

David L. G. Noakes

Senior Scientist
Oregon Hatchery Research Center
Professor
Fisheries & Wildlife Department, OSU



OREGON
HATCHERY
RESEARCH
CENTER



Oregon Hatchery Research Center (OHRC)

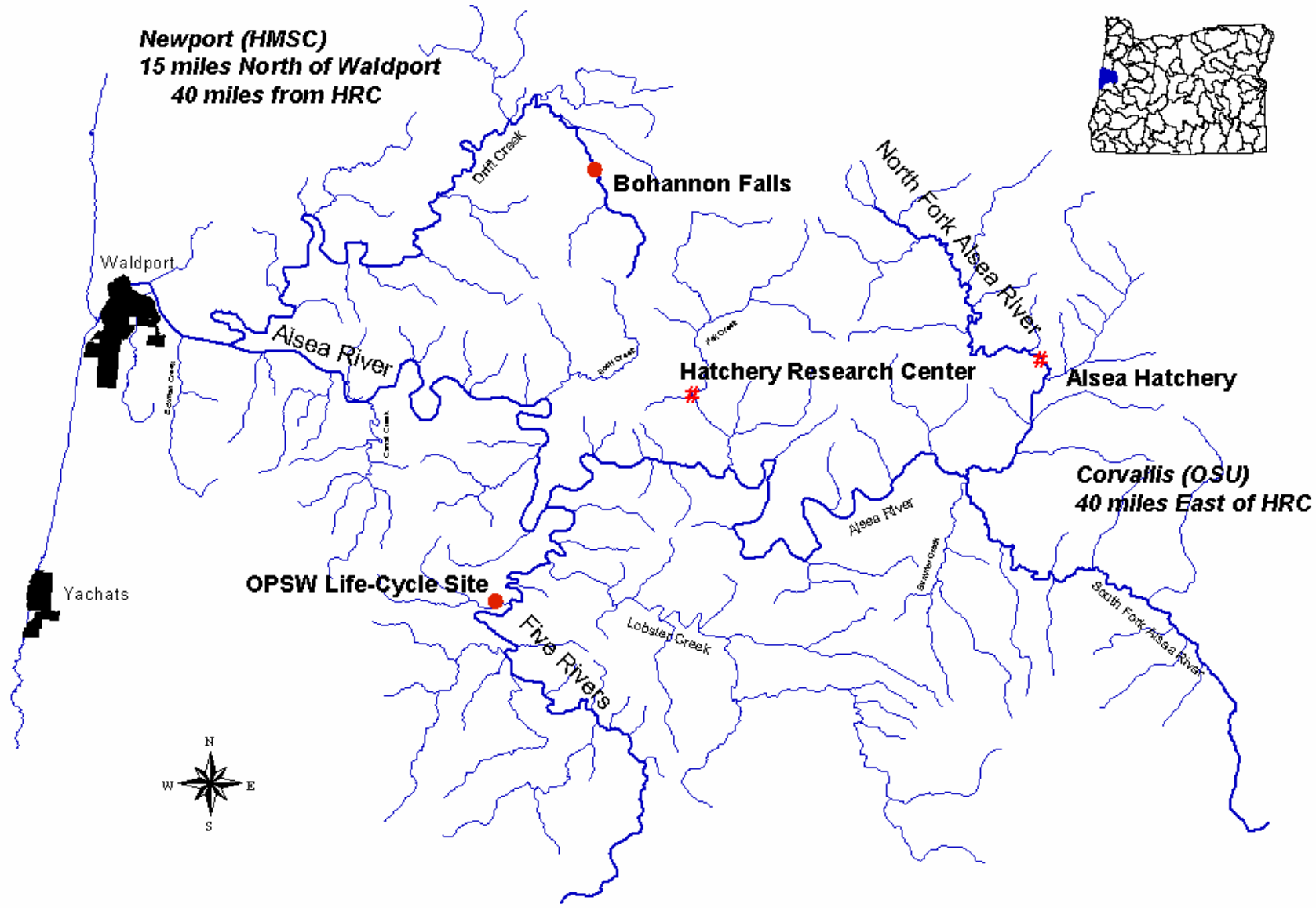


A cooperative effort between:

Oregon Department of Fish and Wildlife

and

**Oregon State University
Department of Fisheries and Wildlife**



Newport (HMSC)
15 miles North of Waldport
40 miles from HRC

Bohannon Falls

Waldport

Asea River

Hatchery Research Center

Asea Hatchery

Corvallis (OSU)
40 miles East of HRC

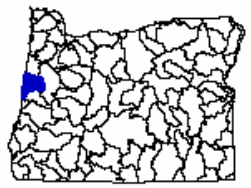
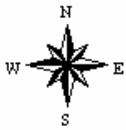
Yachats

OPSW Life-Cycle Site

Five Rivers

Asea River

South Fork Asea River





OHRC Mission



- 1. Understand mechanisms that may create differences between hatchery and wild fish.**
- 2. Develop approaches to manage the differences to meet fishery and conservation goals.**
- 3. Help Oregonians understand the relationships among wild fish, hatchery fish and the surrounding environment.**

“Differences”

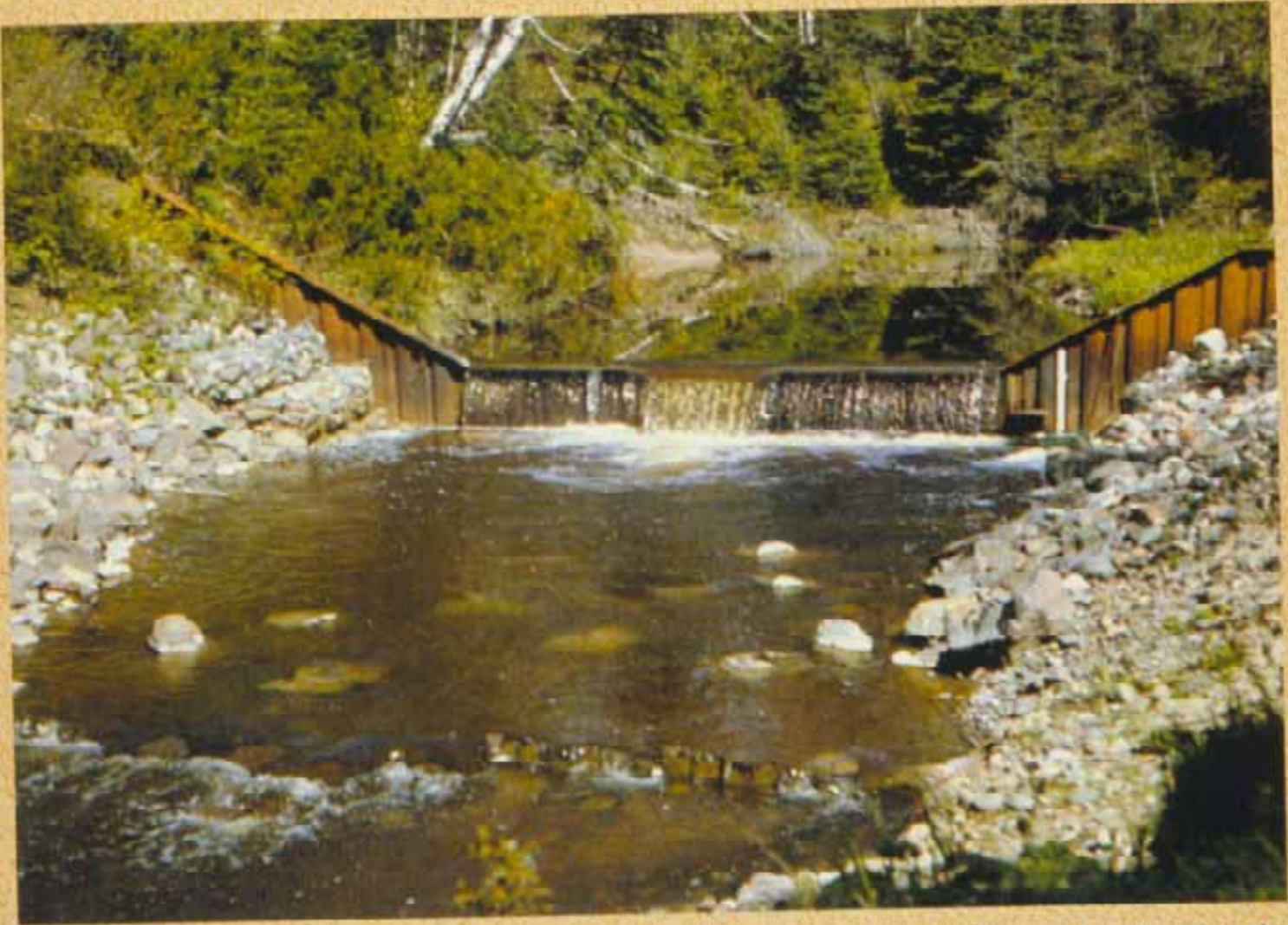
- Life history
- Behavior
- Spawning time
- Migration timing
- Size and age at maturity
- Fecundity
- Growth and survival









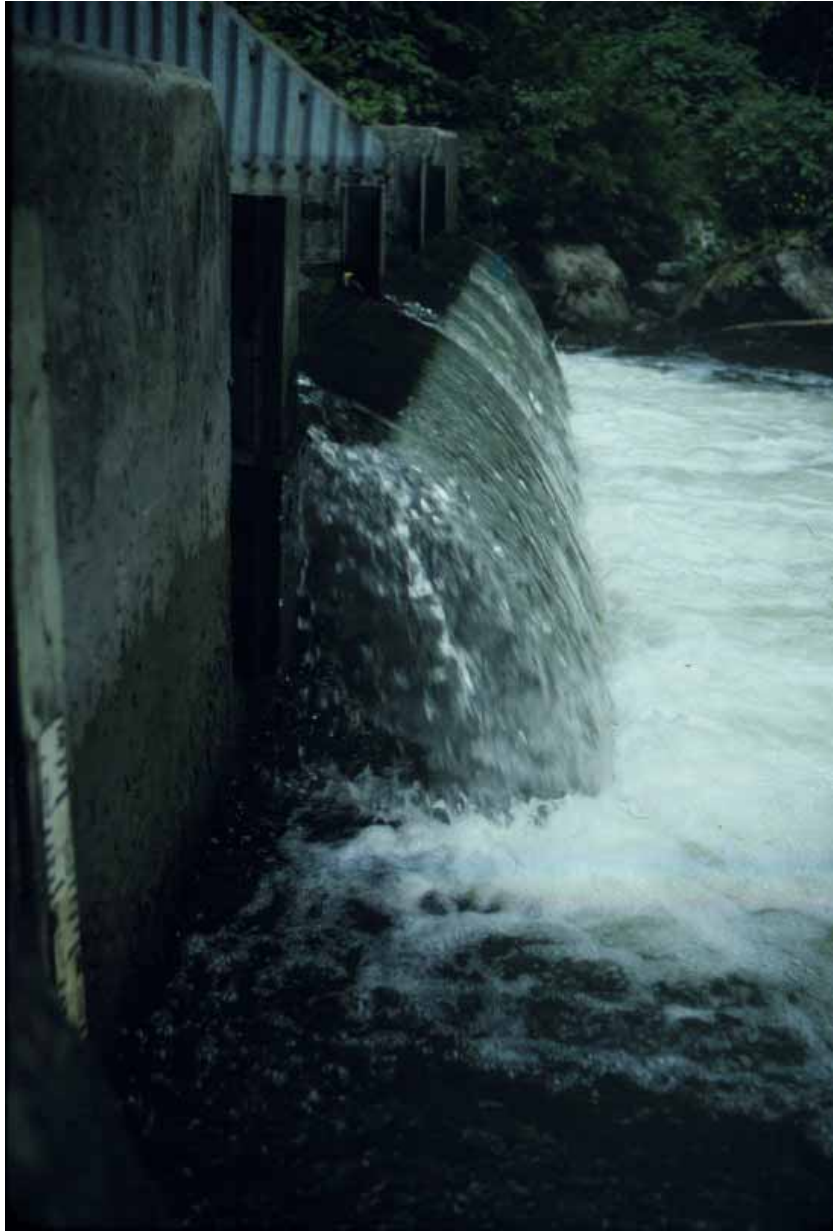


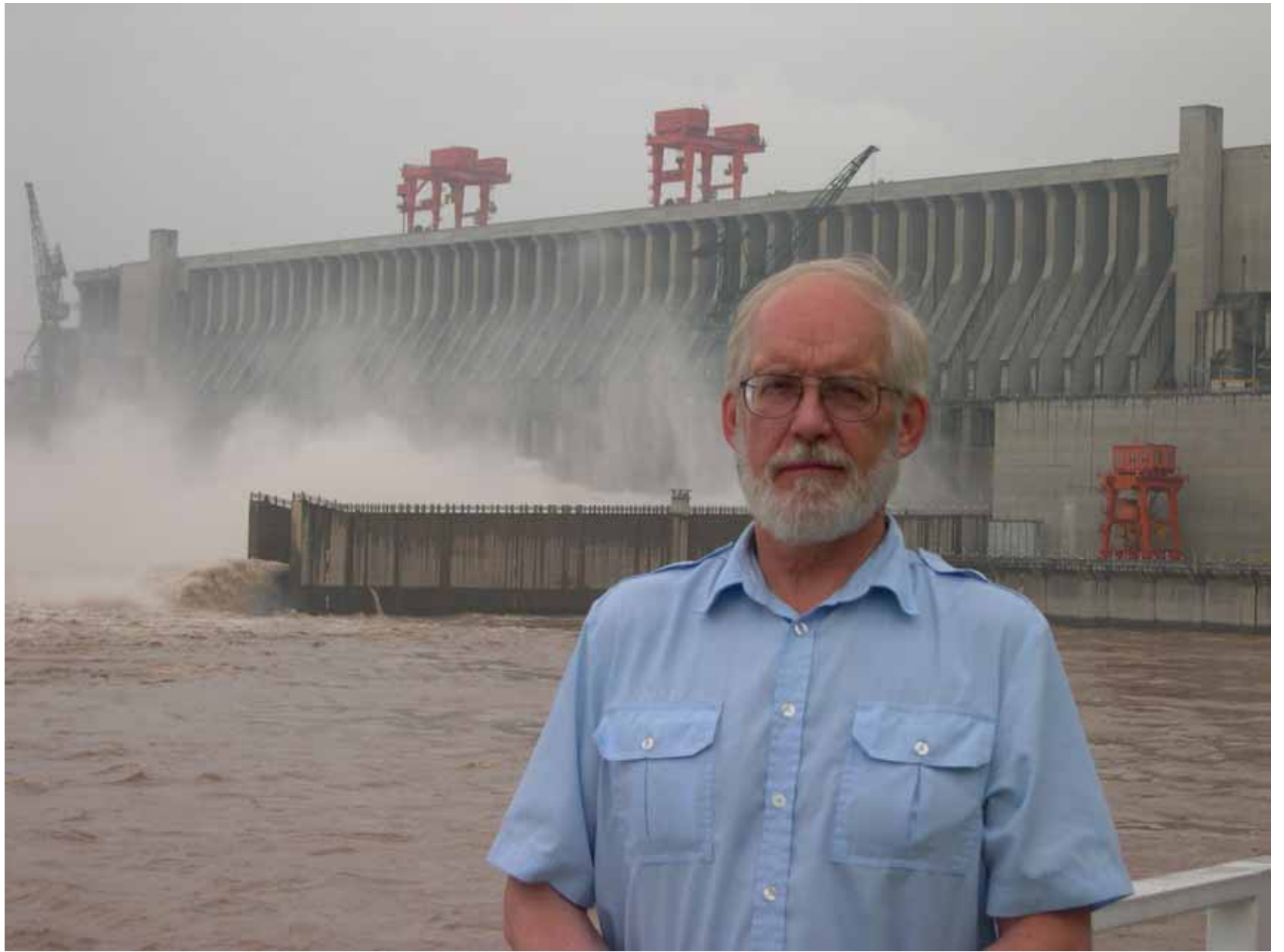
Gilmet Creek, Ontario

Rationale:

Control of sea lamprey







长江珍稀鱼类
繁殖康复救护中心





Shell

Hydrogen

Fuel station Vetrnisstöð





Oregon Hatchery Research Center

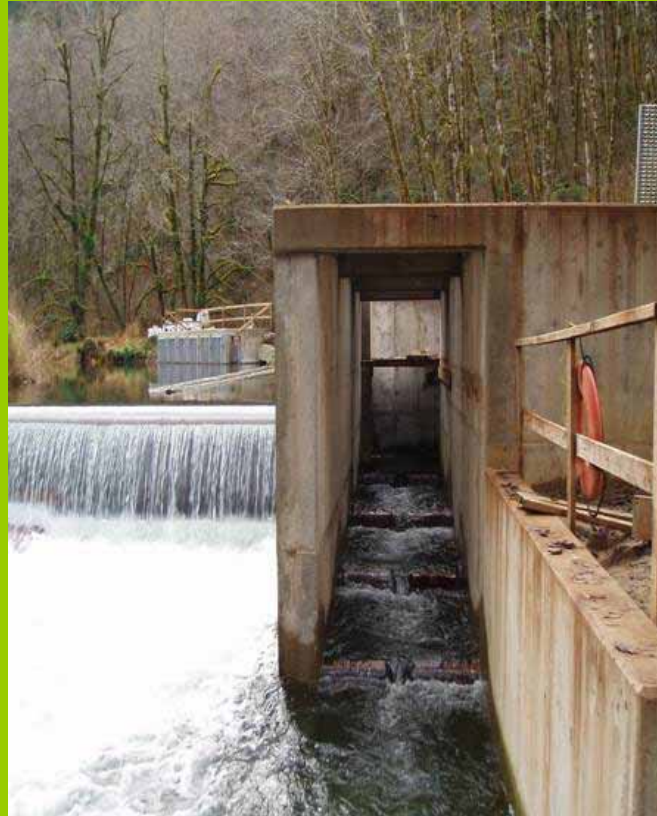




Fish Ladder and Adult Trap



- Ladder meets NOAA standards
- Covered work areas
- Motorized crane to lift trap
- First lamprey friendly fish ladder in Oregon





Simulated Streams



- **Four replicate channels**
- **Spawning and rearing experiments**
- **Infrastructure for mounted cameras**
- **Wireless connections throughout the site**





OHRC Research Questions with Direct Application to Fish Mgmt



- **Reproductive success of mating fish of hatchery and wild origins**
- **Influence of incubation, rearing and release strategies on behavior and survival**
- **Spawning success of hatchery fish in the wild**
- **Hatchery fish re-adaptation to the wild environment**
- **Relative importance of genetic and environmental influences on fish performance**
- **Balancing harvest of hatchery fish while minimizing impacts on wild fish population**
- **Inadvertent effects of domestication**





Research Plan



- Immediate (steelhead and coho)
 - Spawning behavior - wild, hatchery
 - Diet and health - first feeding
 - Life cycle monitoring
 - Feeding, handling and stress - juveniles
 - Nutrients, growth and survival - stable isotopes
 - Benthic ecology, invertebrates & salmon
 - Hatchery procedures and juvenile behavior
 - Rearing procedures and brain structure
 - Wild broodstock - handling, health, maturation
 - Hatchery operations – stream impact



OHRC Mission



- 1. Understand mechanisms that may create differences between hatchery and wild fish.**
- 2. Develop approaches to manage the differences to meet fishery and conservation goals.**
- 3. Help Oregonians understand the relationships among wild fish, hatchery fish and the surrounding environment.**