

# Manager Perspectives on Monitoring Needs

- What is a “Manager”
- What is “Monitoring”
- What are “Needs”

# What is a Manager

- Natural Resource Manager
- Issues / Problems
- Resources
  - Money
  - People

# What is Monitoring

- Monitoring is systematically checking what we've done to see if it worked;
- it is therefore an integral step in the adaptive management process that **must be directly tied to the objectives, designs, and implementation of different projects**

N.W Forest Plan 1998



# Types of Monitoring

- **Implementation Monitoring**  
or compliance monitoring
- **Effectiveness Monitoring**
- **Validation Monitoring**

# Implementation Monitoring

- Are activities being implemented as planned? In other words, did we do it (screen the diversion, build the fish ladder, collect the data) the way we said we were going to do it?
- This tends to be the most straight-forward kind of monitoring

# Effectiveness Monitoring

- Are desired results being achieved?
- Evaluates change & can use implementation monitoring as the initial source of information to be compared with information gathered in the future



# Validation Monitoring

- What is the cause and effect relationship? Are underlying assumptions sound? Are estimates of impacts accurate? Are salmon more abundant in restored watersheds, and why or why not?
- The most intensive type of and must be addressed with careful research designs, especially for actions for which we're not sure of possible impacts

# Monitoring Programs Needs

- **What is necessary**
- **What is feasible**
- **What is practical**



# What is Necessary

- **Spatial scales:** Fish productivity and habitat requirements have a high degree of spatial and temporal variation. So the response of salmon populations to actions that affect habitat must be evaluated at broad spatial and temporal scales.
- **Genetics:** Genetic characteristics of salmon populations must be considered in conservation plans and in monitoring activities that support those plans

# What is Feasible

- Monitoring Methodology
- Uncertainty and Variability
  - Uncertainty = Use best scientific knowledge and re-evaluate and learn from one's experiences (adaptive management)
  - Variability = **long-term monitoring**

# What is Practical

## ➤ Institutional Framework

- An effective monitoring plan requires input from the scientific community regarding principles of data collection and analysis, but also considers the realities of legal, political, and social environments

## ➤ The Monitoring Imperative

- Large amounts of public money are going into restoration programs with increasing concerns that natural resource managers are effectively using public funds to truly improve the condition of salmon populations

The Scientific Basis for Validation  
Monitoring of Salmon for  
Conservation and Restoration  
Plans. Olympic Natural Resources  
Technical Report. University of  
Washington, Olympic Natural  
Resources Center, Botkin, D.B.,  
D.L. Peterson, and J.M. Calhoun  
(technical editors). 2000.

The challenge in monitoring is to establish a measurement approach in which management actions can be related to population responses of the species of interest, **so that what appears plausible can be determined to be correct or incorrect.**



# The Importance of Validation Monitoring

- Counting salmon through validation monitoring is the only way that a link between **cause (i.e. ERP & AFRP)** and **effect (trend)** can be confirmed quantitatively

