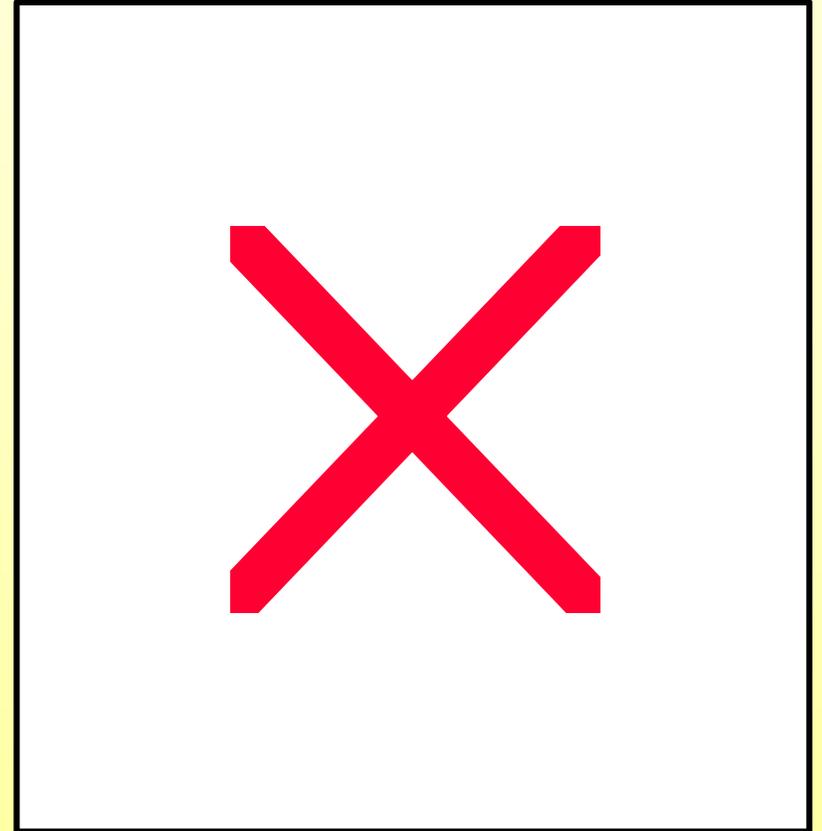


The Collaborative, Systemwide Monitoring and Evaluation Project (CSMEP)



A Sketch of CSMEP

- What are we doing?
- Why are we doing it?
- Where are we at in the process?
- Relationships to WA SRRs and CMS
- Policy level input – what's needed & when?





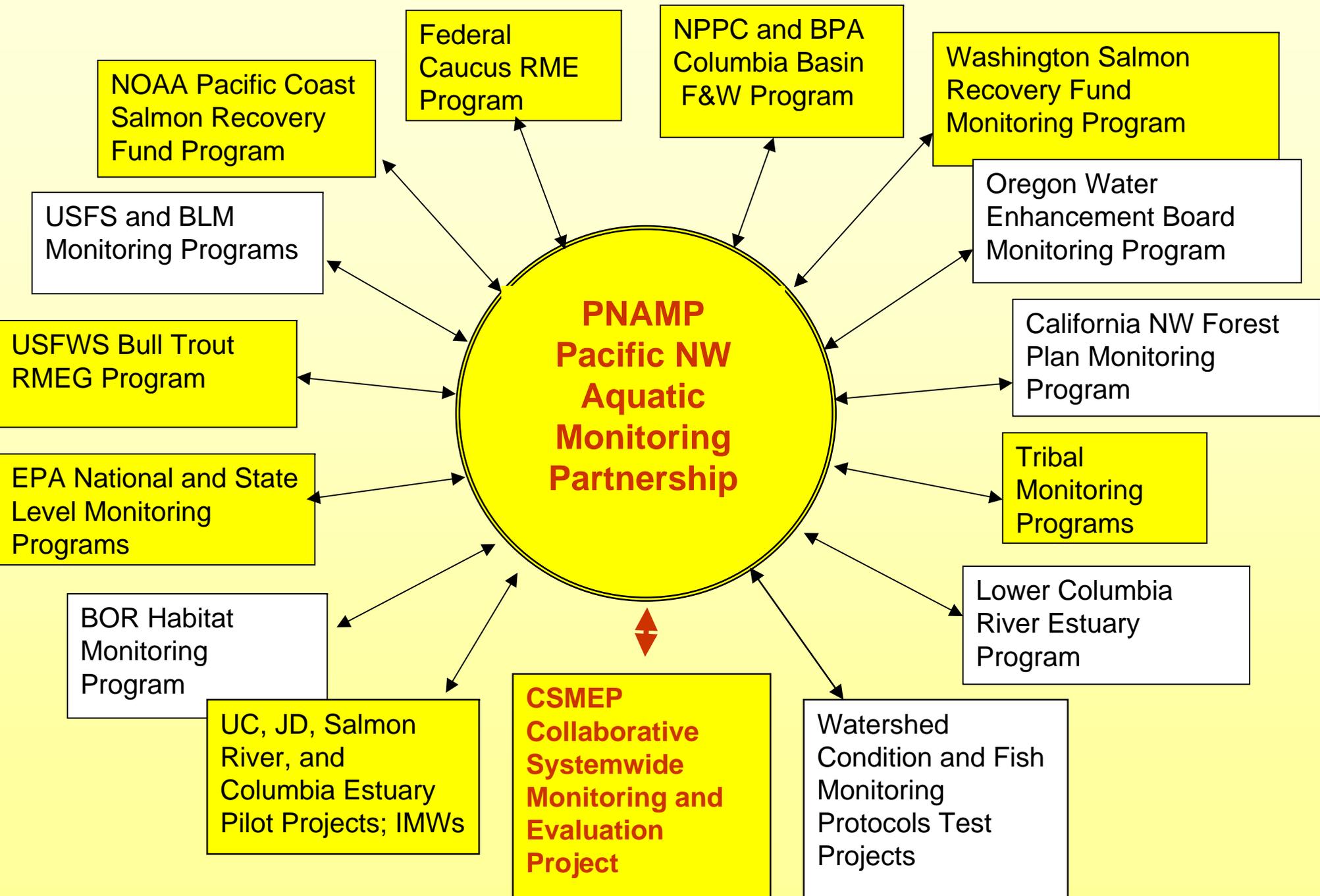
CSMEP Vision

A coordinated effort to **collaboratively** improve the quality and consistency of **fish monitoring** data, and the methods used to **evaluate** these data, to answer key **questions** relevant to major **decisions** in the Columbia Basin.

CSMEP Objectives

- **Collaboratively serve M&E needs** of federal, state, tribal, intergovernmental entities
- **Inventory, assess and make available** existing fish monitoring data
- **Collaboratively design** improved M&E methods
- **Implement and evaluate** pilot M&E approaches
- Work towards consistent, reliable **systemwide** M&E





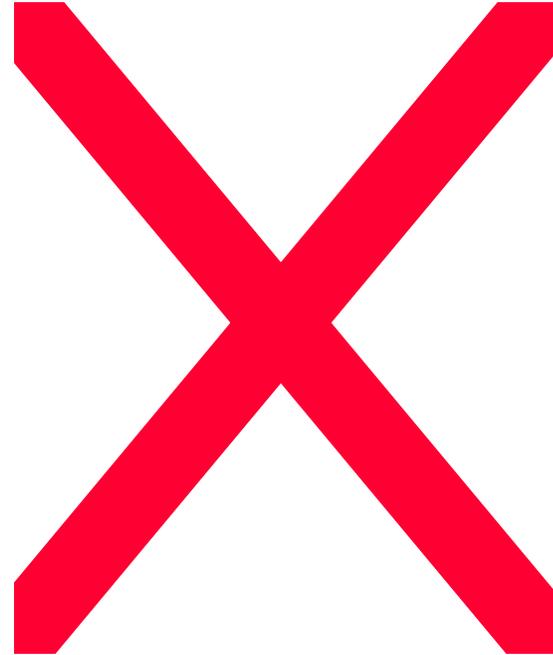
Scale:

**U.S. side +
Okanagan**

Species:

- salmon
 - steelhead
 - bull trout
 - other
- resident fish
of concern**

B.C.





You are not doing

CSMEP provides a systematic way to:

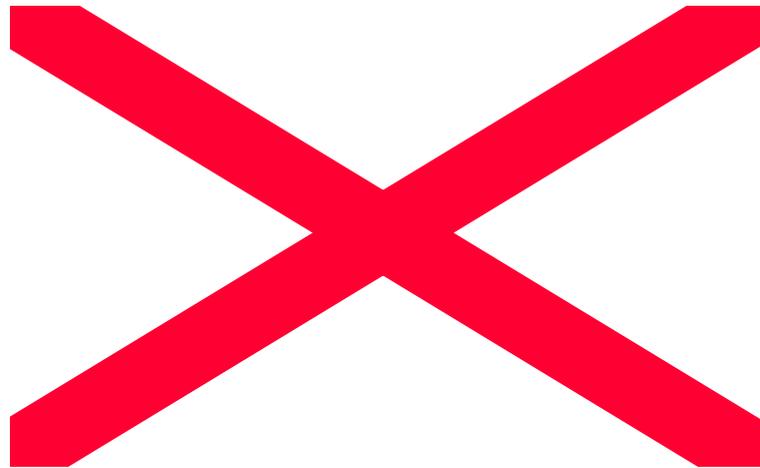
- **Build M&E on strengths** of existing data
- **Evaluate trade-offs** of different M & E approaches (precision, cost, questions)
- **Integrate** M & E for Status & Trends with effectiveness monitoring (Habitat, Harvest, Hydro and Hatcheries)
- **Integrate across spatial scales** (project, population, subbasin, Province, ESU, Basin)
- **Prioritize** future M & E directions in the Basin

Need integrated M&E across multiple scales

Moving towards
recovery goals
for listed
stocks?

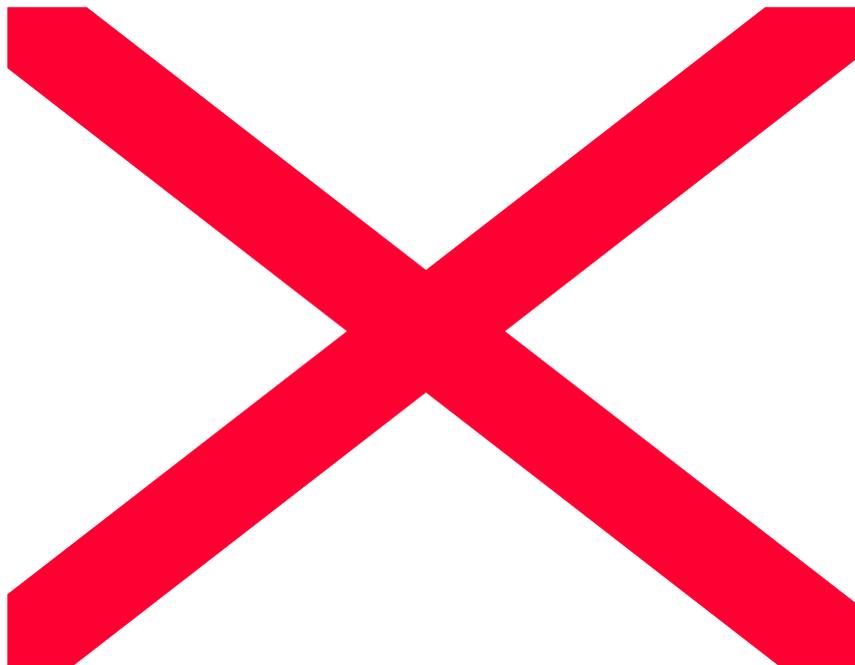
Effects of
multiple actions
on larger
demographic
units

Effects of
individual
actions



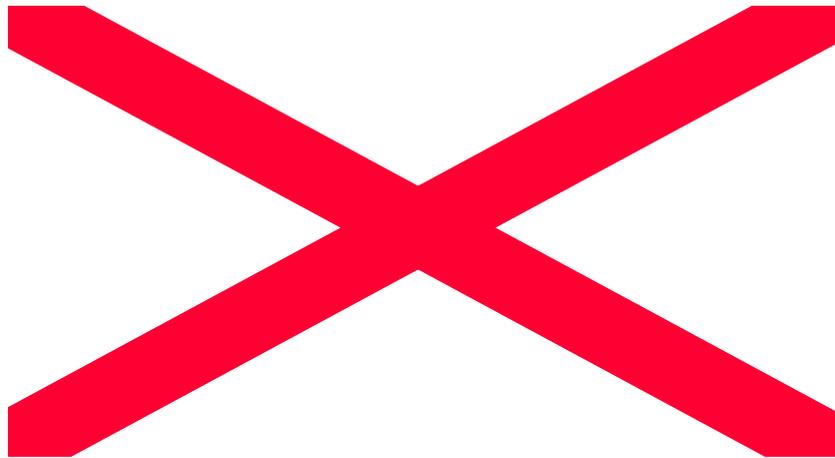


**StreamNet /
CSMEP Data
Inventories**

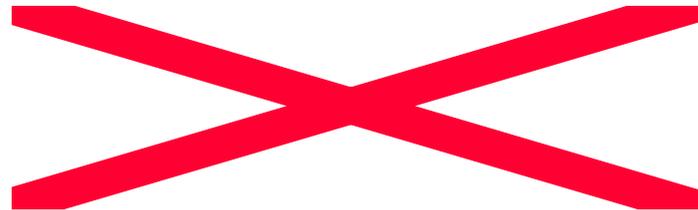
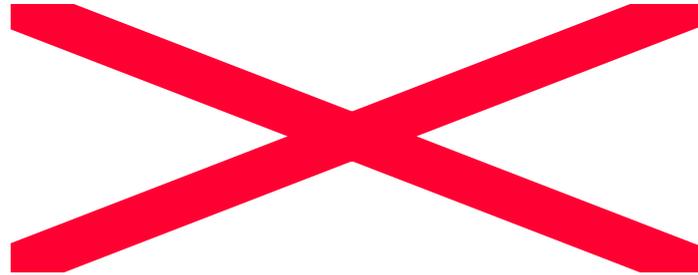


Metadata are web accessible

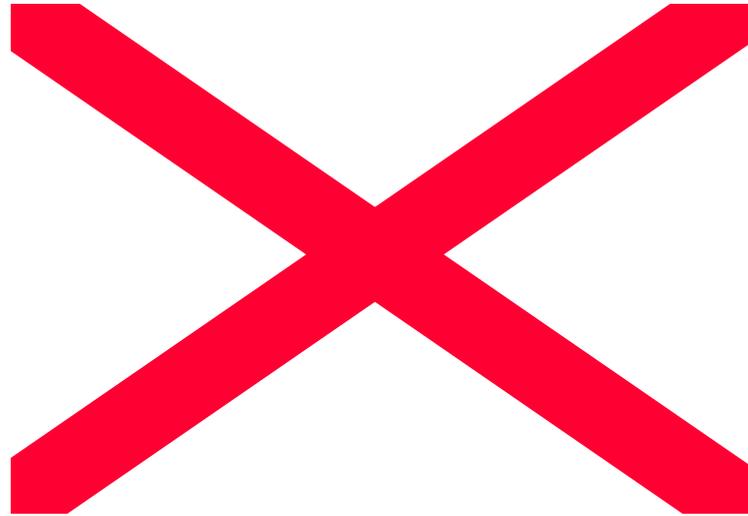
<https://nrimp.dfw.state.or.us/csmep/>



Data assessments and other work products on CSMEP website



Design: Pilot for Snake Basin



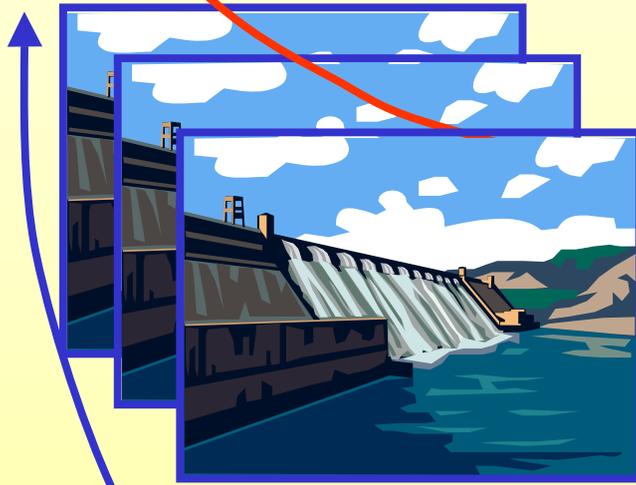
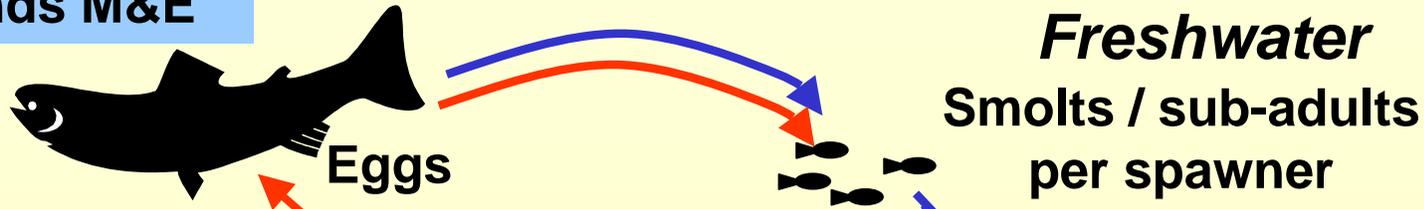
Status &
Trends M&E

Habitat
M&E

Hatchery
M&E

Hydro-
system
M&E

Harvest M&E



Estuary

Ocean

← Resident Fish (e.g. bull trout)

← Anadromous Fish (e.g. chinook)

CSMEP's 5 Policy Interpretation and
Design Subgroups (+ Integration)

Data Quality Objectives (DQO) Process

1. State the problem
2. Identify the decision
3. Identify inputs to the decision
4. Define the study boundaries
5. Develop an “if-then” decision rule

6. Specify limits on decision errors
7. Optimize design for obtaining data

CSMEP Policy Interpretation Documents

CSMEP Design Documents

DQO Steps 1-5:

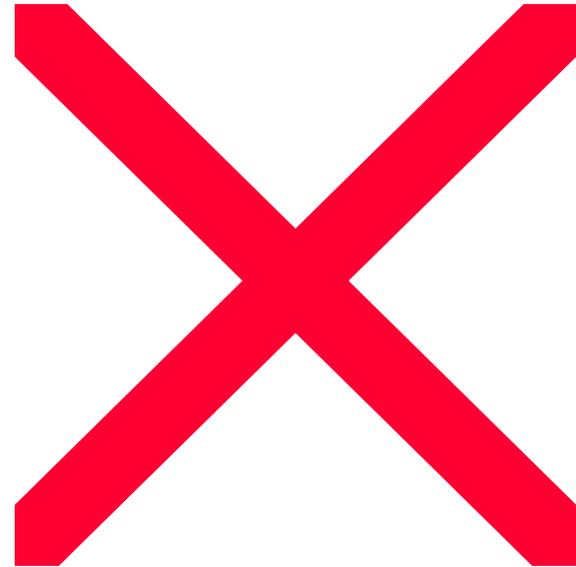
Mgmt. Decisions /
Questions, Inputs, Study
Boundaries, If-Then
Rules

Evaluative Criteria

High inferential ability,
strong statistical
performance,
reasonable cost,
practical, low
environmental impact

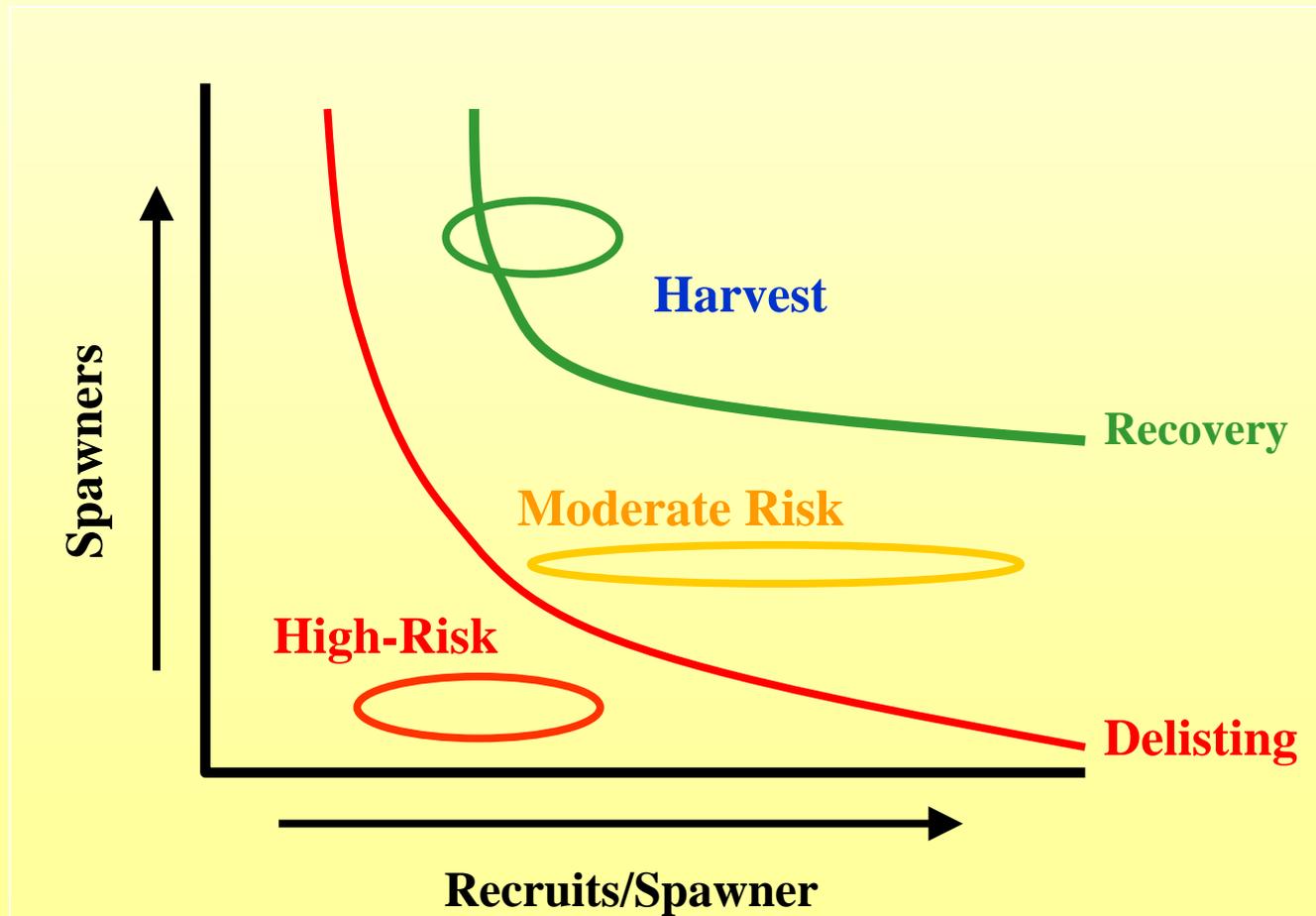
DQO Steps 6-7:

Alternative Sampling,
Response and
Evaluation Designs
(L, M, H)



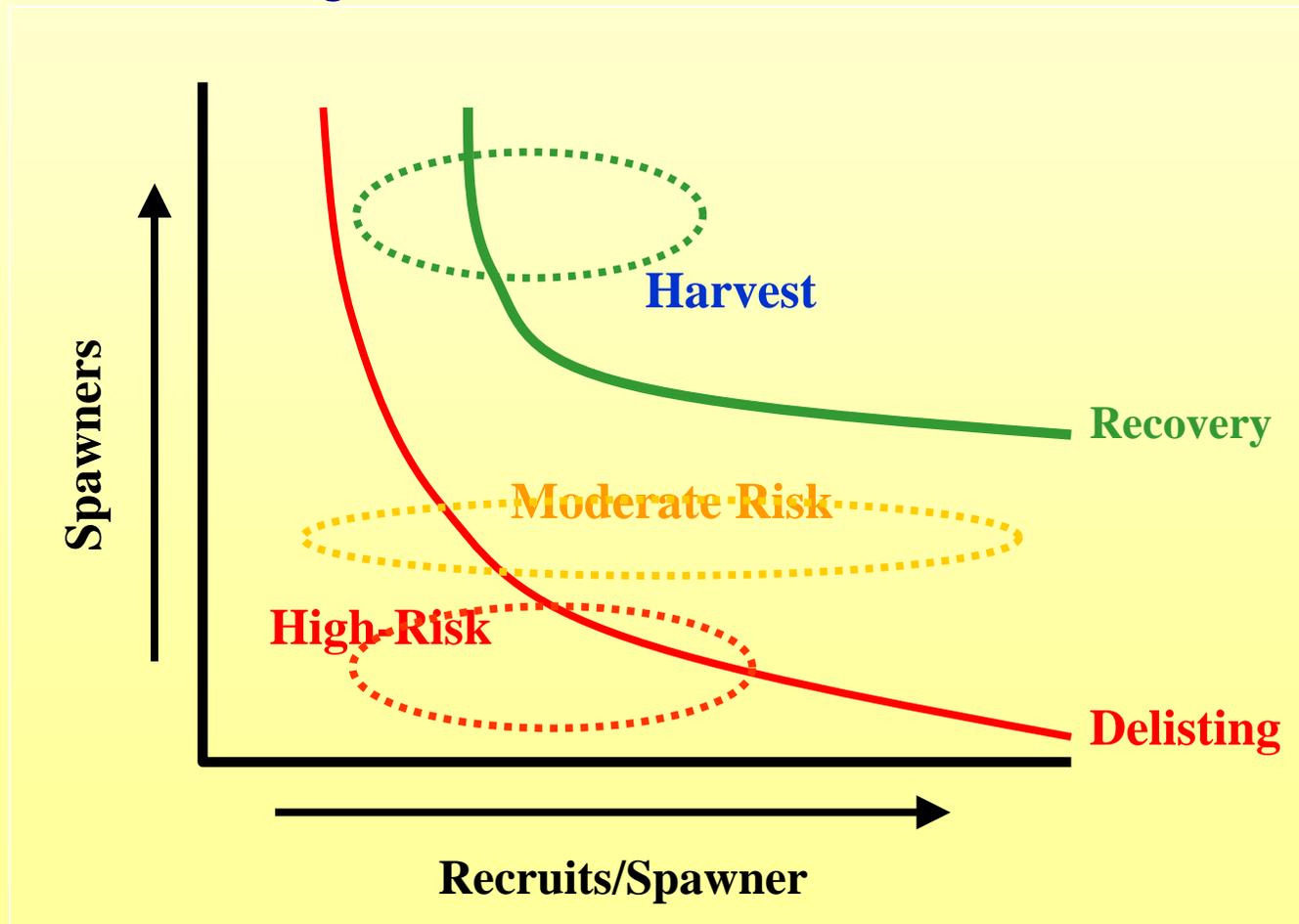
Status & Trend Decision Rule - Abundance & Productivity

*3 Snake R spring / summer populations (10 yrs data),
assuming no measurement error*



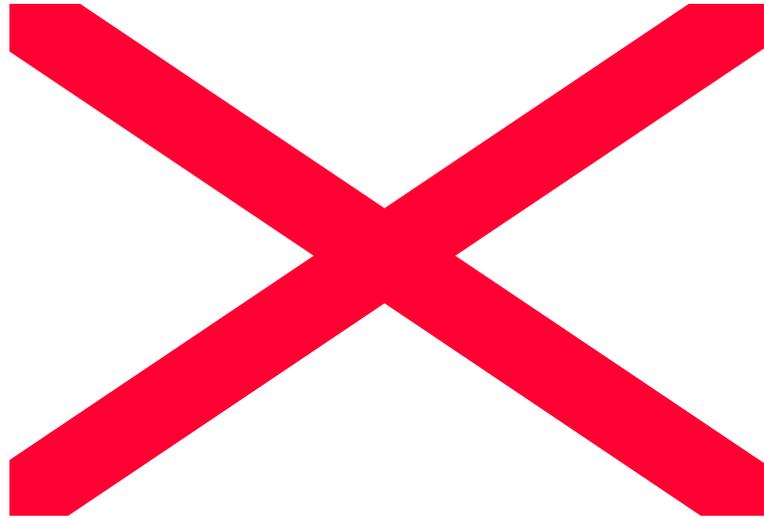
Example Status & Trend Decision Rule - Abundance & Productivity

*3 Snake R spring / summer populations (10 yrs data),
assuming 20% measurement error*



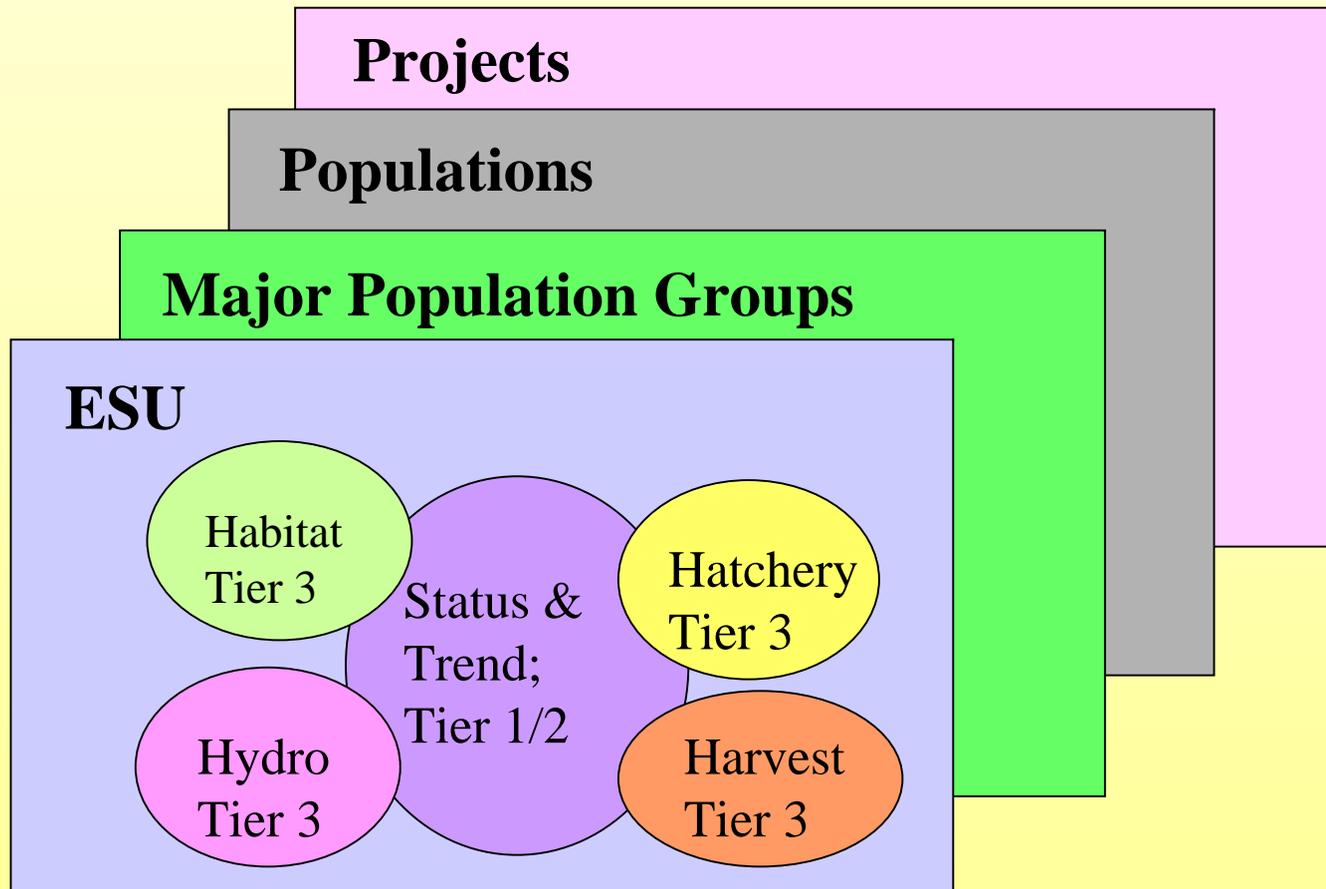
Salmon Recovery & Adaptive Management at a Regional Scale

Go big or go home!

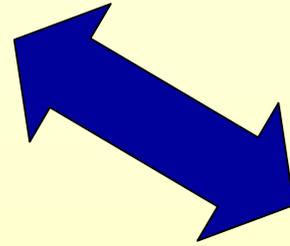


Next steps (see Table F1):

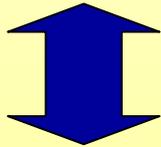
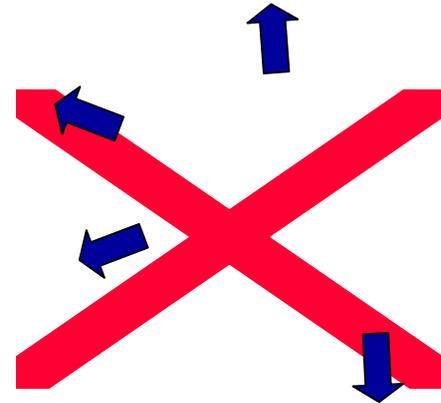
- integrate M&E across species, subgroups, agencies in Snake
- assess tradeoffs for L, M, H cost designs
- extend to mid-Columbia ESUs; WA Salmon Recovery Rgns



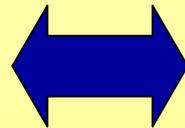
*WA Salmon Recovery
Regions*



CSMEP Snake Basin Pilot



*WA Comprehensive
Monitoring
Strategy*



**When do we need programmatic /
policy level input?**



Programmatic / Policy Level Input

- Get / analyze remaining CSMEP surveys on **M&E priorities** (species, scales, questions) – **now**
- Show managers tradeoffs in different M&E designs ⇒ **assess risk adversity, priorities for certainty in decisions** (need a lot more dialogue) – **fy06-09**
- Interact with **restoration program managers** in Snake, **recovery M&E** planners in WA SRRs
- Interact with **PNAMP, NPCC, Fed RME** to present products, get feedback
- Will take time to do this systematically, get buy-in across multiple agencies and scales

For more information on CSMEP

- Main website with work products:

<http://www.cbfwa.org/committees/csmep/>

- Metadata by subbasin

<https://nrimp.dfw.state.or.us/csmep/>

- Contacts:

Frank Young (frank.young@cbfwa.org)

Dave Marmorek (dmarmorek@essa.com)

Marc Porter (mporter@essa.com)

Extra Slides

Design Challenges / Implications

- Relative priority of questions differs among agencies
(need dialogue to explore tradeoffs among questions)
- Effect sizes, risk adversity not completely defined
(explore costs/benefits of wide range of options)
- Long list of potential questions, performance measures
(focus on a few critical decisions; intensive / extensive)
- Intensively studied systems not randomly selected
(assess what systems represented by intensive sites)
- Costs are a big concern (explore range of designs; cost sharing opportunities across agencies)

Intensively Monitored Watersheds



