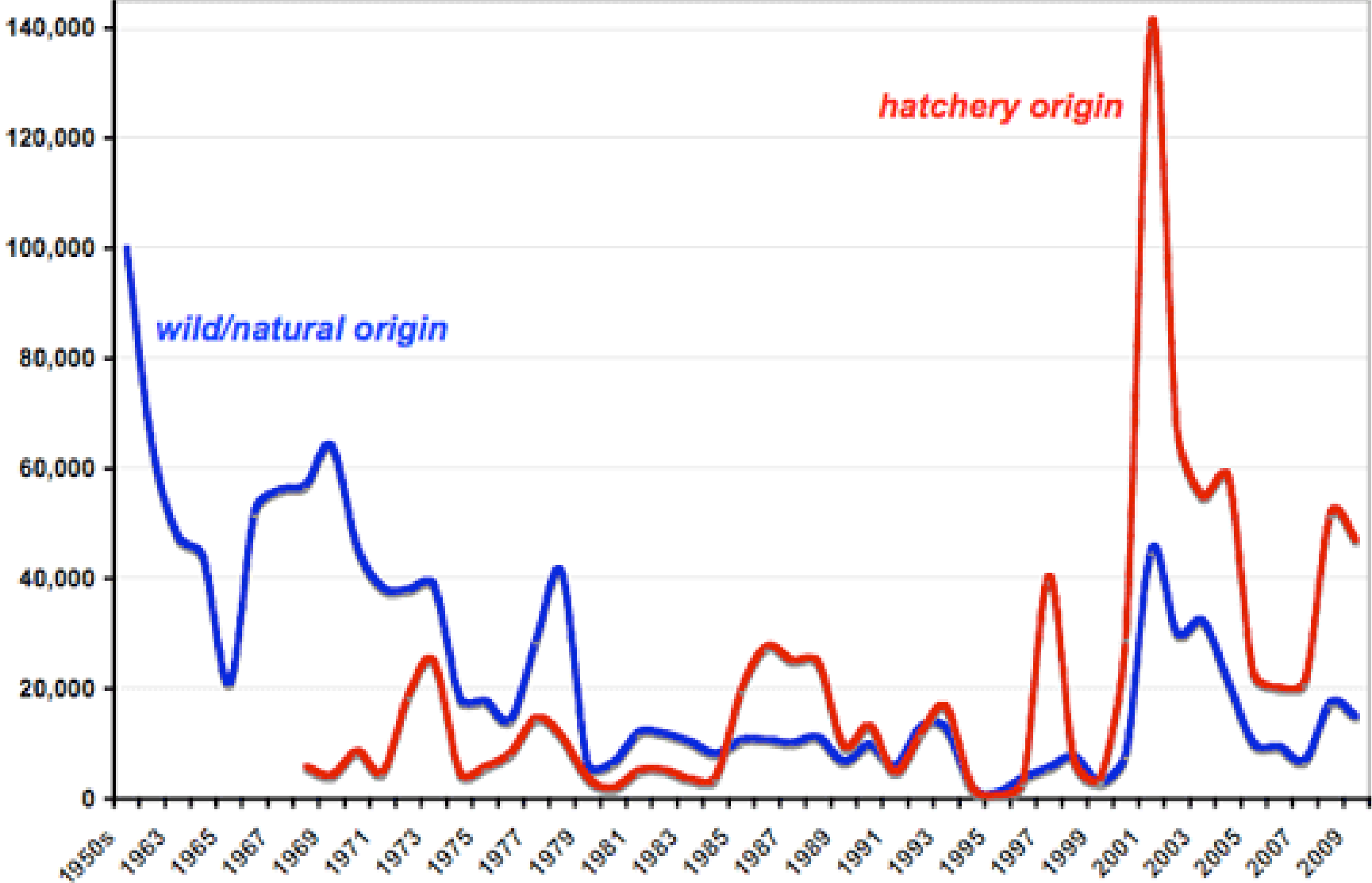






SALMON CANNERY - ASTORIA, OREGON.

Snake River Spring/Summer Chinook



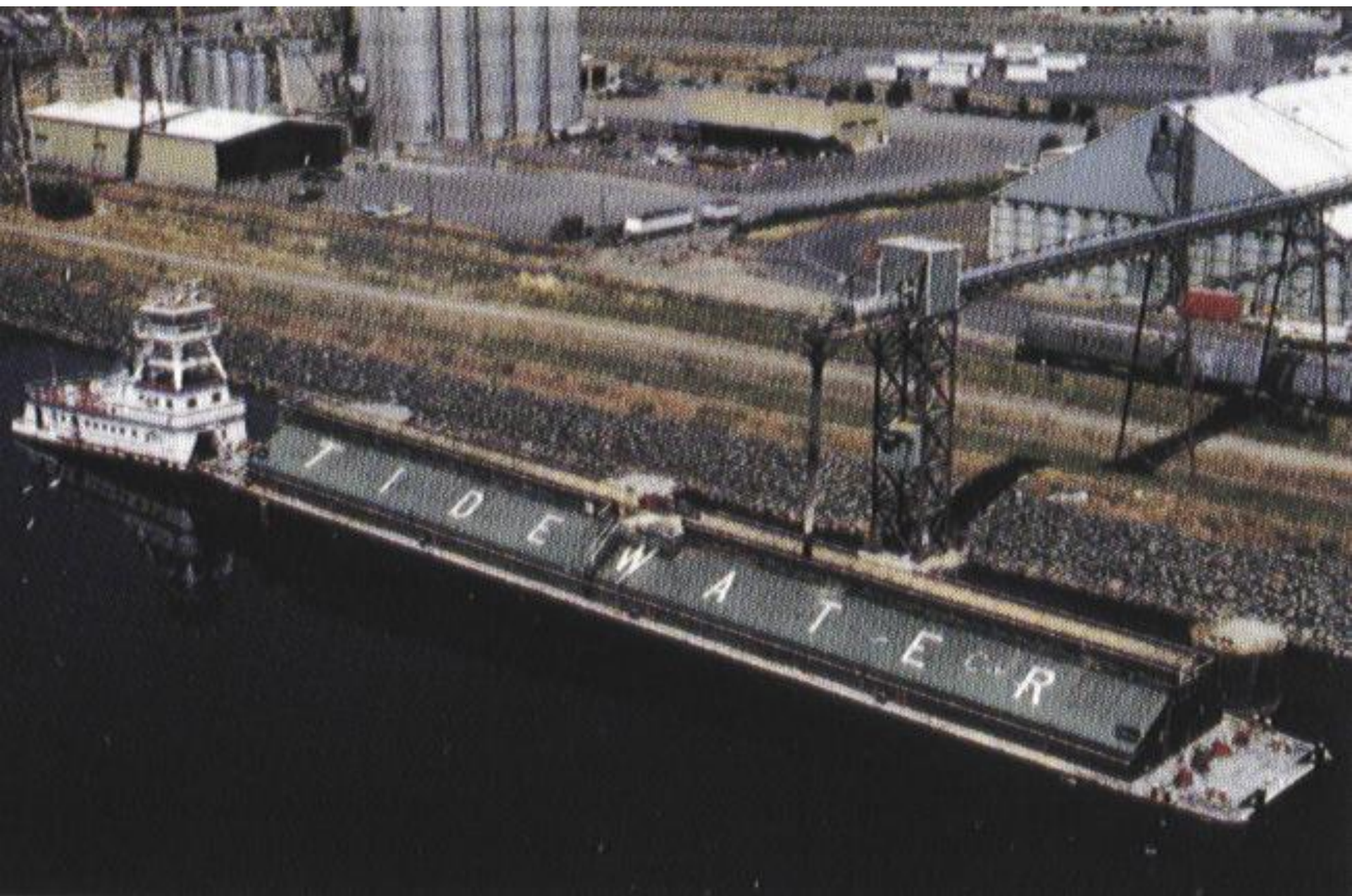






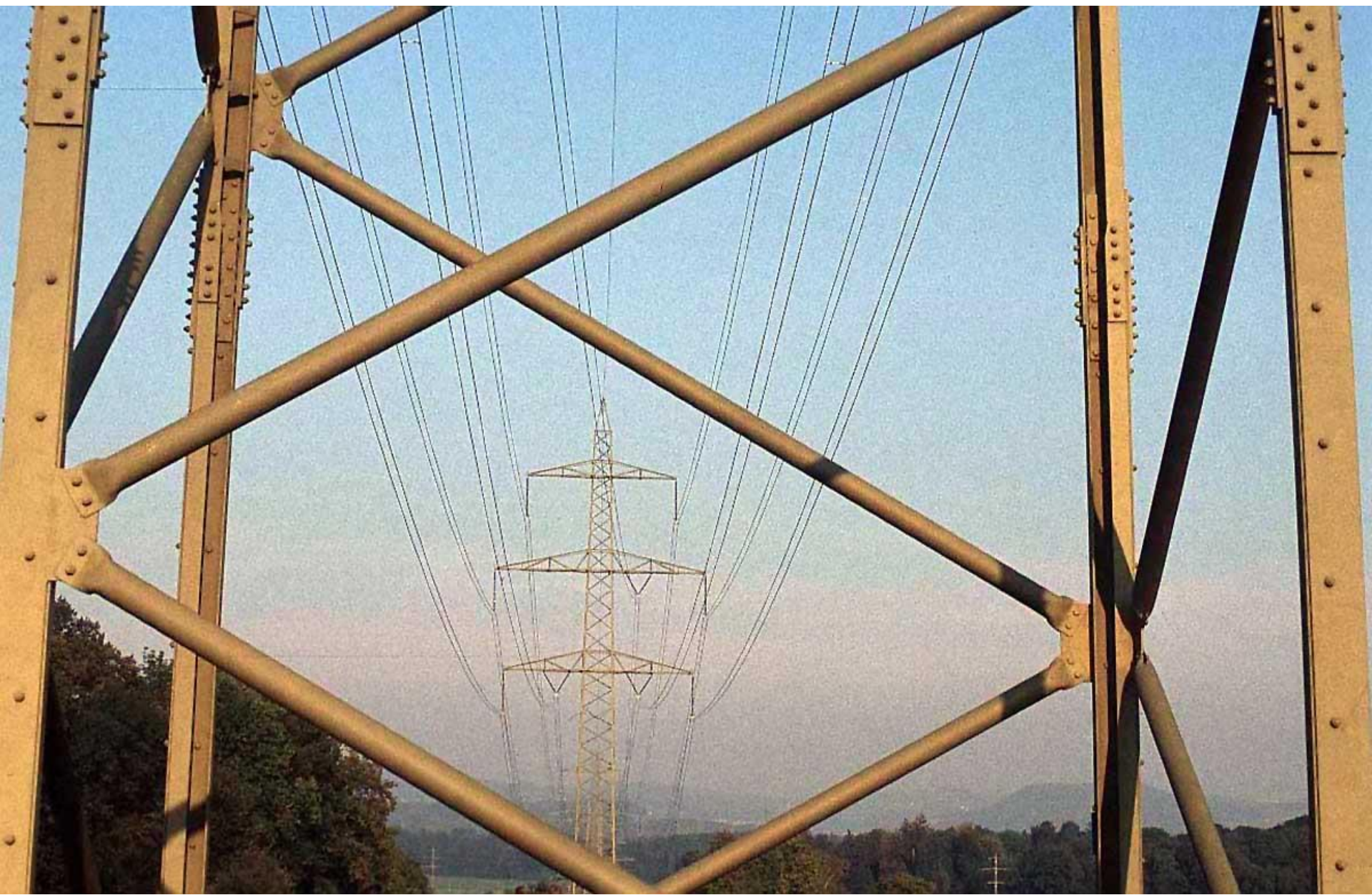


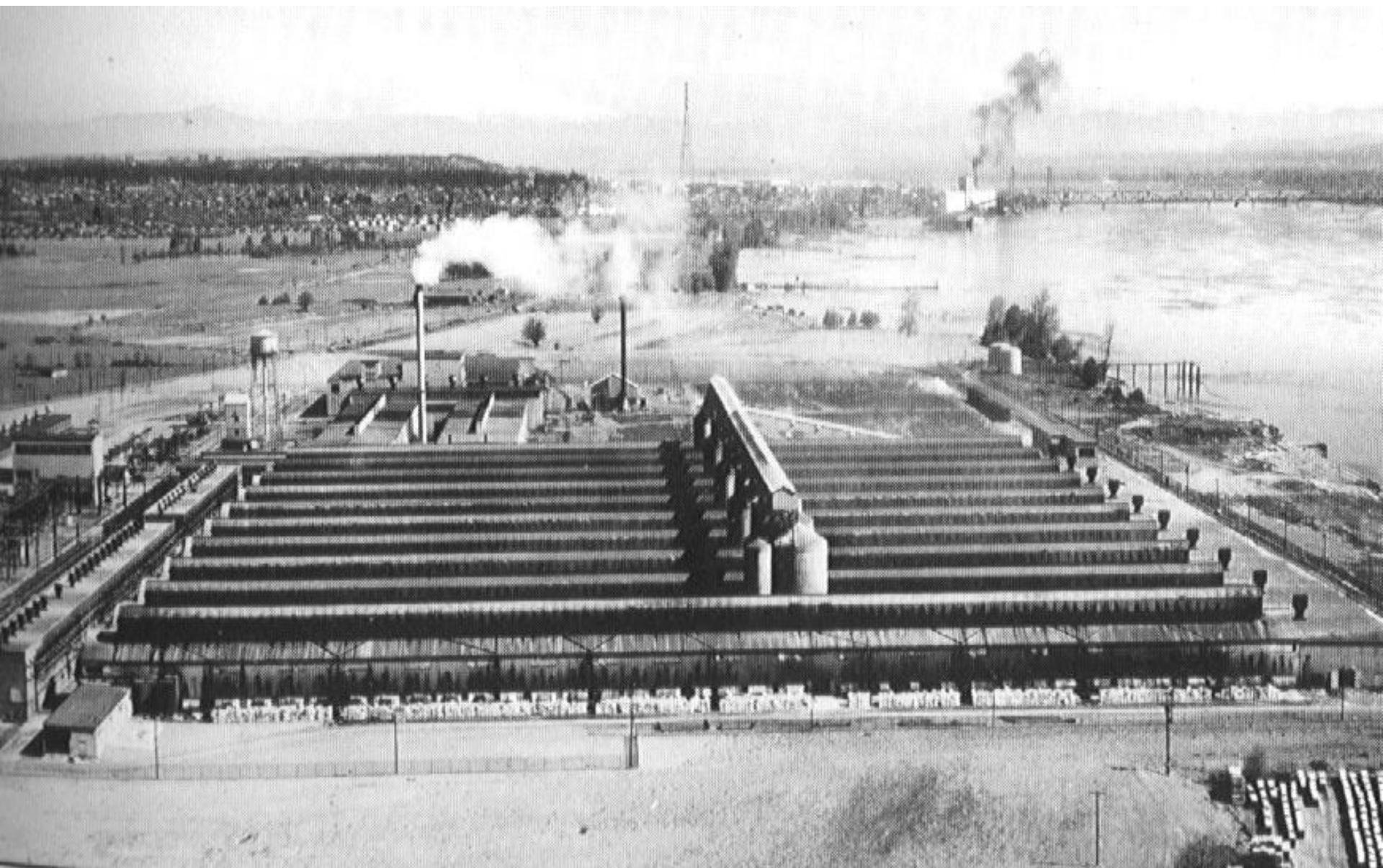






Farm land irrigation system.









HYDROPOWER SYSTEM DEVELOPMENT

- Blocked spawning areas
- Obstructed migration
- Flooded Habitat



**Endangered Species Act Section 7(a)(2) Consultation
Biological Opinion And Magnuson-Stevens
Fishery Conservation and Management Act Essential Fish
Habitat Consultation**


**Consultation on Remand for Operation of the Federal Columbia River Power
System, 11 Bureau of Reclamation Projects in the Columbia Basin and
ESA Section 10(a)(1)(A) Permit for Juvenile Fish Transportation Program
(Revised and reissued pursuant to court order,
NWF v. NMFS, Civ. No. CV 01-640-RE (D. Oregon))**

Action Agencies: U.S. Army Corps of Engineers
Bonneville Power Administration
U.S. Bureau of Reclamation
National Marine Fisheries Service

Consultation Conducted by: NOAA's National Marine Fisheries Service
(NOAA Fisheries)
Northwest Region

NOAA Fisheries Log Number: F/NWR/2005/05883

Date Issued: May 5, 2008

Issued by: 
D. Robert Lohn
Regional Administrator

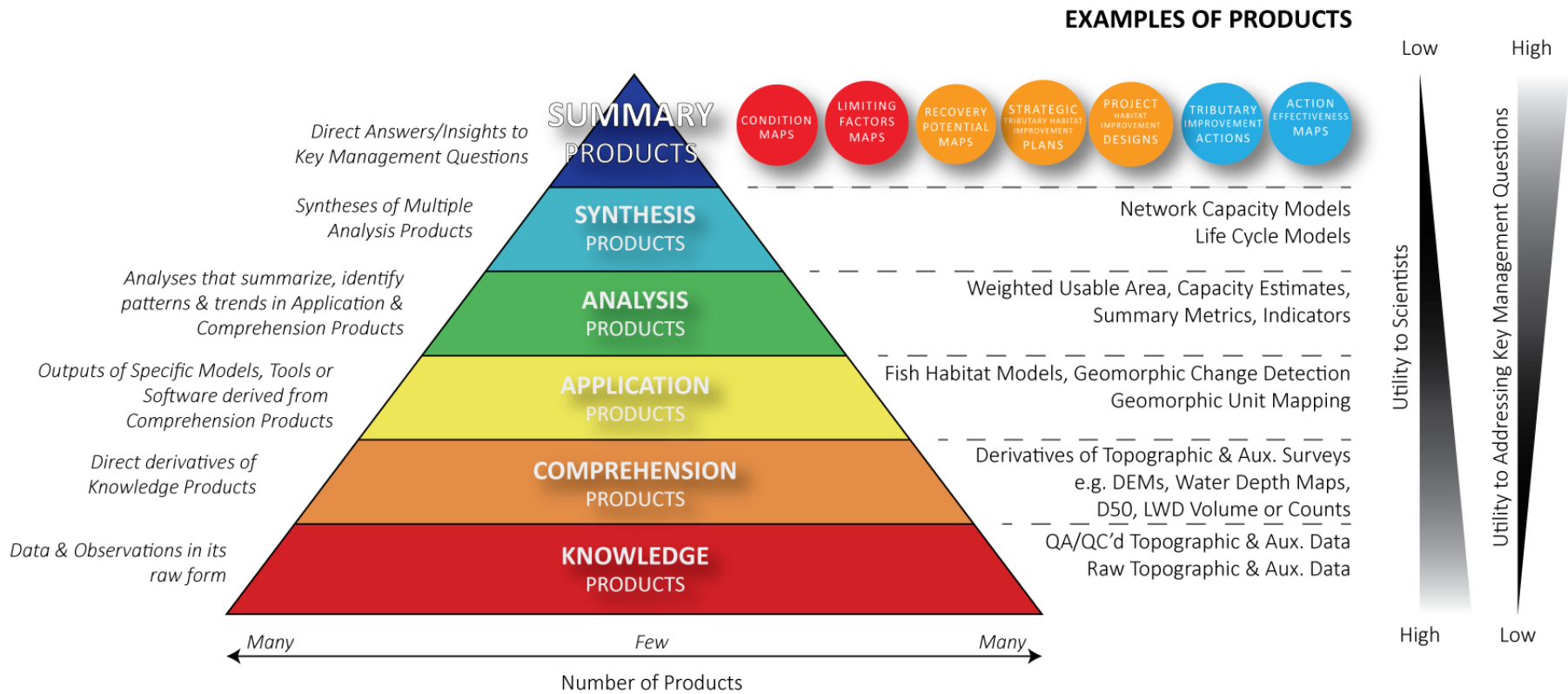
Tributary Habitat RM&E Key Management Questions

1. What are the tributary habitat limiting factors (ecological impairments) or threats preventing the achievement of desired tributary habitat performance objectives?
2. What are the relationships between tributary habitat actions and fish survival or productivity increases, and what actions are most effective?
3. How cost effective are various treatment types and BMPs for addressing identified habitat impairments?
4. Are tributary actions achieving the expected biological and environmental improvements in habitat?

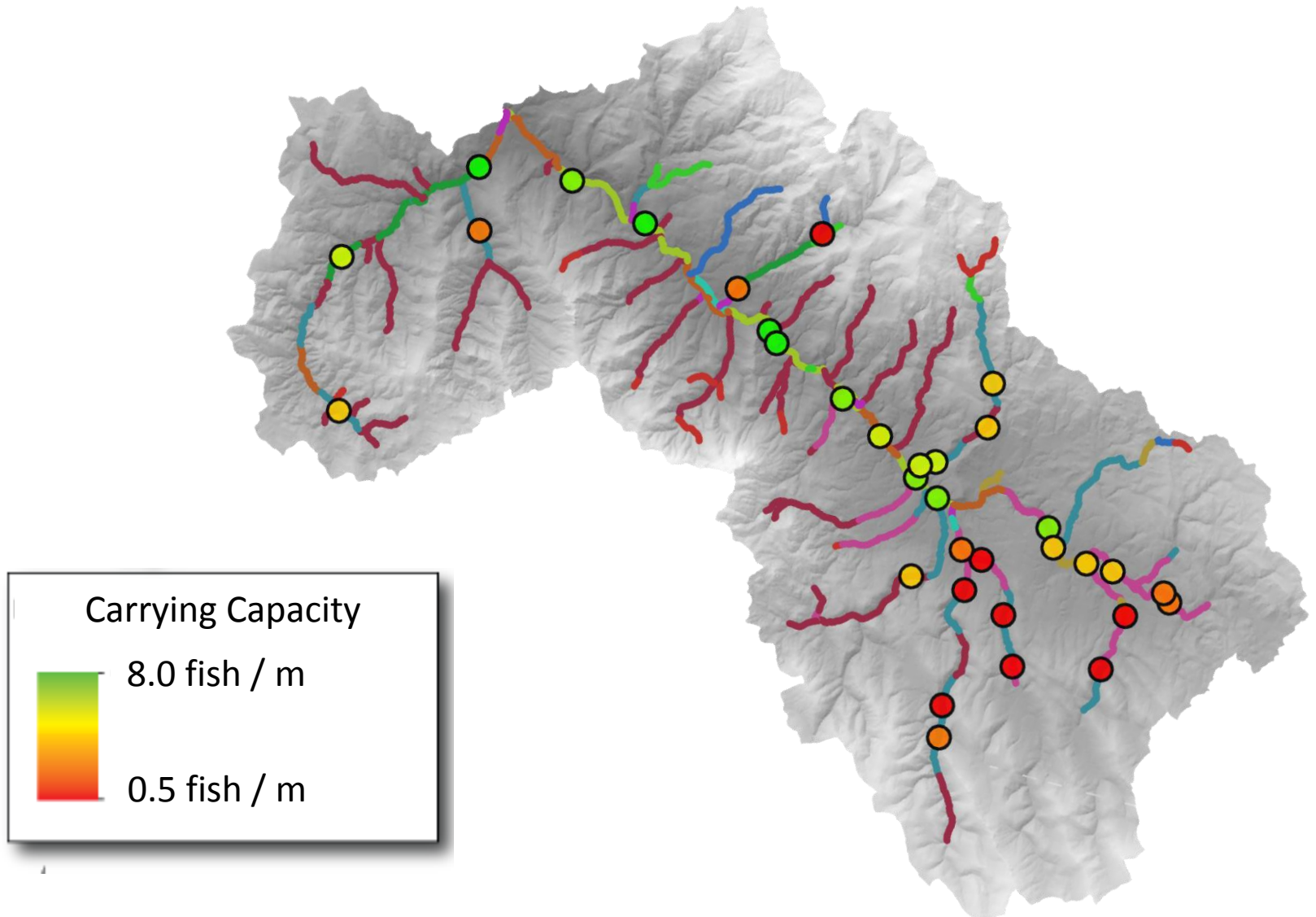
How are we going to answer these question?

- Collect Data!
 - Monitor fish and habitat at site, segment, network & watershed scales.
- Wait for Fame and Fortune to follow!
 - ...
- Or, use the data to develop decision support products.

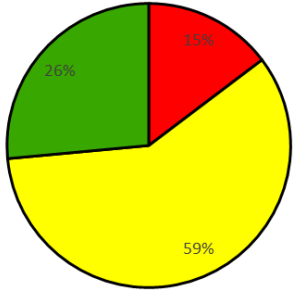
How we all fit into this puzzle



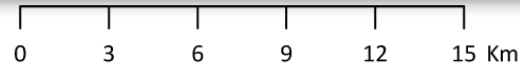
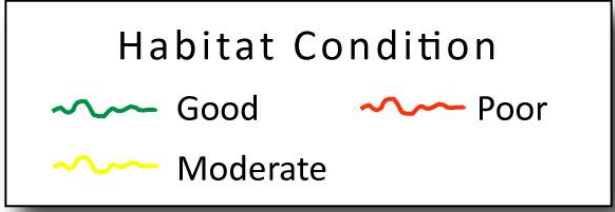
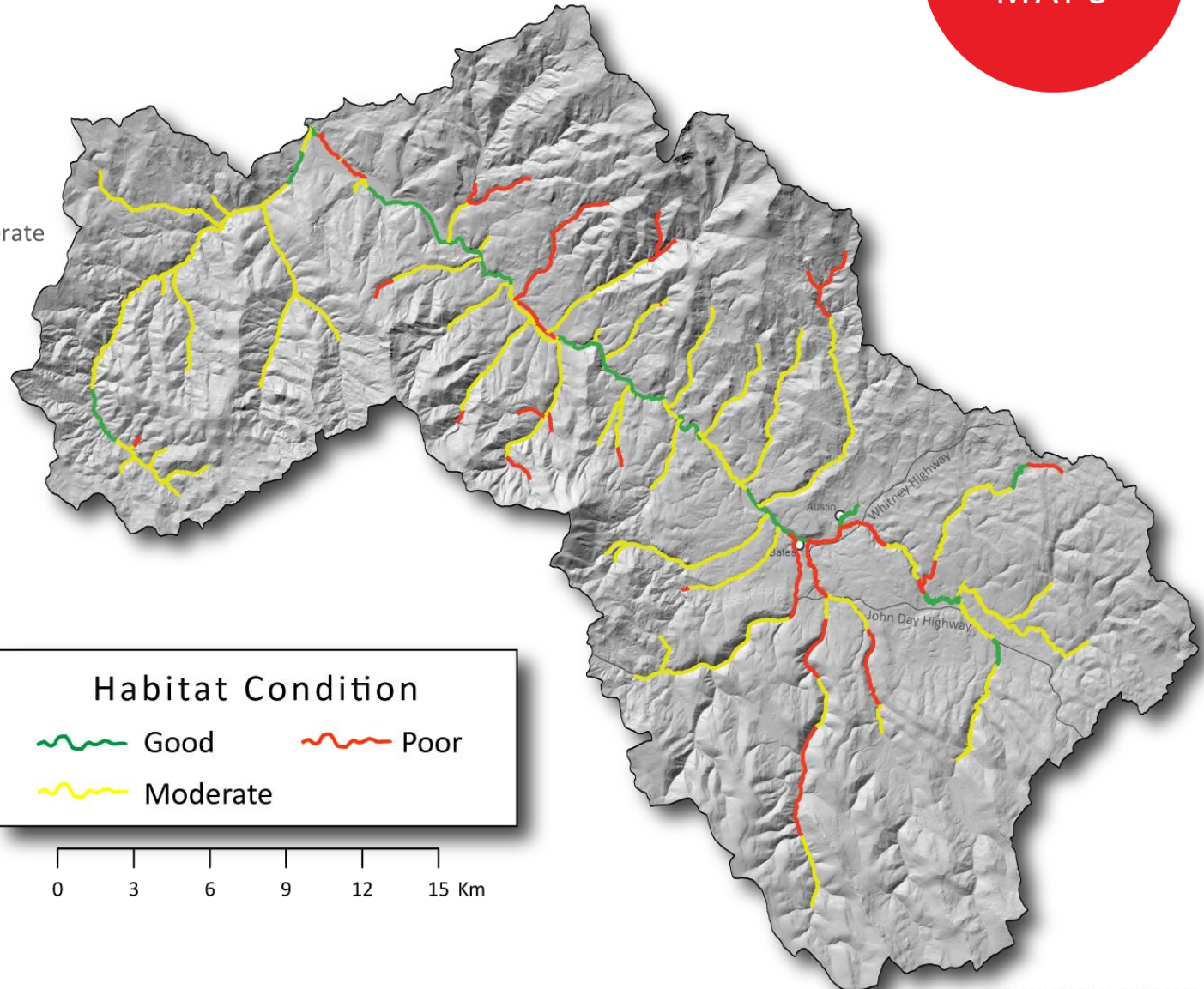
Carrying Capacity



Habitat Condition



- Poor
- Moderate
- Good

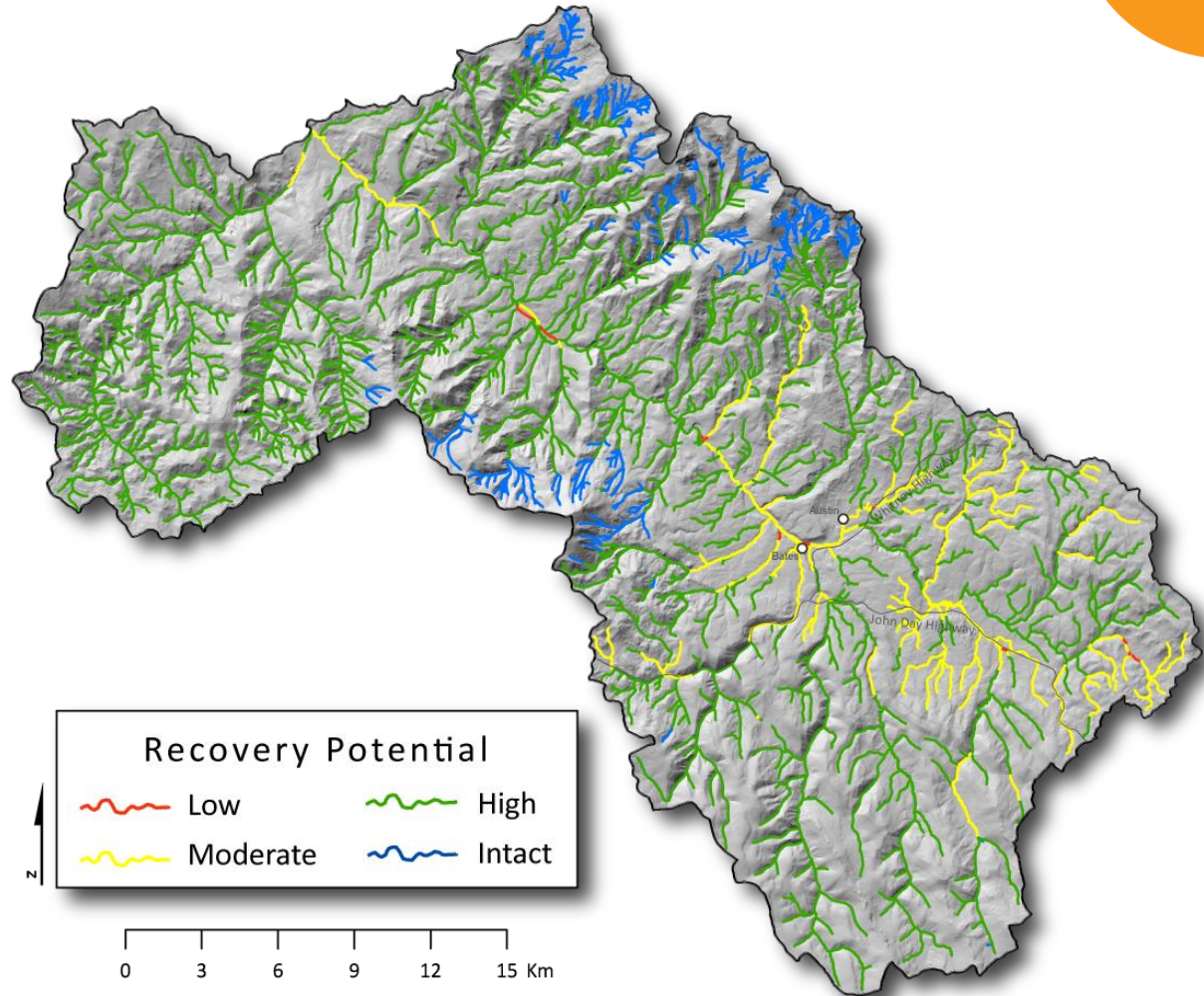
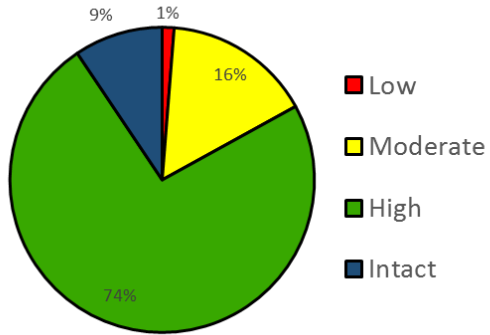


FOR CONCEPTUAL PURPOSES ONLY
NOT FOR DISTRIBUTION

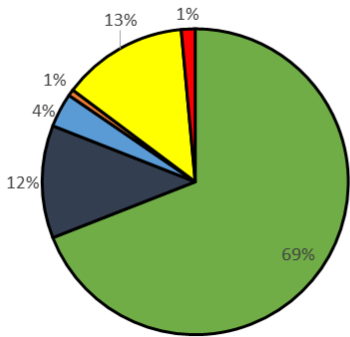
Geomorphic Recovery Potential

RECOVERY
POTENTIAL
MAPS

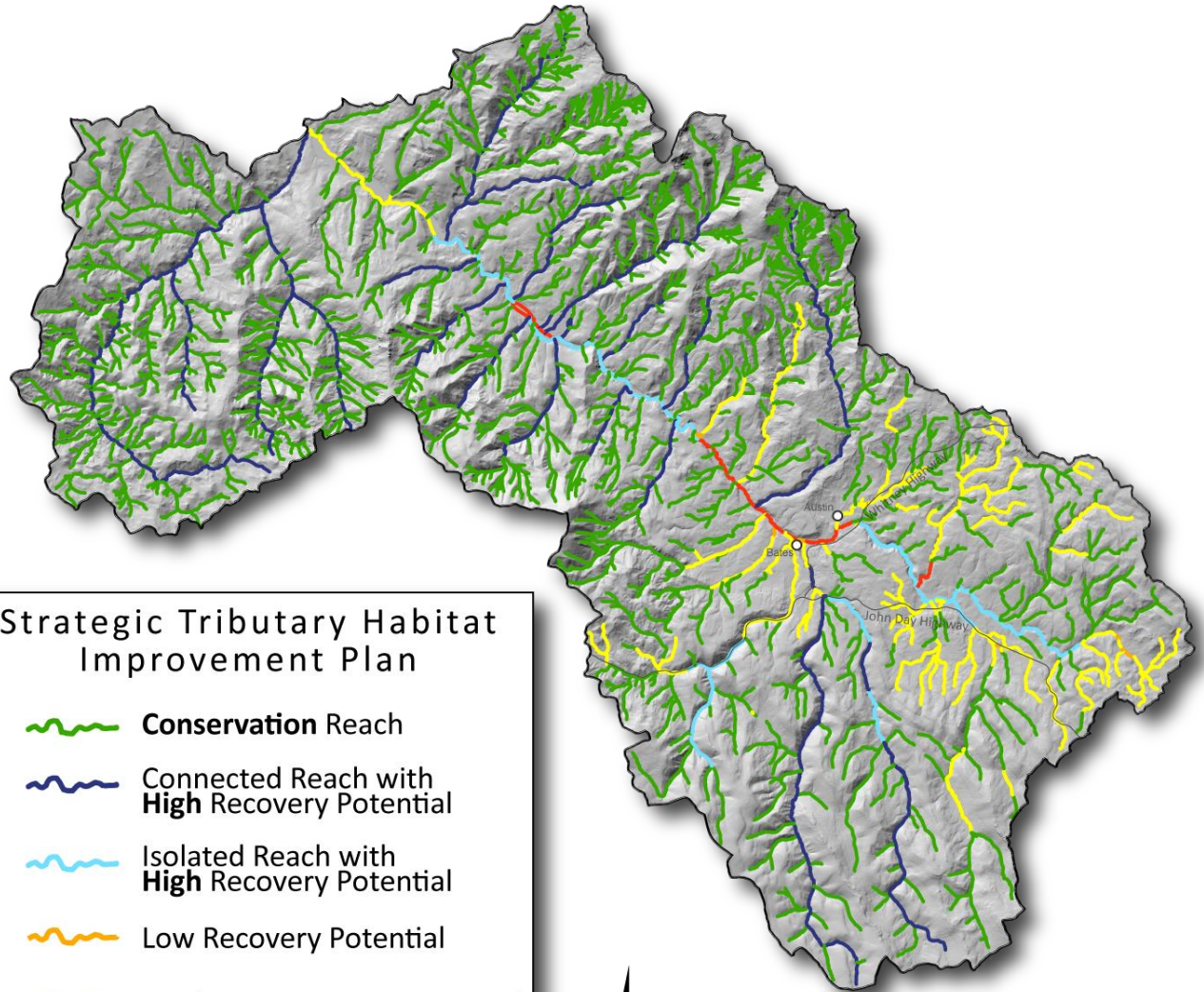
Geomorphic Recovery Potential



A Strategic Plan...



- Conservation Reach
- Connected reach HRP
- Isolated Reach HRP
- Low Recovery
- Moderate Recovery
- Strategic Reach



Strategic Tributary Habitat Improvement Plan

-  **Conservation Reach**
-  **Connected Reach with High Recovery Potential**
-  **Isolated Reach with High Recovery Potential**
-  **Low Recovery Potential**
-  **Moderate Recovery Potential**
-  **Strategic Reach**

