

Non-target Taxa Monitoring

Ecological Risk Containment



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“Supplementation is the use of artificial propagation in an attempt to maintain or increase natural production while maintaining the long term fitness of the target population, and keeping



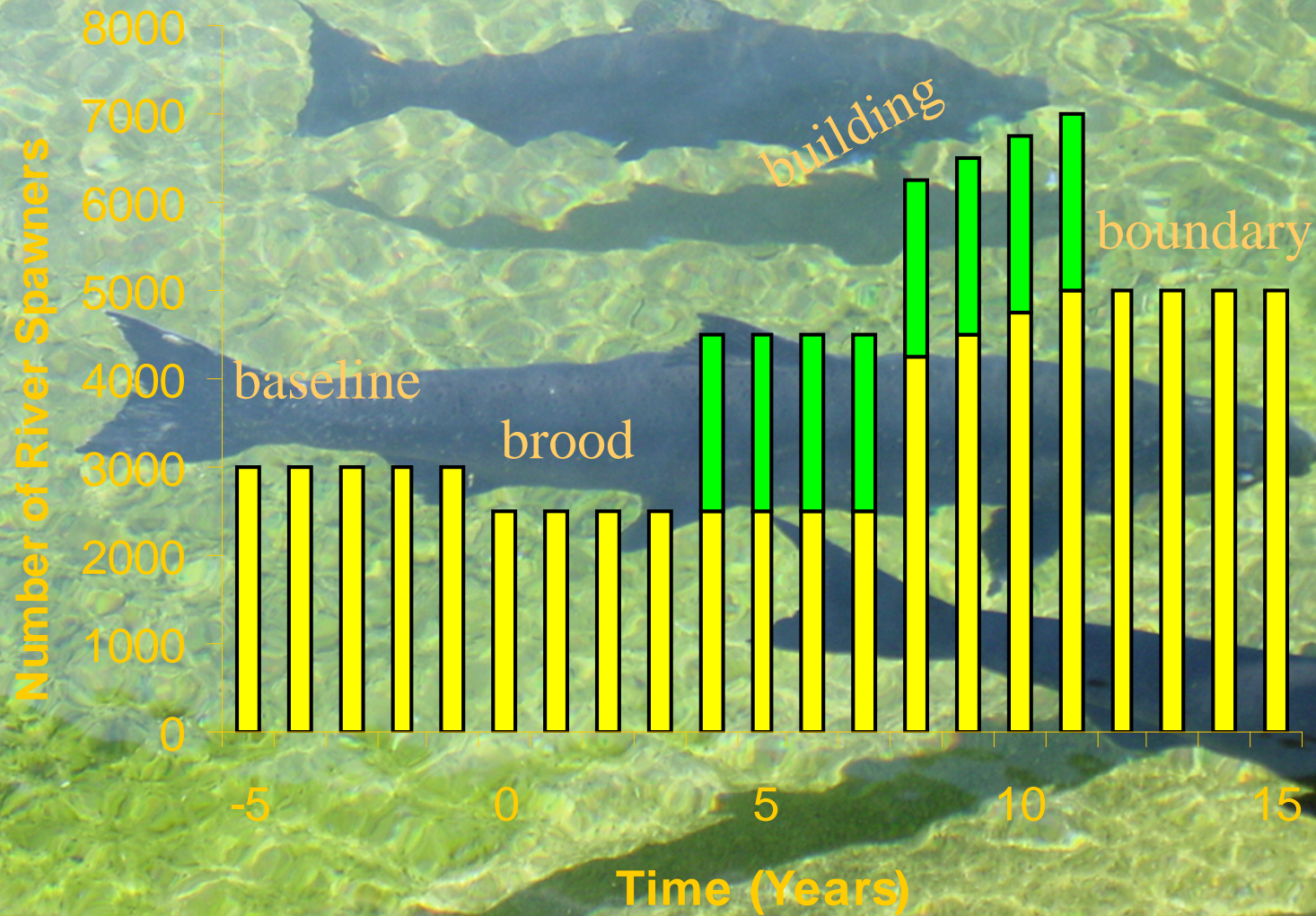
ecological and genetic impacts on nontarget populations within specified biological limits.”

Ecological Risk Assessment

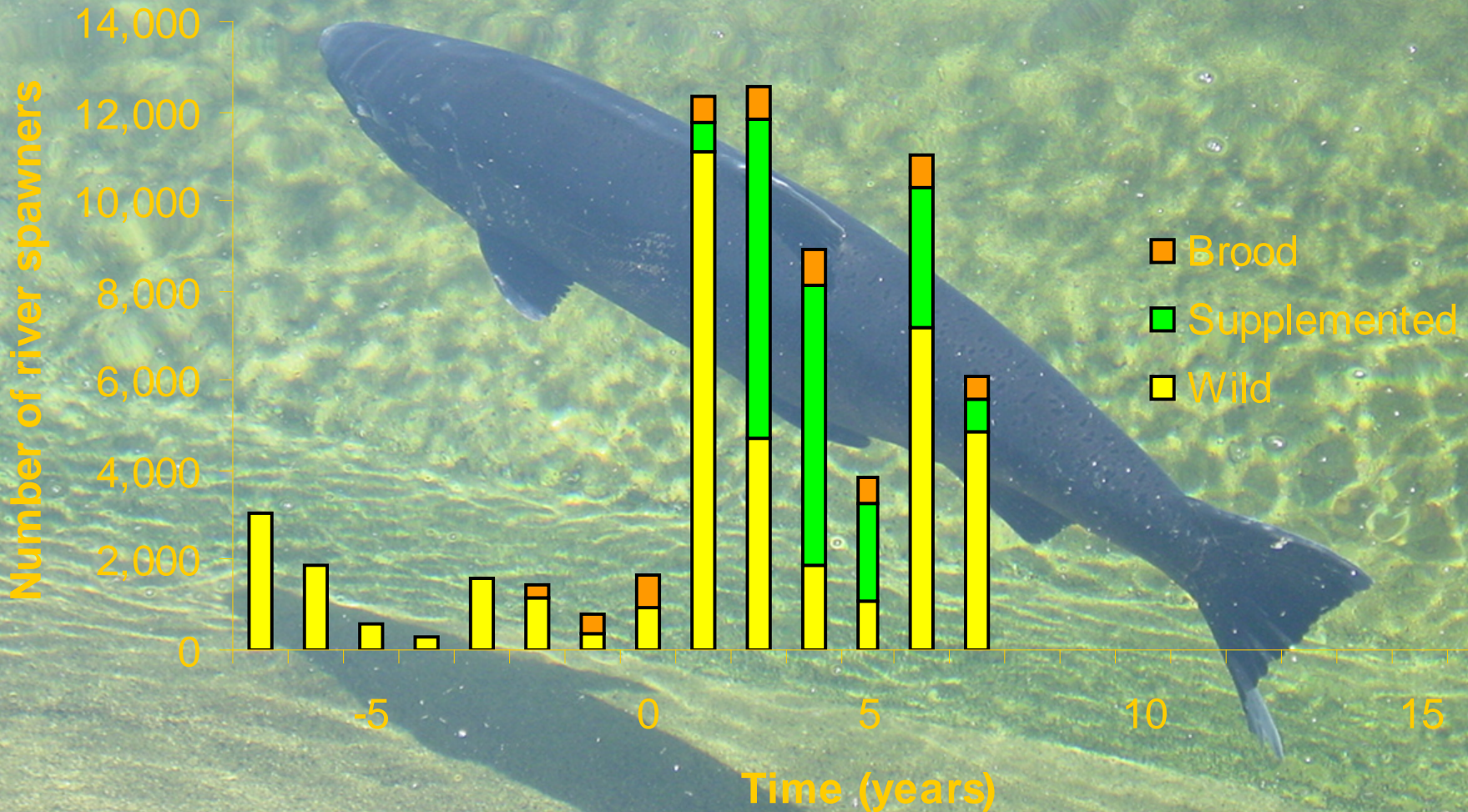
Evaluate risks and uncertainties of stocking

- Identify NTT and CO
- Identify potential interactions, strengths, and uncertainty
- Initiate appropriate management actions depending on risk and uncertainty levels

Supplementation Chronology



Yakima Program



NTT Risk Containment Process

Set Containment Objectives

Implement Detection Strategies

Identify Changes to NTT Status

Determine Causation

Adaptive Management

Containment Objectives

$\leq 0\%$



$\leq 5\%$



$\leq 10\%$



$\leq 40\%$



sustainability



Detection Strategies

Distribution Overlap with Spring Chinook Salmon

- *Bull Trout, Cutthroat Trout*

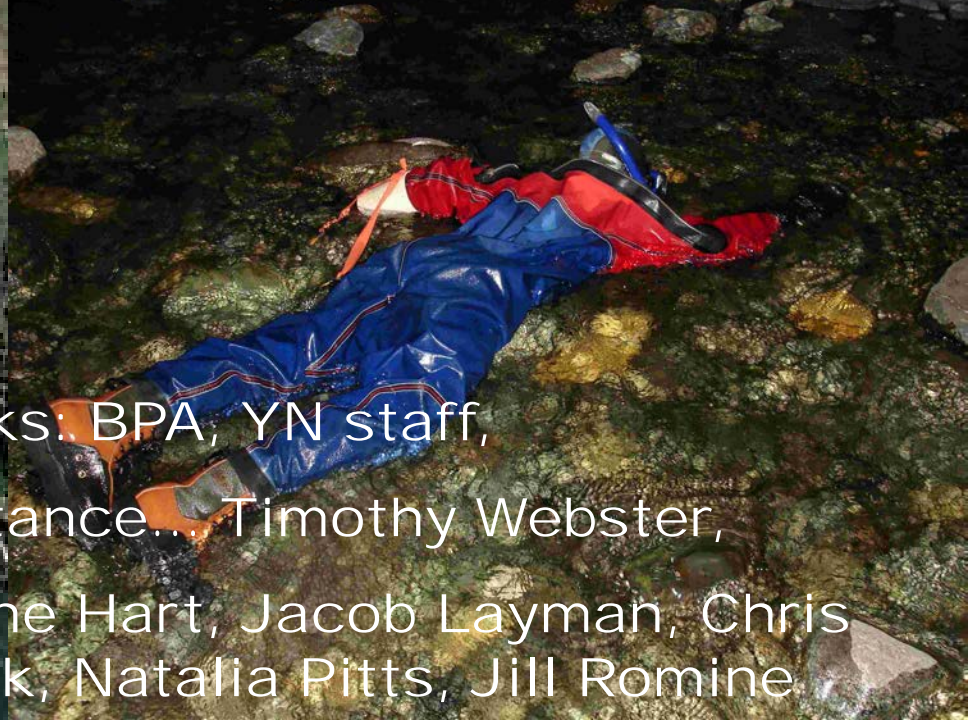
Status Monitoring

- *Pacific lamprey, fall chinook*
- *Other Native Species (sculpins, rainbow trout - tribs)*

Models Applied


- *Steelhead (analog), Mtn. Sucker (analog), Rainbow trout - Mainstem, Spring Chinook Salmon, Mtn. Whitefish, Dace, Suckers*

Methods.....



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Technical field assistance... Timothy Webster,
Charity Davidson Germaine Hart, Jacob Layman, Chris
Johnson, Jennifer Novak, Natalia Pitts, Jill Romine

Outline of Results to Date

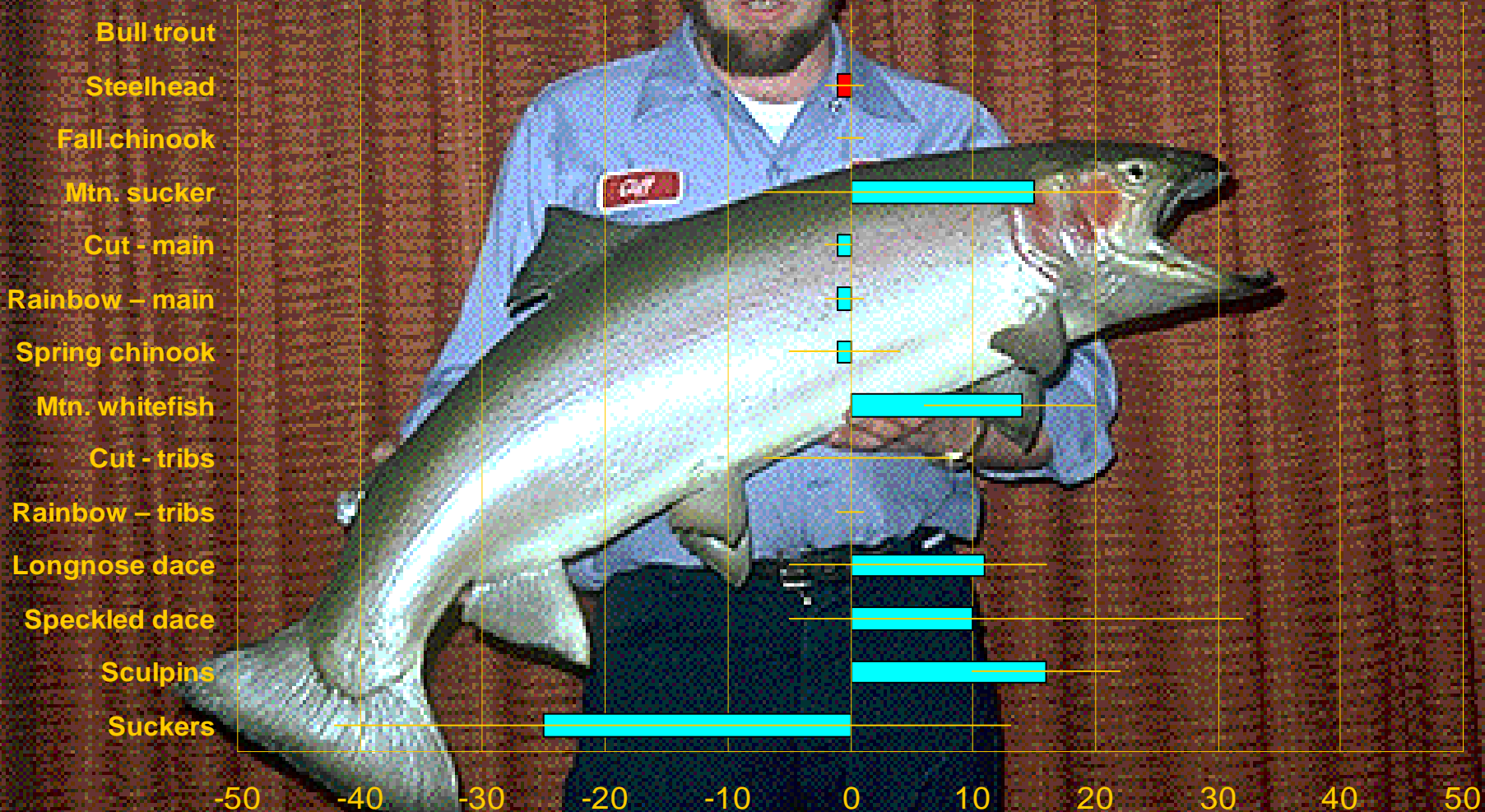
- Changes to NTT status (monitoring prescriptions)
 - Abundance
 - Size structure
 - Distribution
- 

Monitoring Prescription Abundance



Percent Change from Baseline

Monitoring Prescription Size

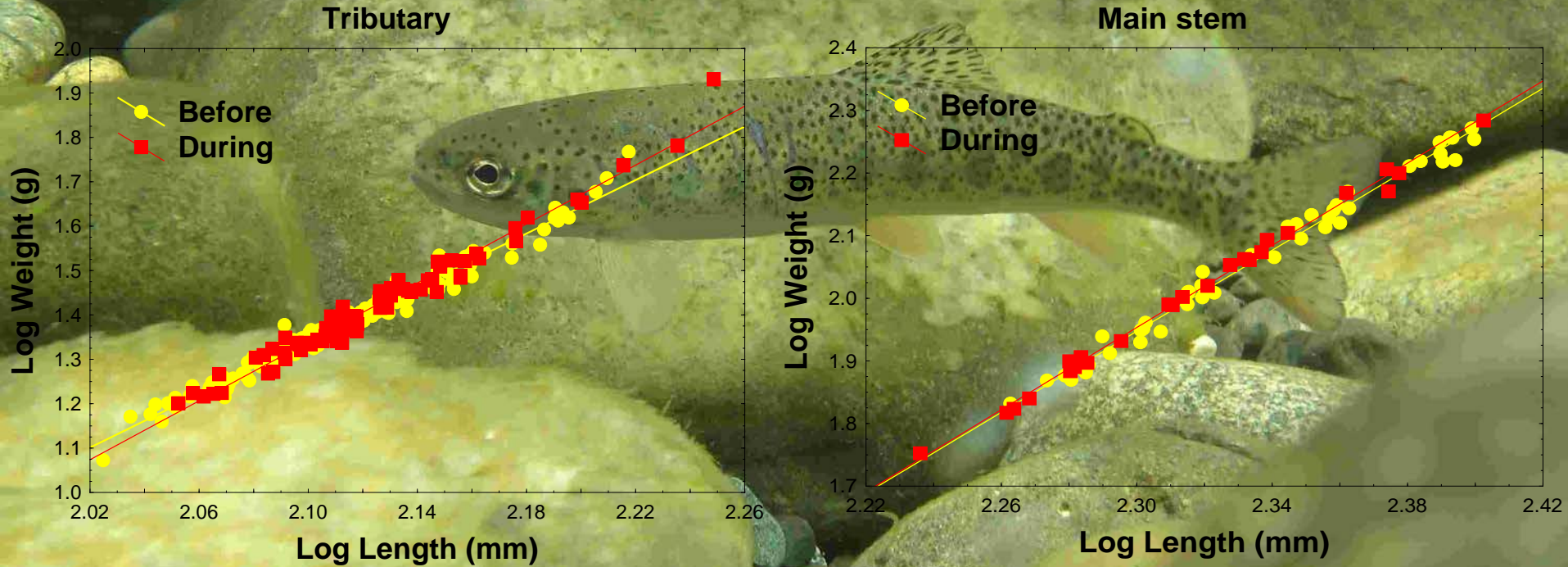


Percent Change from Baseline

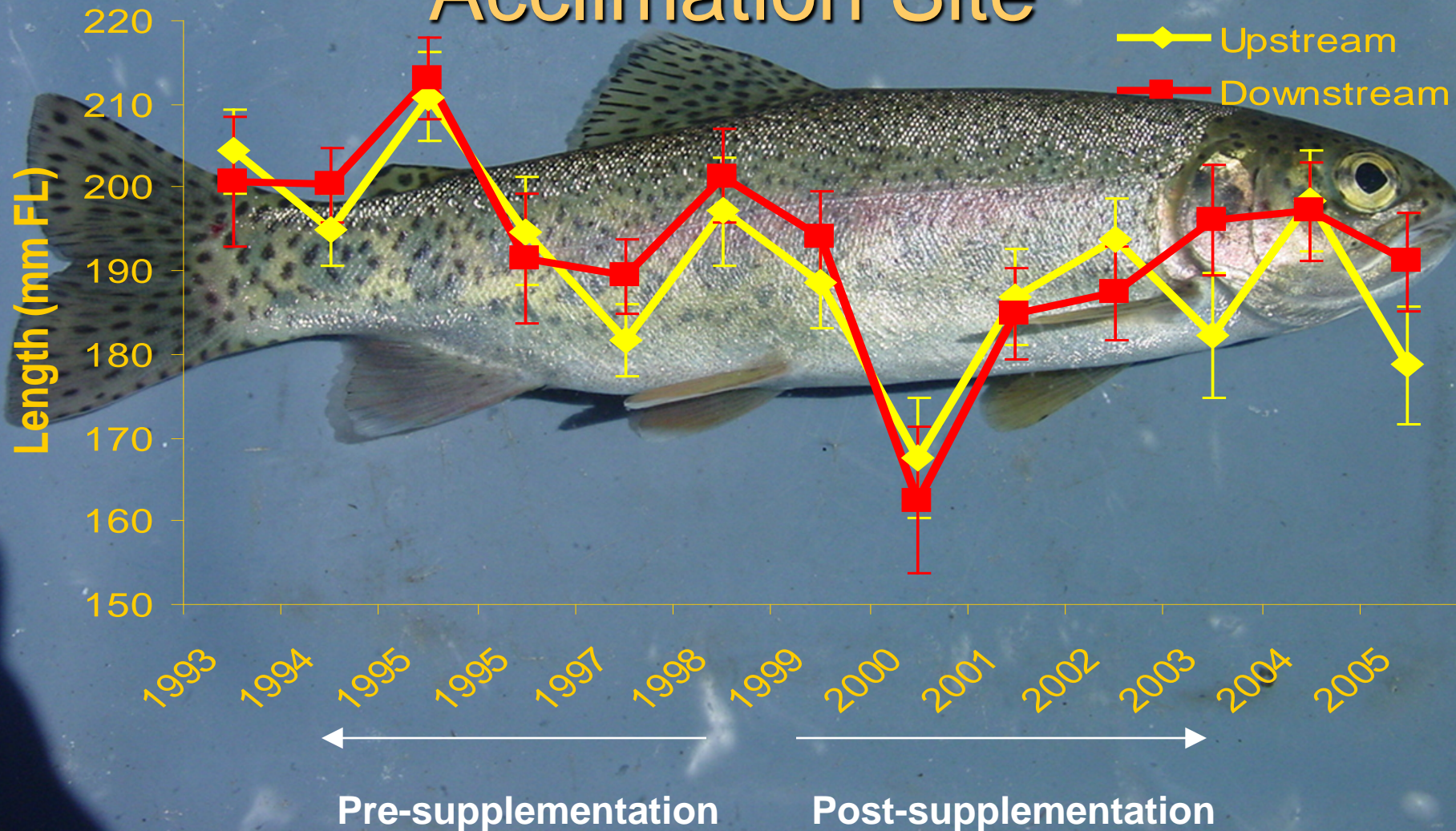
Density Dependent Growth



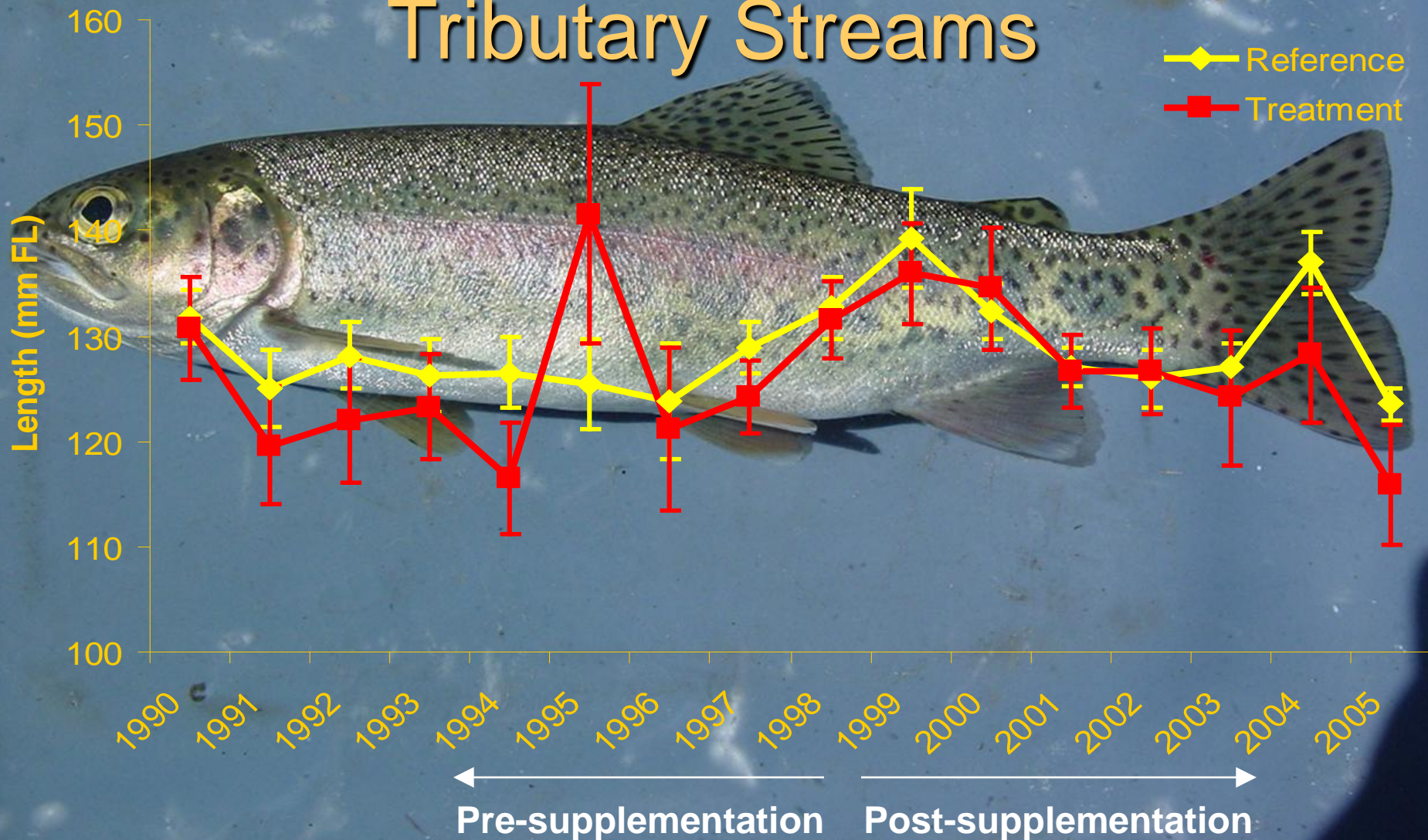
Length-Weight Relationship



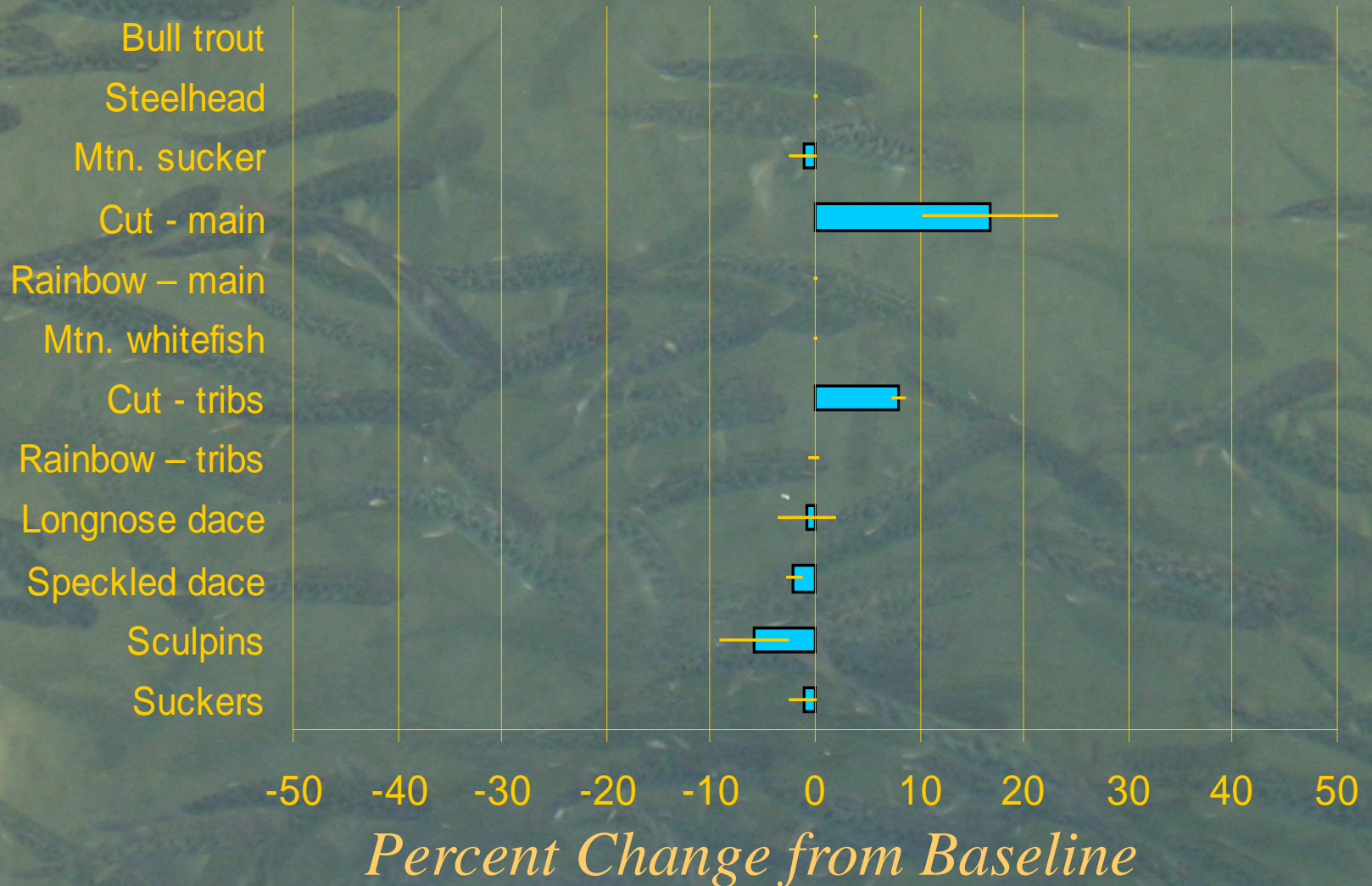
Mean fork length of RBT above and below Clark Flats Acclimation Site



Difference in Length of Rainbow Trout in Treatment vs Reference Tributary Streams



Monitoring Prescription Distribution



Monitoring Status

- **Monitoring prescriptions indicate that salmon supplementation in the Yakima Basin is not impacting NTT beyond containment objectives**
- **Maintain core monitoring activities in the coming year and employ rigorous tests of WSH/RBT growth**



RESEARCH

