Northwest Power and Conservation Council

March 7, 2006

MEMORANDUM

TO: Council Members

FROM: Steve Waste, Manager for Program Analysis and Evaluation

SUBJECT: Developing a Monitoring Framework in Oregon

Action

This briefing is informational and does not require a Council decision.

Background

This is the next in the series of briefings on different monitoring activities underway in the region. They are intended to portray our experience to date, illustrate on-going work, and provide structure to the conceptual discussion of a "regional approach" to monitoring. Briefings to date have addressed protocol comparison work led by the US Forest Service, and monitoring guidance for recovery planners in Washington, led by the Washington Governor's Forum on Monitoring.

This briefing will be presented by Greg Sieglitz, Policy Analyst for the Monitoring Program of the Oregon Watershed Enhancement Board, and will address the overall approach to monitoring in Oregon, including coastal Coho monitoring using a randomized sampling technique (E-MAP).

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Monitoring for the Oregon Plan

The Coastal Coho Assessment-A Case Study

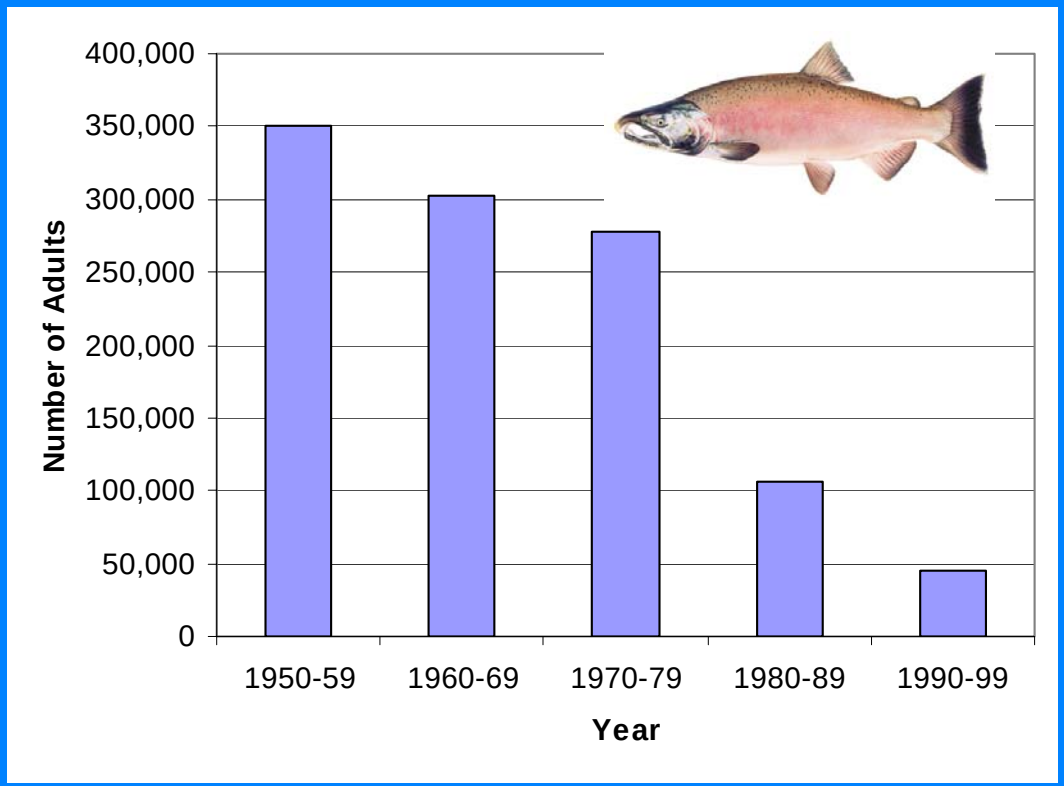
Greg Sieglitz
Monitoring and Reporting Manager
Oregon Watershed Enhancement Board
3/14/06

THE OREGON PLAN
for salmon & watersheds

- **Initiated in 1997: Broad-based effort of citizens, local watershed groups, the State of Oregon, and federal agencies to restore healthy salmon populations and their watersheds**

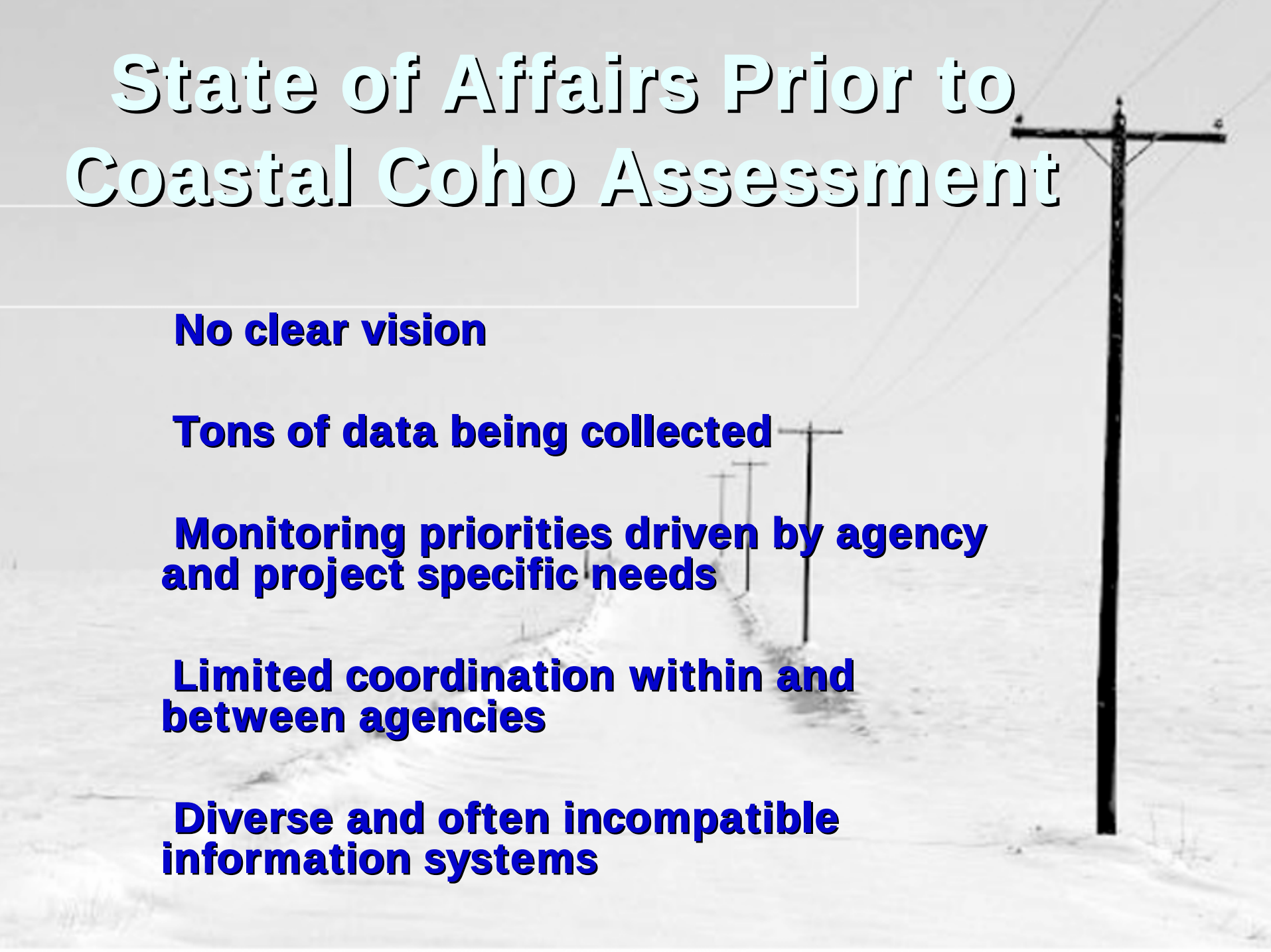
- **OPSW is statewide program: origins come from the need to address the decline of Oregon coastal coho populations**

Oregon Coast Coho Evolutionarily Significant Unit (ESU)



Significant emphasis in OPSW placed on improving and expanding monitoring designed to provide statistically robust data on status, trends, and distribution of salmonids and their habitat

State of Affairs Prior to Coastal Coho Assessment



- **No clear vision**
- **Tons of data being collected**
- **Monitoring priorities driven by agency and project specific needs**
- **Limited coordination within and between agencies**
- **Diverse and often incompatible information systems**

Improve monitoring of fish and watershed health to support restoration

- **Coordinate:**
  - **Key questions**
  - **Prioritization of actions**
  - **Within and between agencies and local participation**
  - **Information management systems**
  - **Efficient allocation of resources**

Challenges: Scale

"The biggest challenge is to develop a monitoring program that can address needs for data at both the site scale (place based) and the regional scale." *Greg Pettit, ODEQ, Watershed Water Quality Monitoring Program Manager*

- Site Scale: Project, Activity, Reach, Landowner
- Regional Scale: Watershed, ESU, Ecoregion, State, Nation

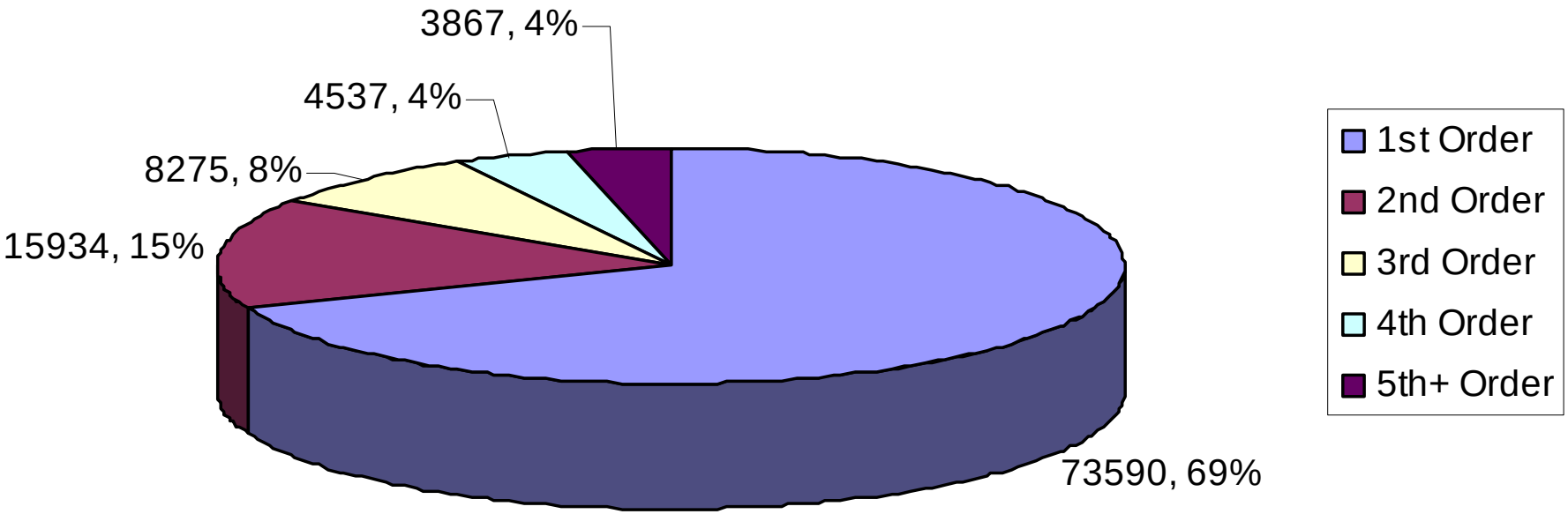
Examples of Stream Orders

1st Order

3rd Order

5th Order

How does natural variability influence cost?



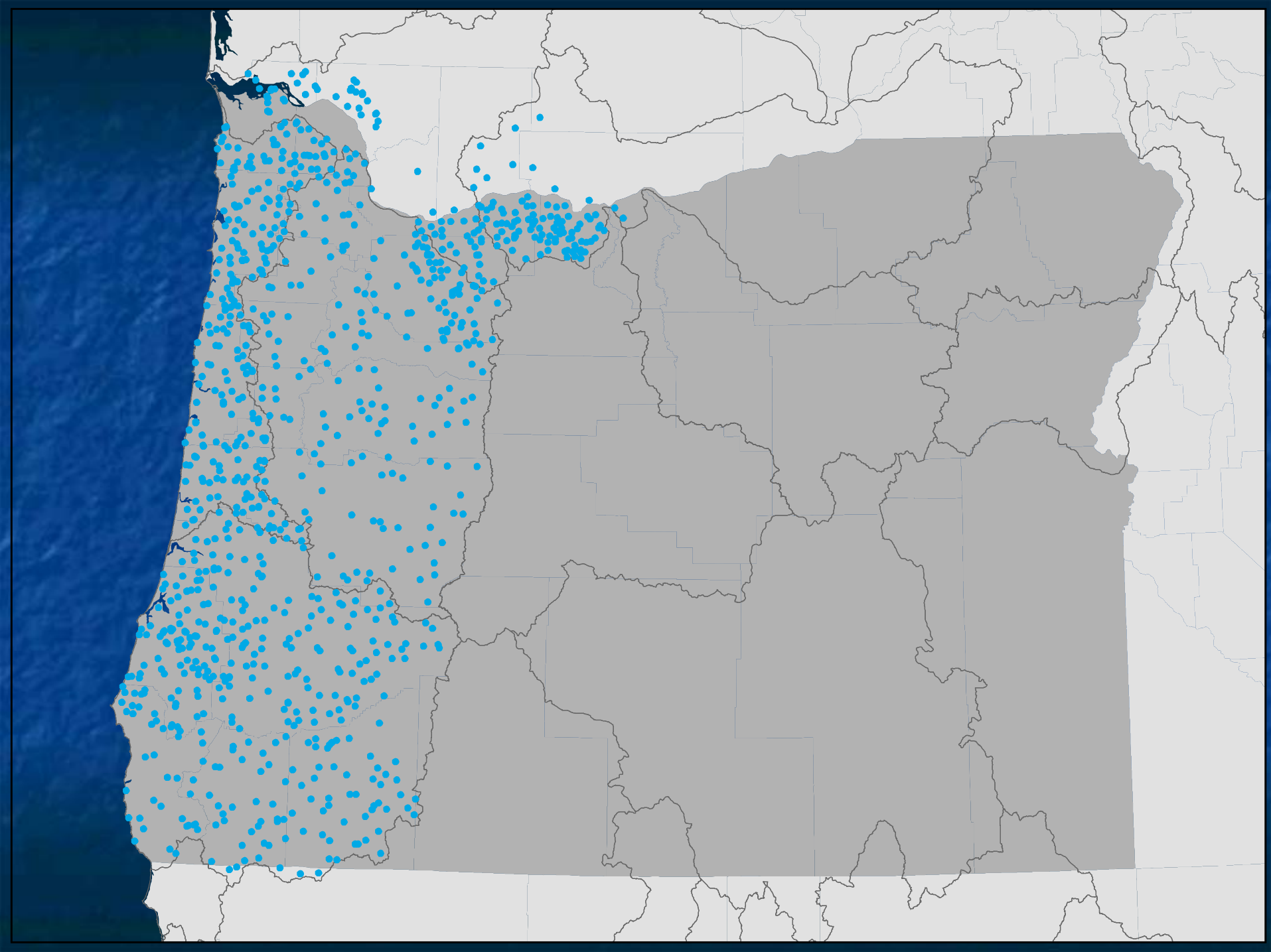
Challenges: Variability

- **Spatial Variability**

Spatial Variability affects ability to extrapolate site data to larger geographies

- **Temporal Variability**

Temporal Variability affects ability to detect trends and adequately characterize short-term deviations



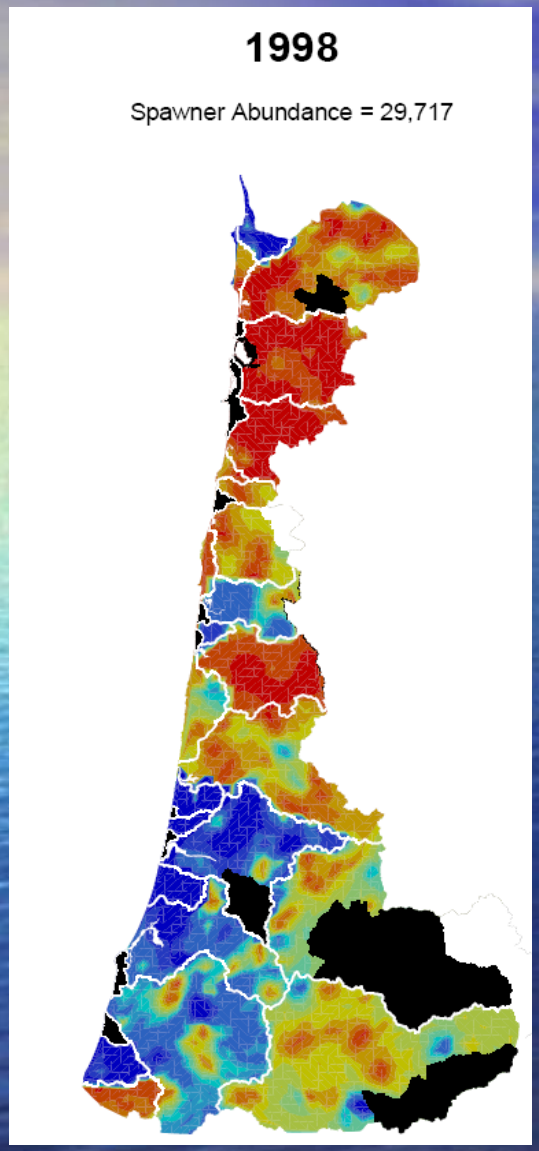
AQUATIC INVENTORY PROJECT:
Instream and Riparian Habitat

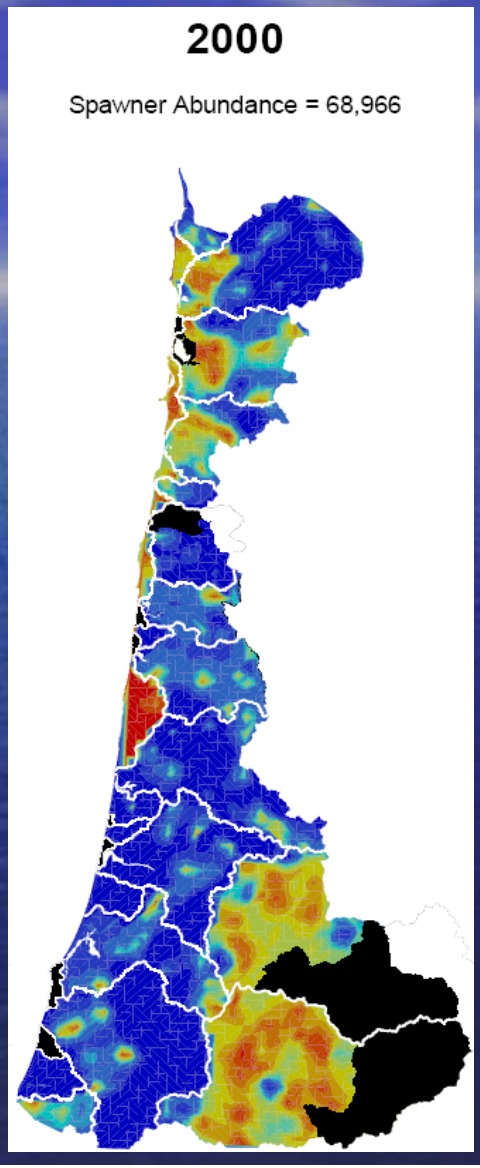
WESTERN OREGON REARING PROJECT:
Juvenile abundance and distribution

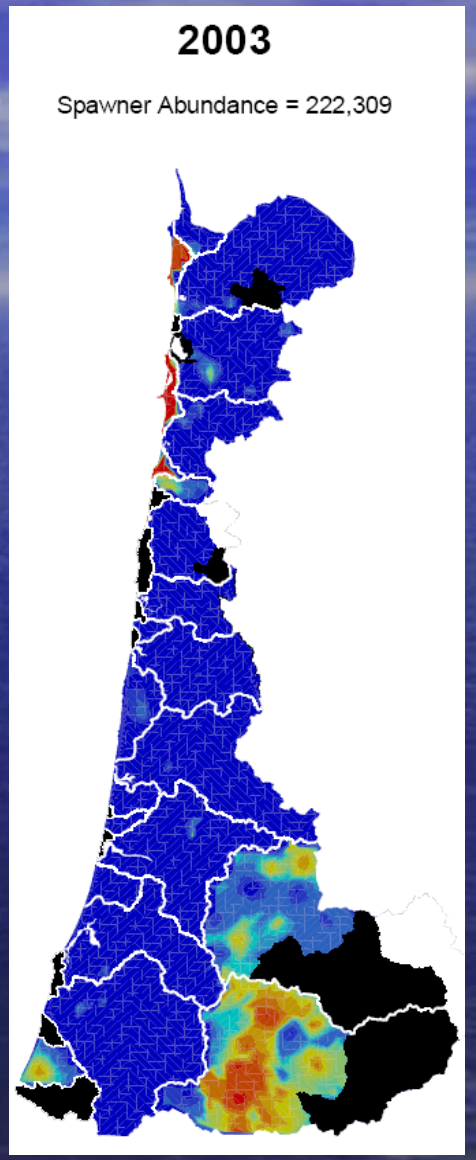
LIFE CYCLE MONITORING PROJECT:
Marine and freshwater survival

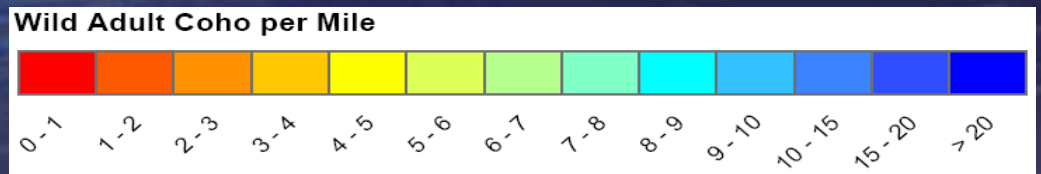
COASTAL SALMONID INVENTORY PROJECT:
Spawner abundance and distribution

The Return of Coastal Coho



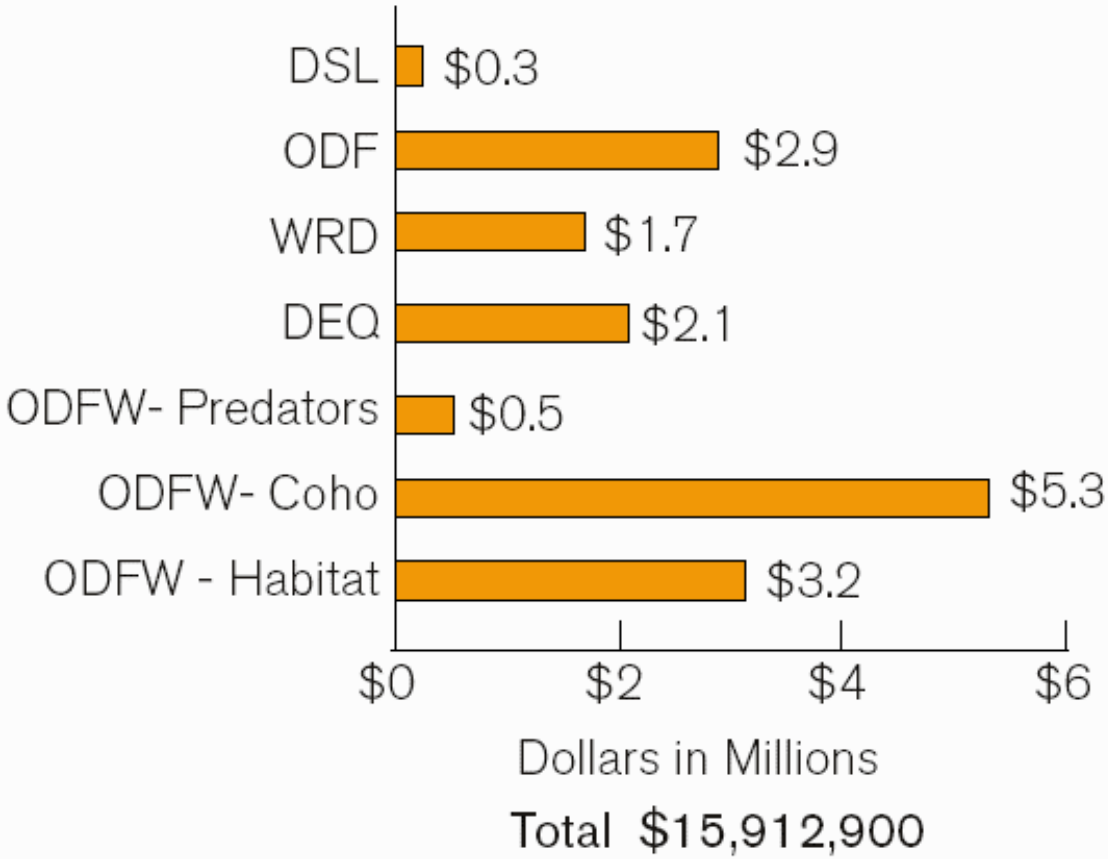






Monitoring

Expenditures Related to Coho
1997 - 2003



Total $15,912,900

The Puddin'

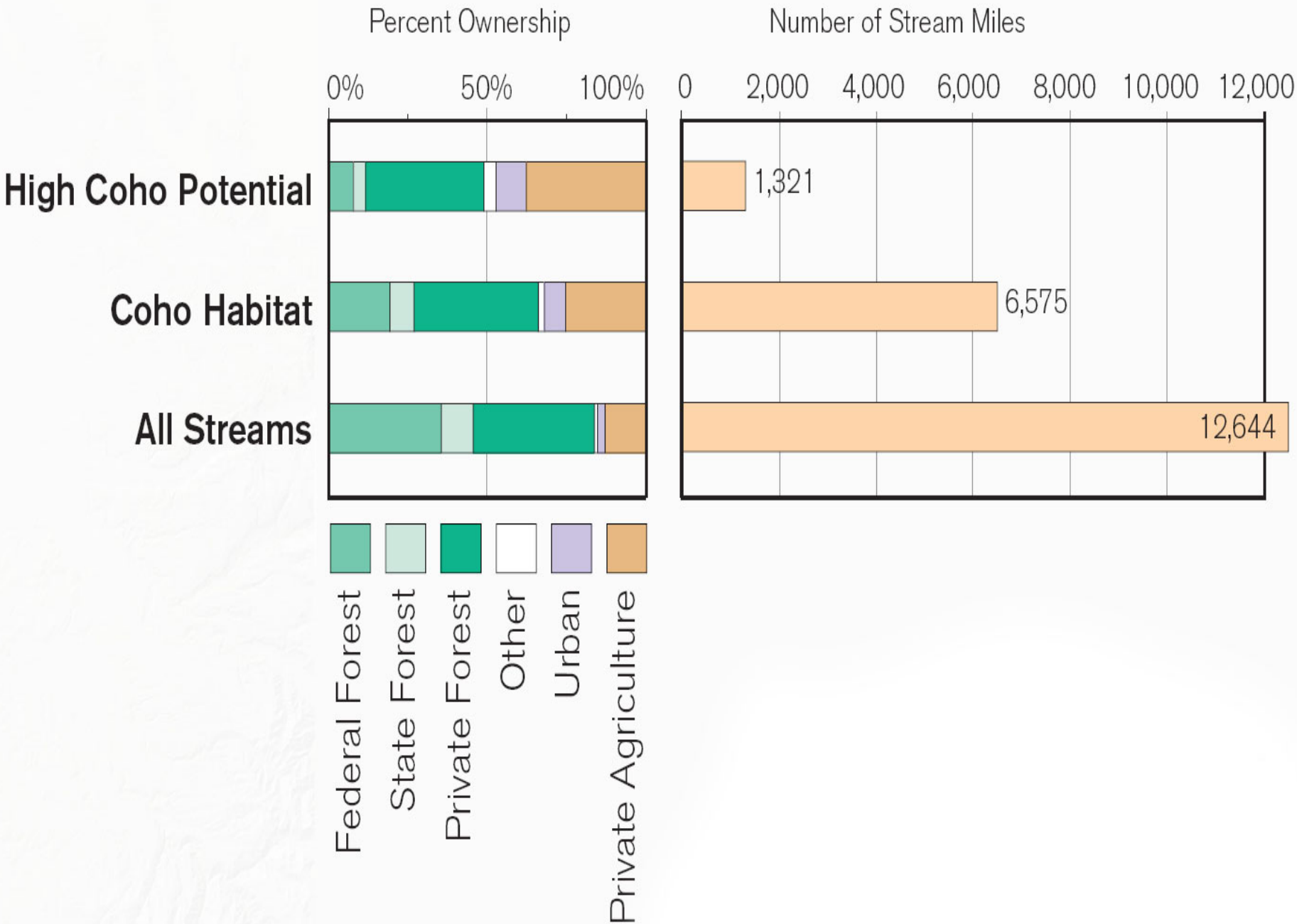
- Provides spatially explicit and statistically rigorous data on main components required for viability analysis (e.g. distribution, productivity, abundance, trend, and hatchery/wild)

- Overall best data available for any ESU

- Good precision at ESU and monitoring area scales

- Sufficient precision for many population units

- Life cycle monitoring sites: index of marine survival and information for modeling habitat limiting factors


Percent Ownership
0%
50%
100%
Number of Stream Miles
0
2,000
4,000
6,000
8,000
10,000
12,000
High Coho Potential
Coho Habitat
All Streams
1,321
6,575
12,644
Federal Forest
State Forest
Private Forest
Other
Urban
Private Agriculture

Future Oregon Plan Monitoring Challenges

- Expand beyond coastal coho

- Expand beyond the north coast

- There are many management decisions that require high quality monitoring information

Keys to success:

Articulate adequate monitoring needs for current and future management

Develop a prioritized strategy for meeting those needs

Recent Commitments from OP Agencies

- ODFW modified sampling prior to 2006 field season

- ODFW and ODF: comprehensive fish passage maps

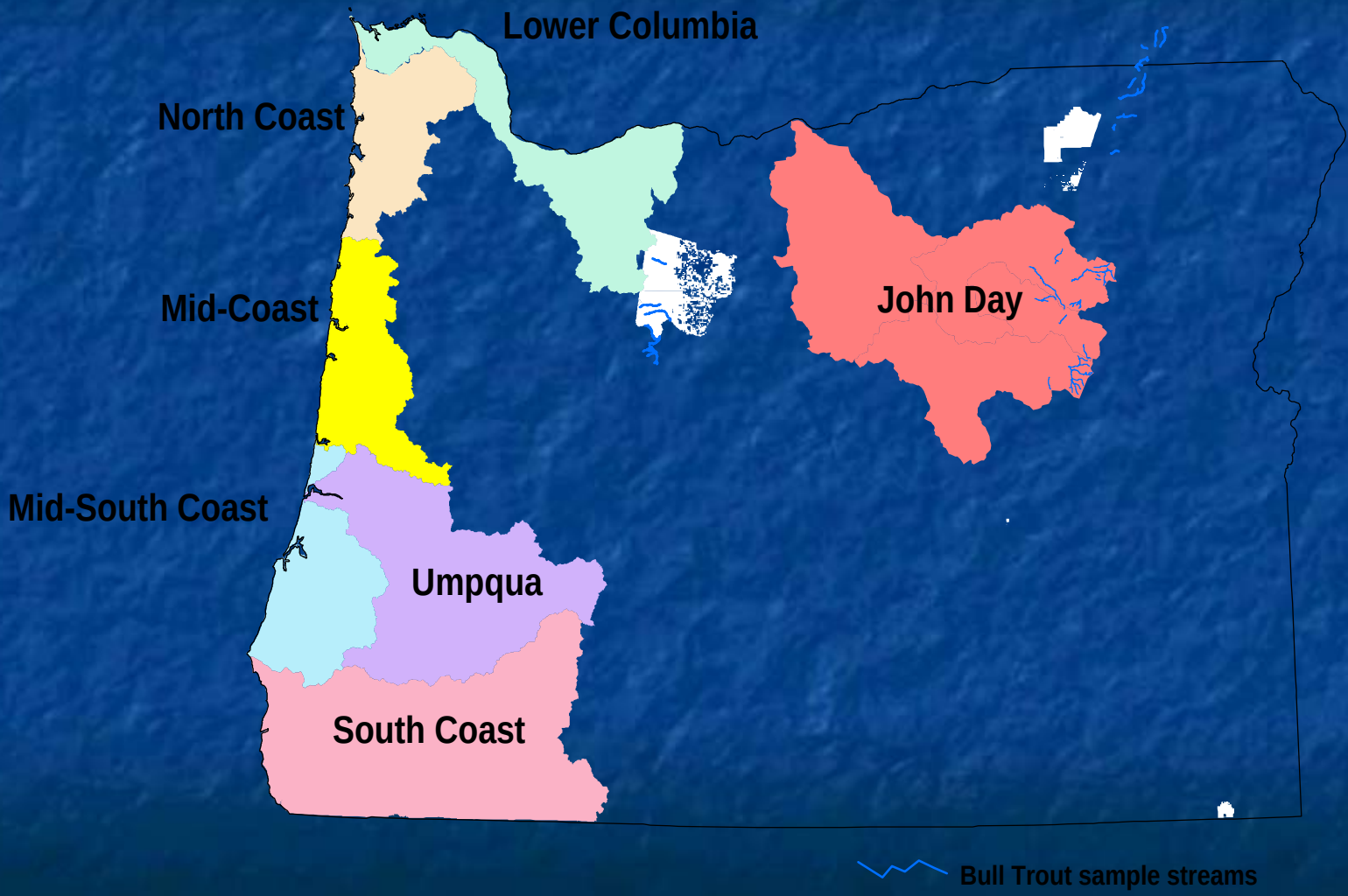
- Conducted “lessons learned” workshop last fall

- Online digital data library

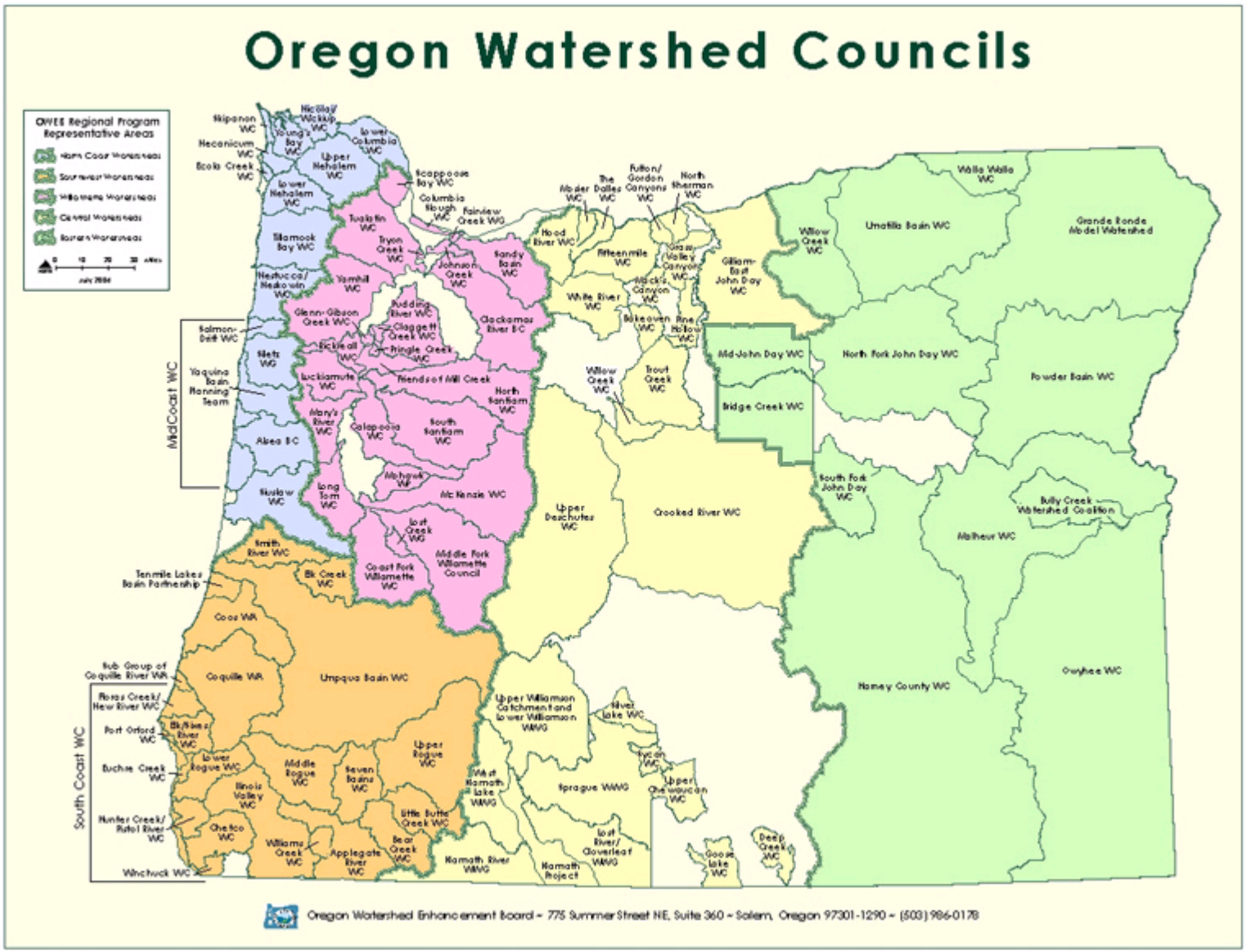
- OWEB: additional $450,000 to new coastal monitoring

- OP agencies commit to defining reporting timelines and products clearly (OWEB grants, etc.)

Use of EMAP design in Oregon



Other Sources Of Monitoring Information



Relevant Questions for Future Decisions

- To what extent is the current suite of monitoring programs across the state sufficient for management needs?

- What is the best way to coordinate our efforts?

- What are the priorities and demands for existing resources?

- Is current data/information accessible and useful?

- How effective have we been?

Credits

- Jeff Rodgers, Jay Nicholas, Bruce McIntosh-ODFW
- Greg Pettit-DEQ
- Phil Larsen-US EPA
- Russell Scranton-NMFS
- Bruce Crawford-WA IAC,SRF Board
- Steve Waste-NWPCC
- Oregon Plan Believers