

Non-target Taxa Monitoring

Ecological Risk Containment



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Ecological Risk Assessment

Evaluate risks and uncertainties of stocking



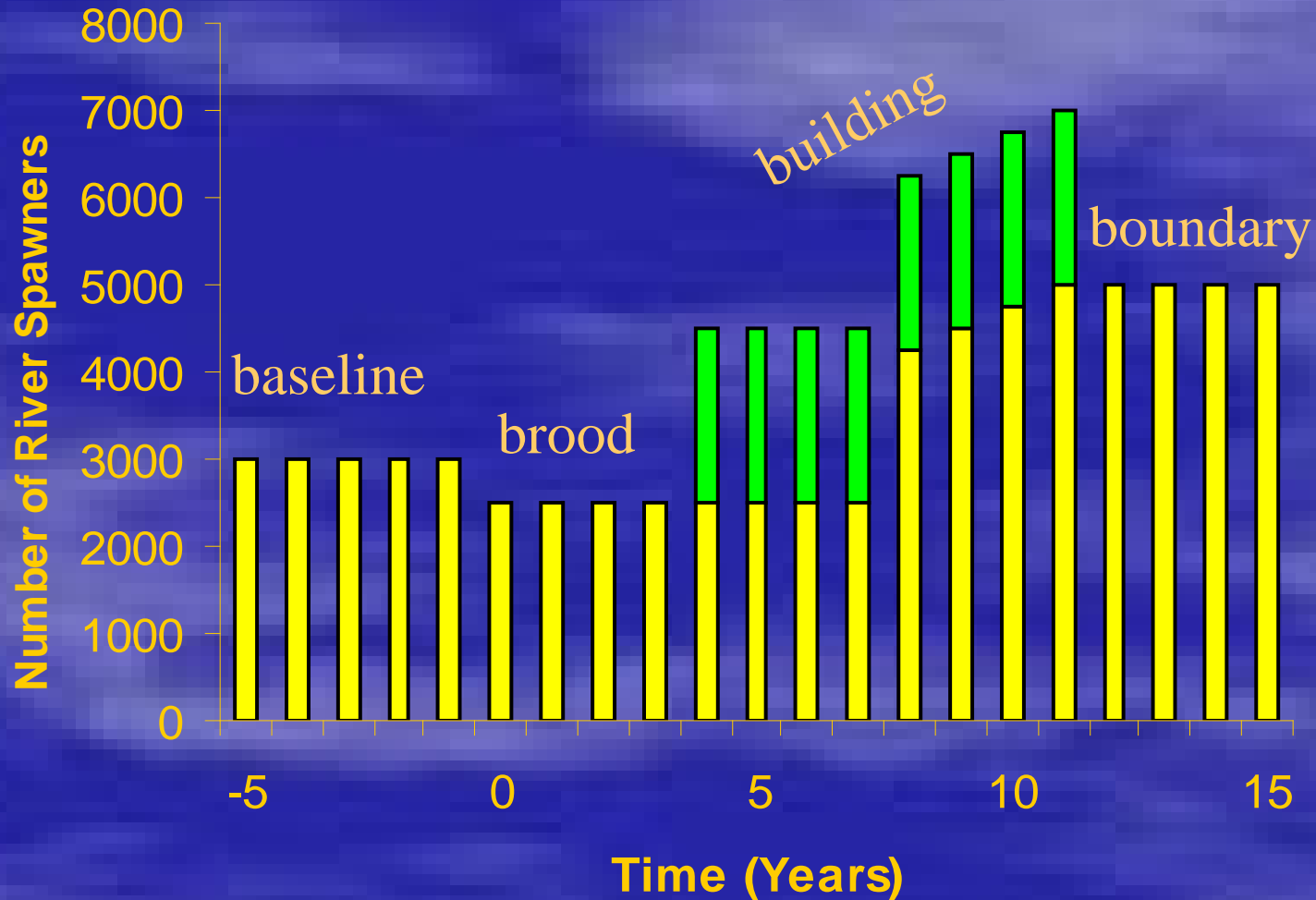
- Identify NTT and CO
- Identify potential interactions, strengths, and uncertainty
- Initiate appropriate management actions depending on risk and uncertainty levels



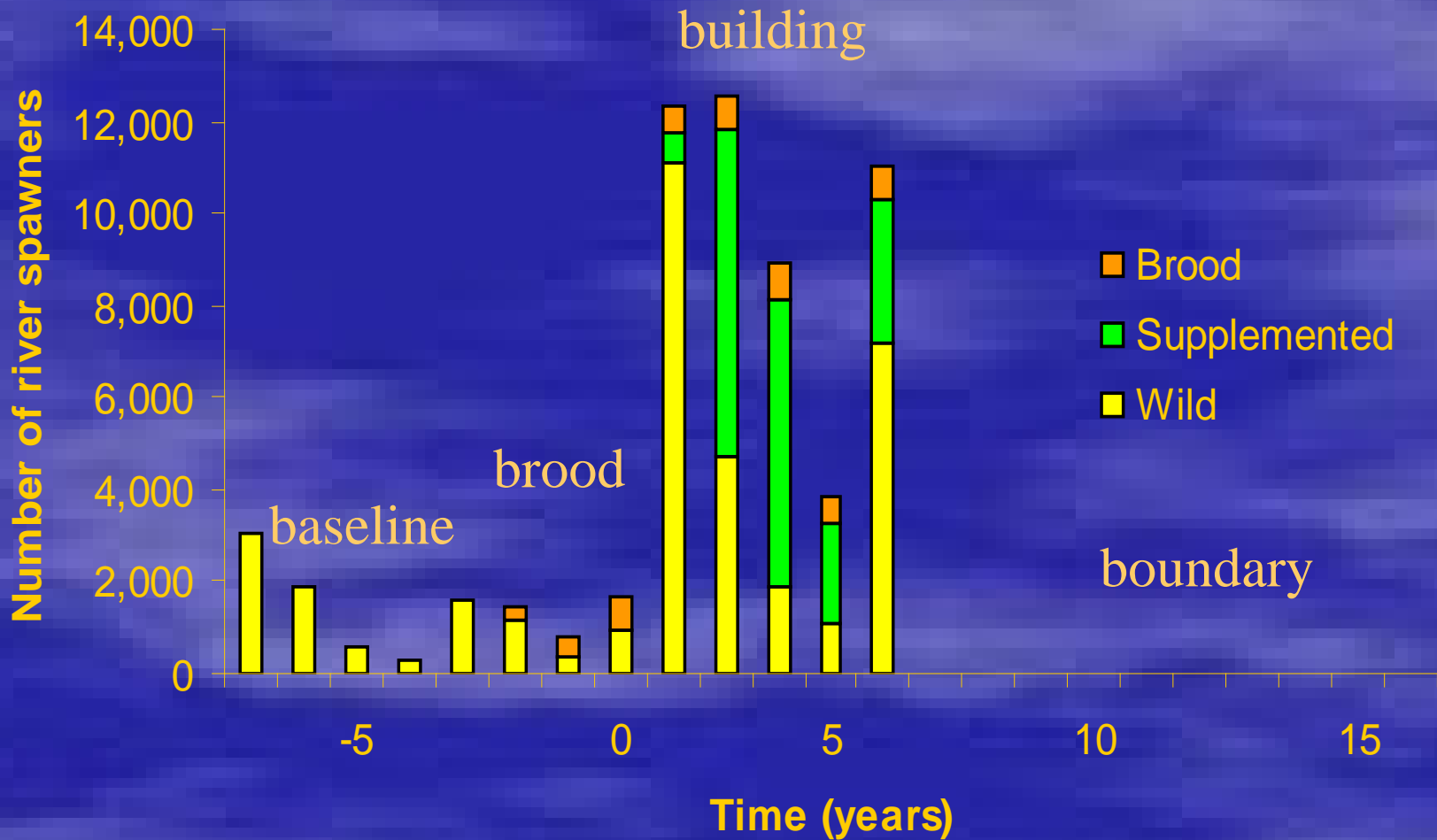
“Supplementation is the use of artificial propagation in an attempt to maintain or increase natural production while maintaining the long term fitness of the target population, and keeping **ecological and genetic impacts on nontarget populations within specified biological limits.**”



Supplementation Chronology



Yakima Program



NTT Risk Containment Process

Set Containment Objectives

Implement Detection Strategies

Identify Changes to NTT Status

Determine Causation

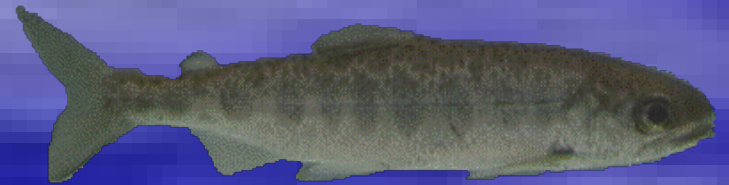
Adaptive Management

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

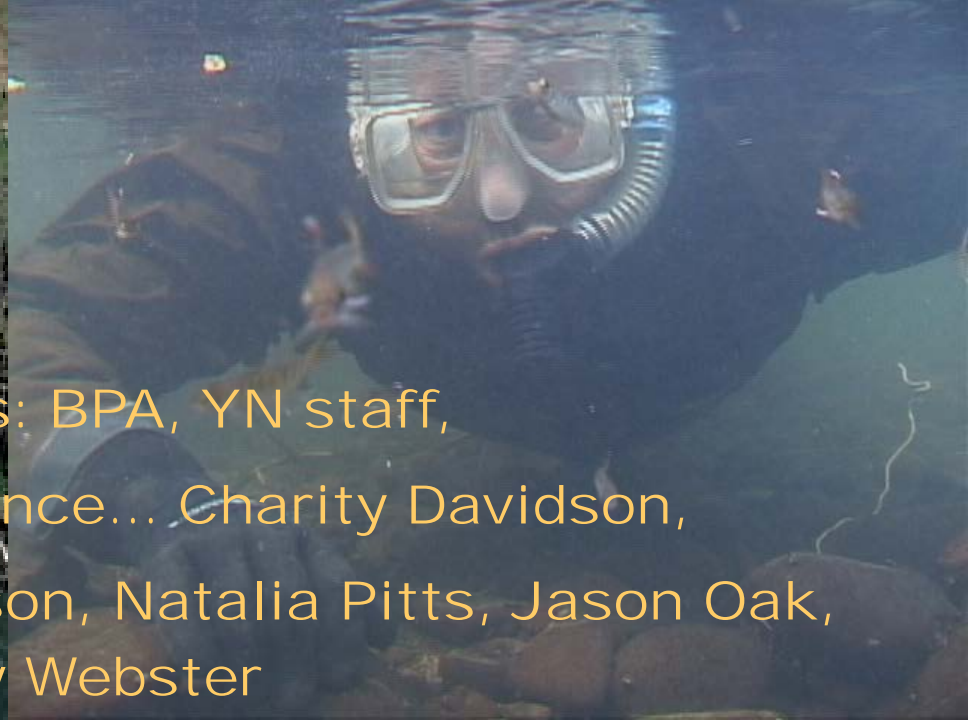
- *Pacific lamprey, fall chinook*
- *Other Native Species (sculpins, rainbow trout - tribs)*

Models Applied

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



Methods.....

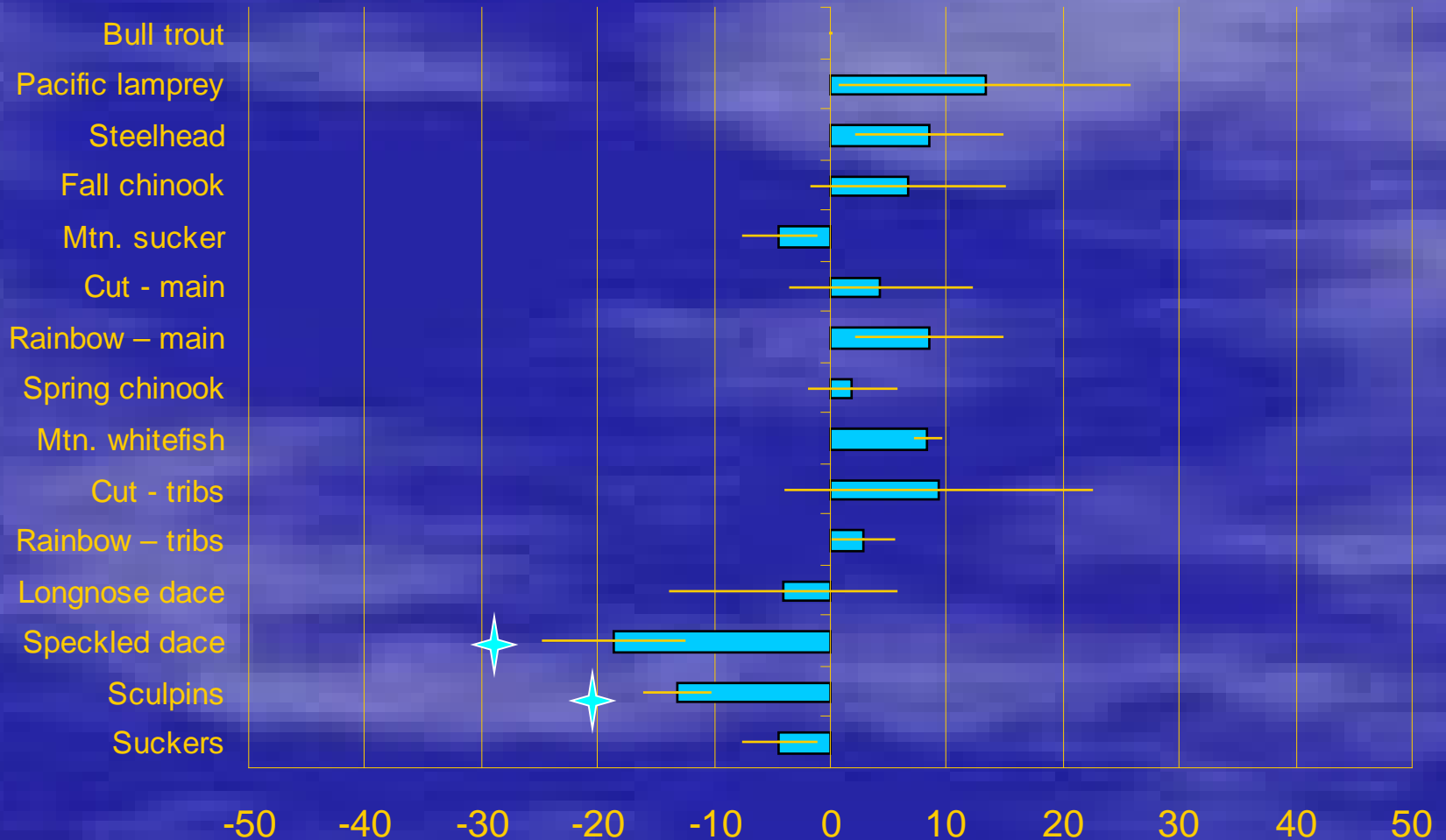


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Timothy Webster

Outline of Results to Date

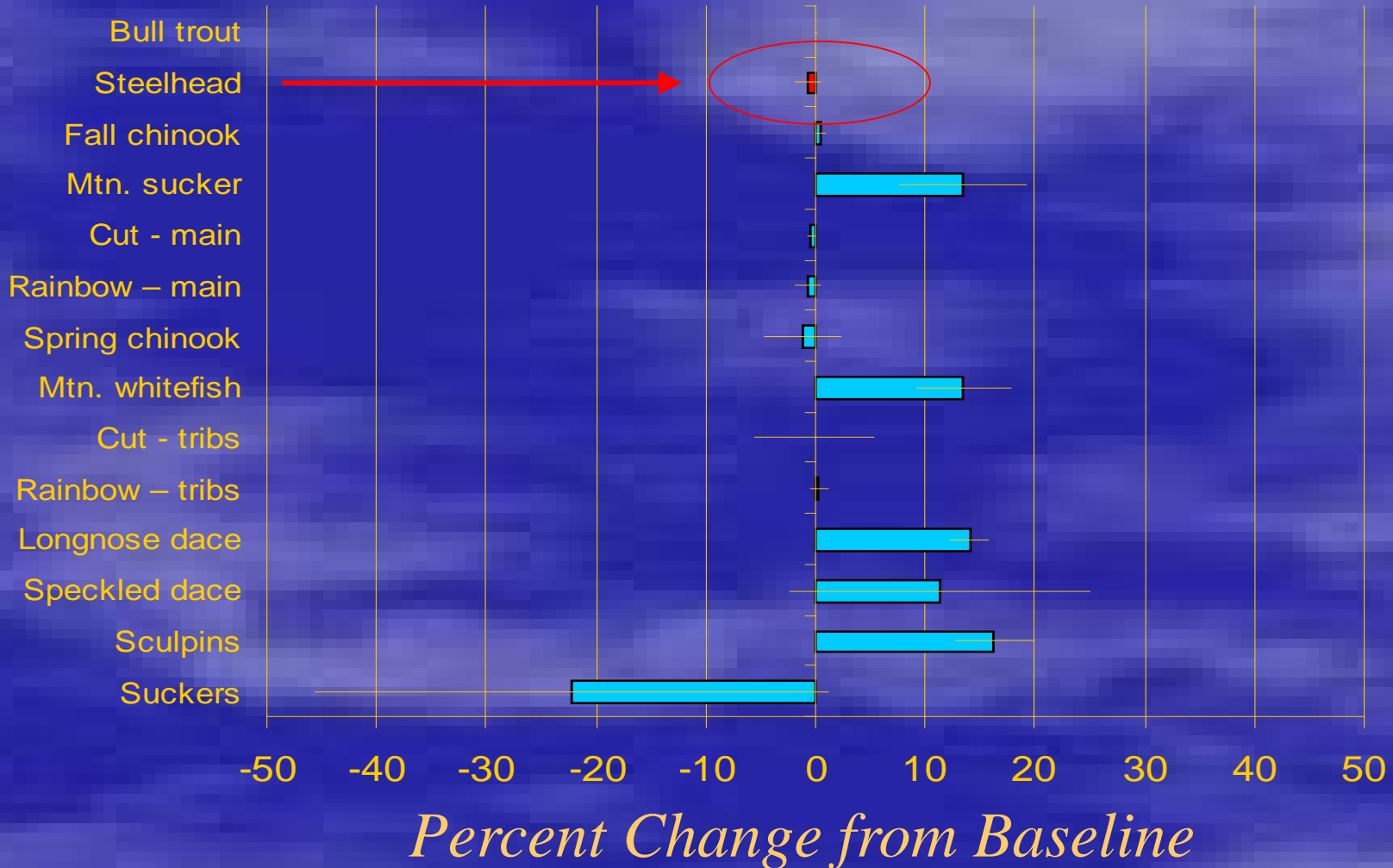
- Changes to NTT status (monitoring prescriptions)
 - **Abundance**
 - **Size structure**
 - **Distribution**

Monitoring Prescription Abundance

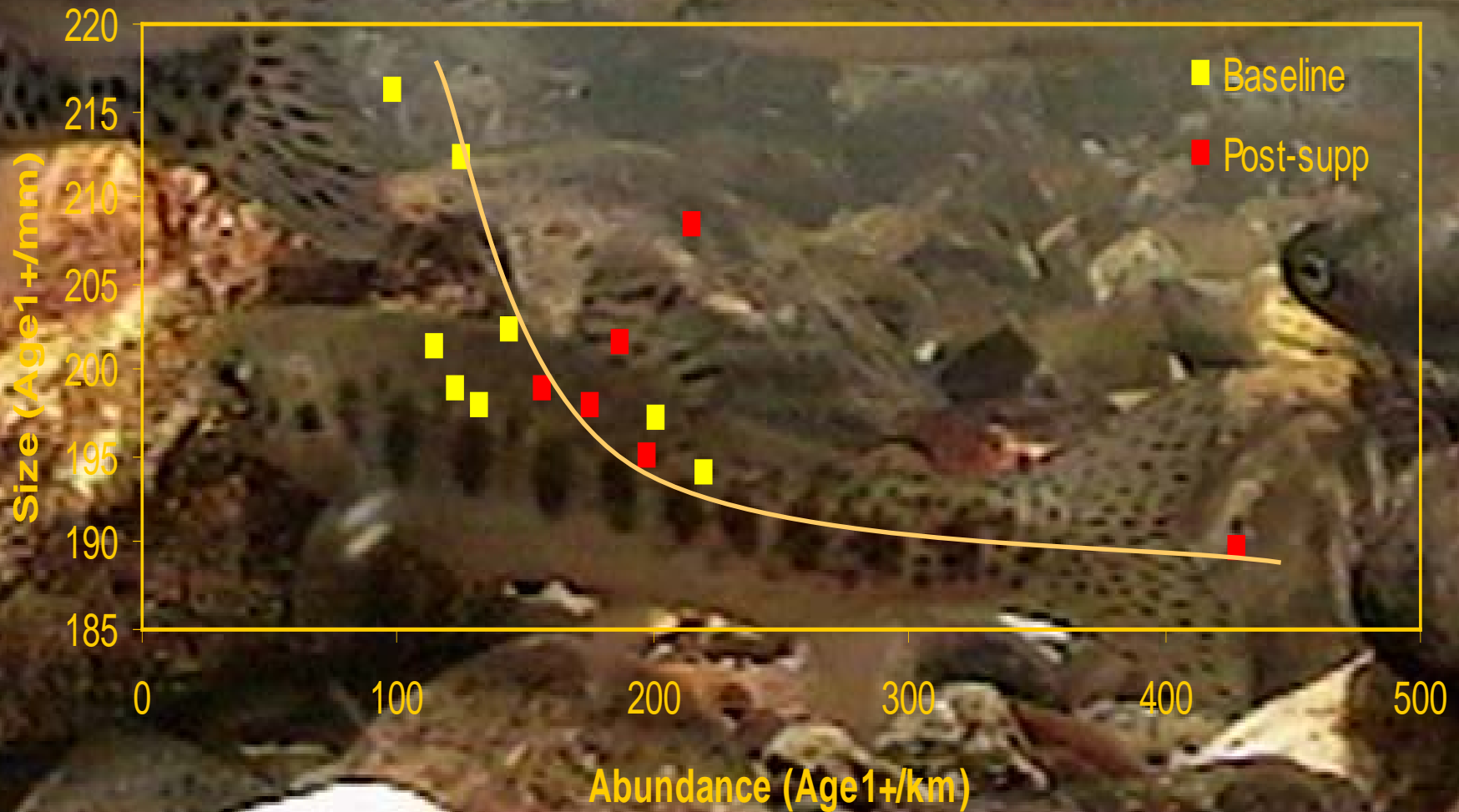


Percent Change from Baseline

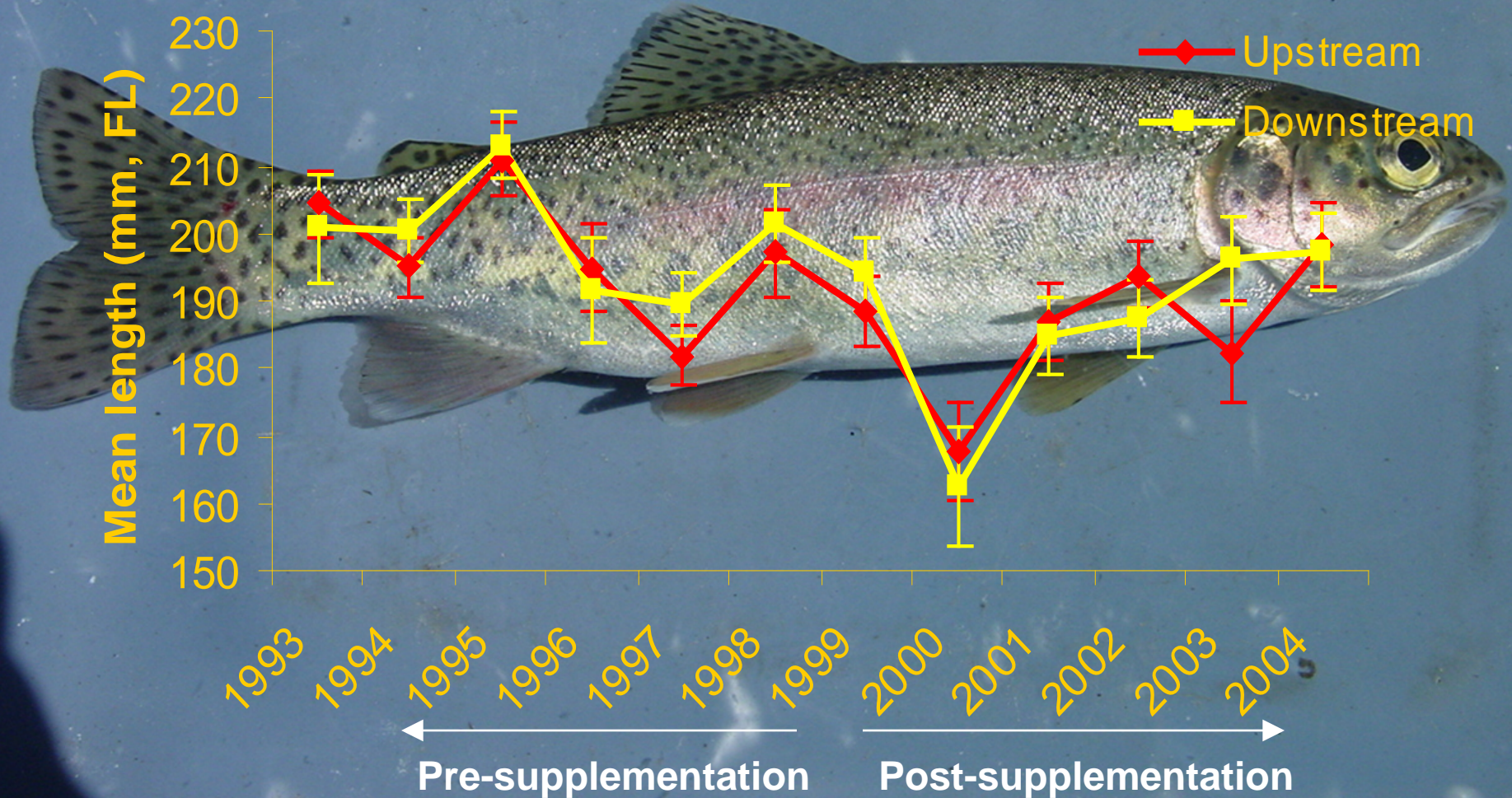
Monitoring Prescription Size



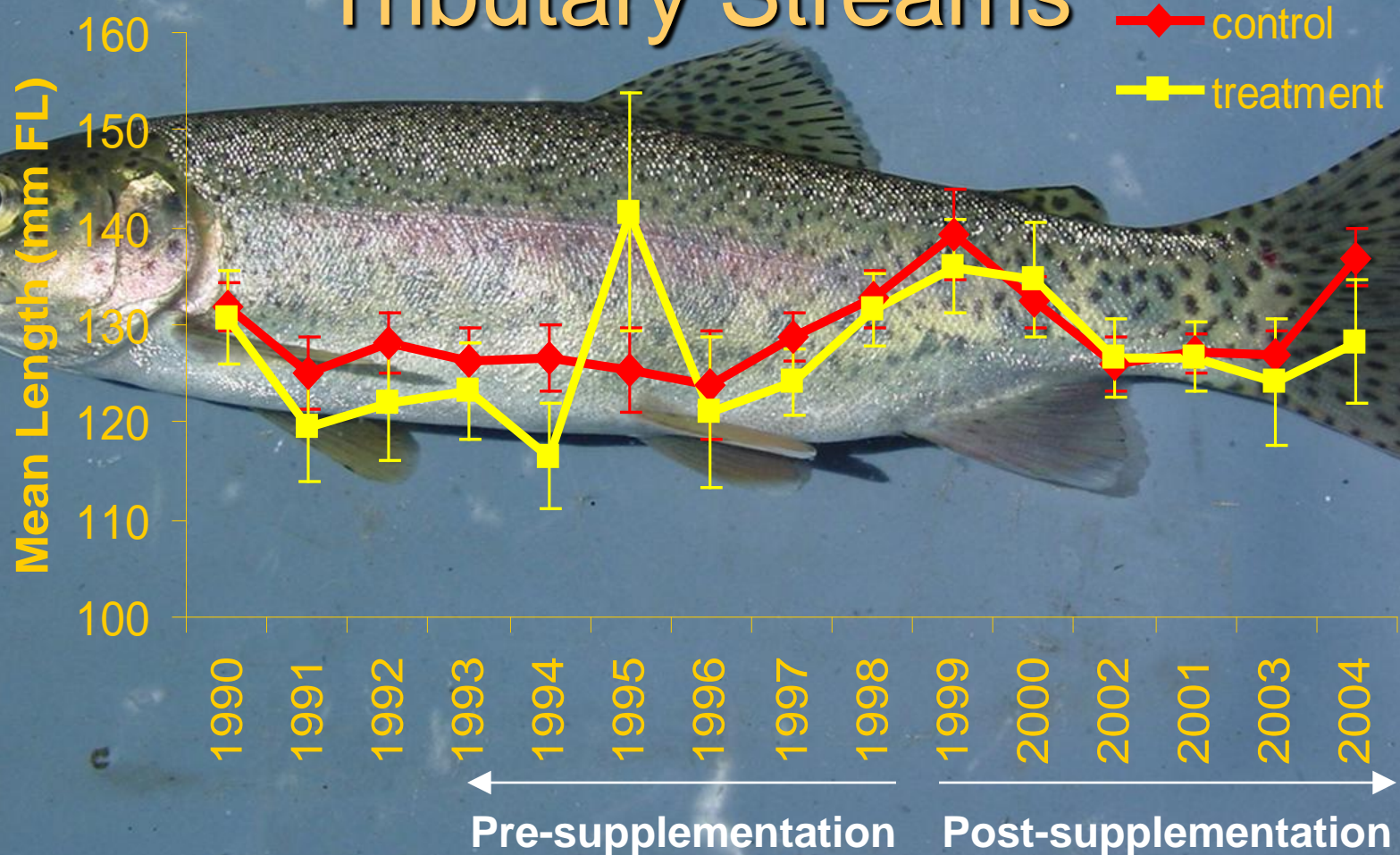
Density Dependent Growth



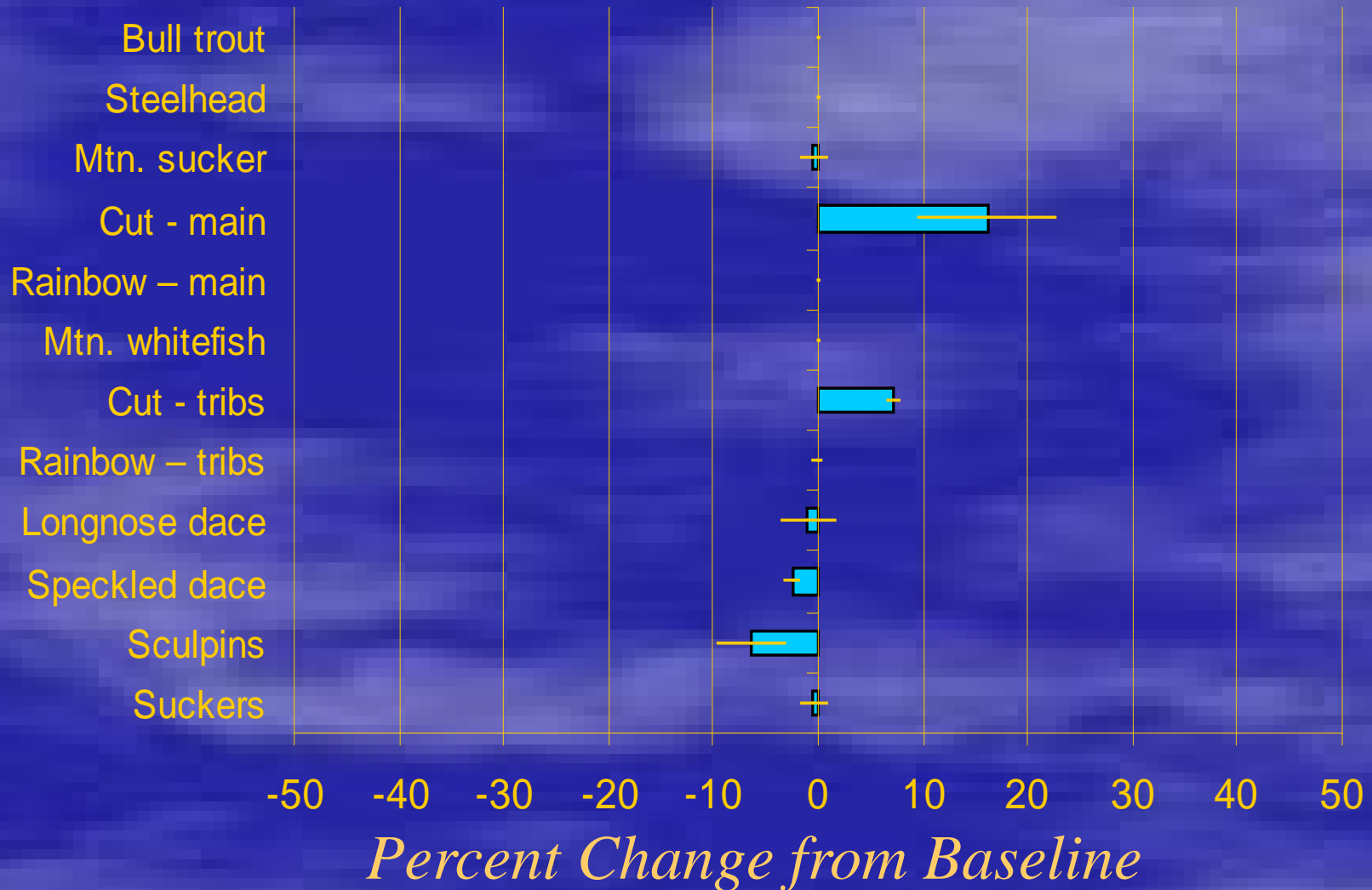
Mean fork length of RBT < 250mm above and below Clark Flats Acclimation Site



Mean Fork Length of Rainbow Trout in Treatment vs Reference Tributary Streams



Monitoring Prescription Distribution



Monitoring Status

- Monitoring prescriptions indicate that salmon supplementation is not impacting NTT beyond containment objectives
- Maintain core monitoring activities in the coming year

