Skeena Independent Science Review Panel

Overview

Prepared for

Conference on Ecological Interactions between Wild and Hatchery Salmon
6 May 2010

ISRP Members

- Carl Walters (UBC, Vancouver, BC)
- Jim Lichatowich (Consultant, Oregon)
- Randall Peterman (SFU, Burnaby, BC)
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Technical Support provided by LGL Limited
(Karl English & Bob Bocking)

Reasons for Review

- The 2006 and 2007 Skeena sockeye fisheries generated considerable controversy regarding the impact of commercial sockeye fisheries on Skeena steelhead stocks.
- This controversy led to calls for an independent Panel of scientists to review Skeena salmon and steelhead management practices.

ISRP Purpose and Process

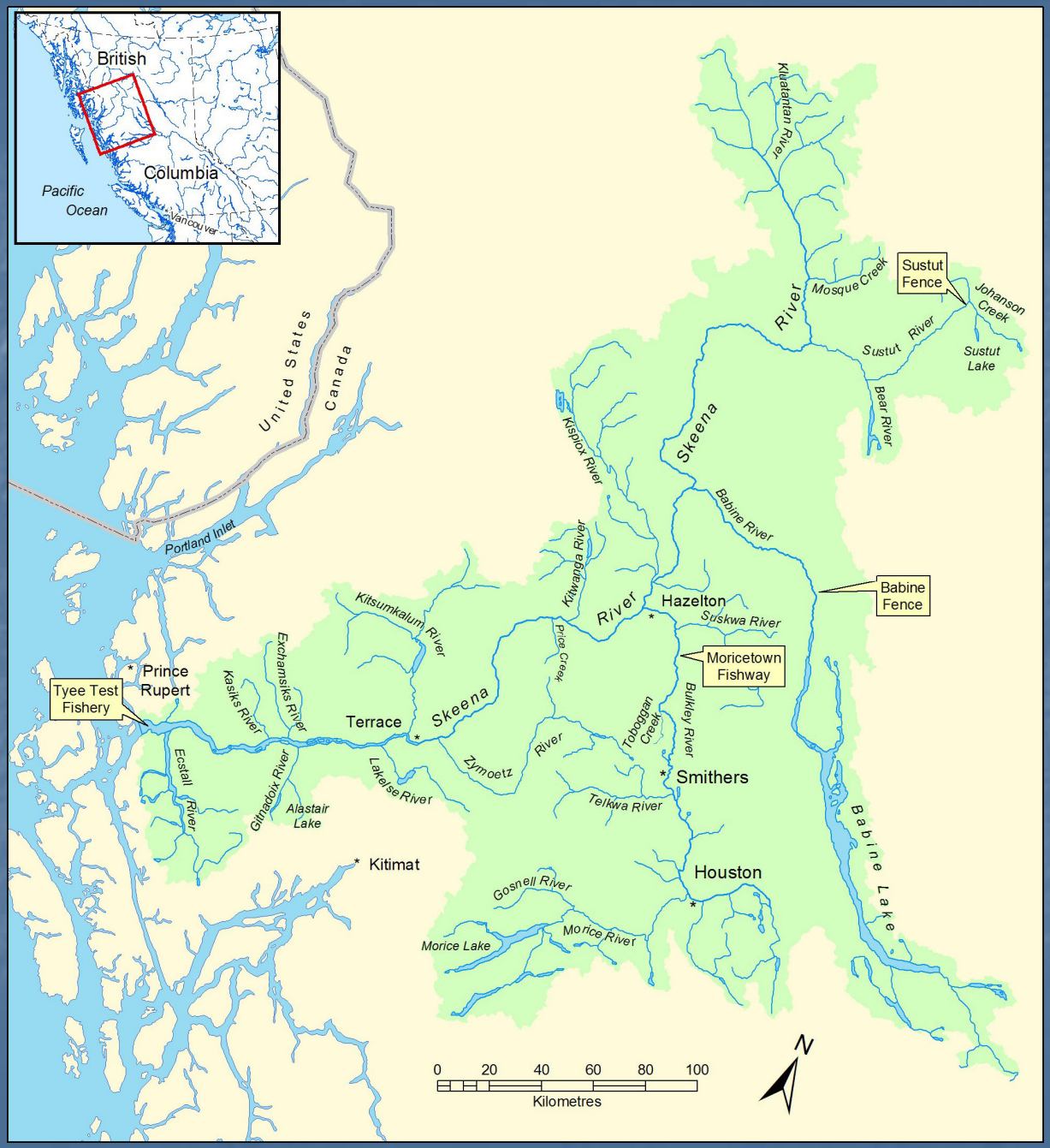
- The Panel was convened to provide science advice for a new governance structure for Skeena salmon to be created by DFO, MoE, and Skeena First Nations.
- The Panel's review of salmon management was jointly sanctioned by DFO and MoE
- Review was funded by the Gordon and Betty Moore Foundation.

ISRP Objective/Task

- to recommend a renewed approach to data collection and fishery management decision-making based on the best available science, taking into consideration:
  - the Canadian government's Wild Salmon Policy (WSP),
  - respect for the interests of the First Nations people, and
  - the sustainability of commercial and recreational fisheries for the people of Canada

Skeena Watershed

- 54, 400 km^2
- CUs/stocks
  - 32 Sockeye
  - 8 Chinook
  - 5 pink
  - 4 chum
  - 4 coho
  - 2+ steelhead



Lower Skeena River

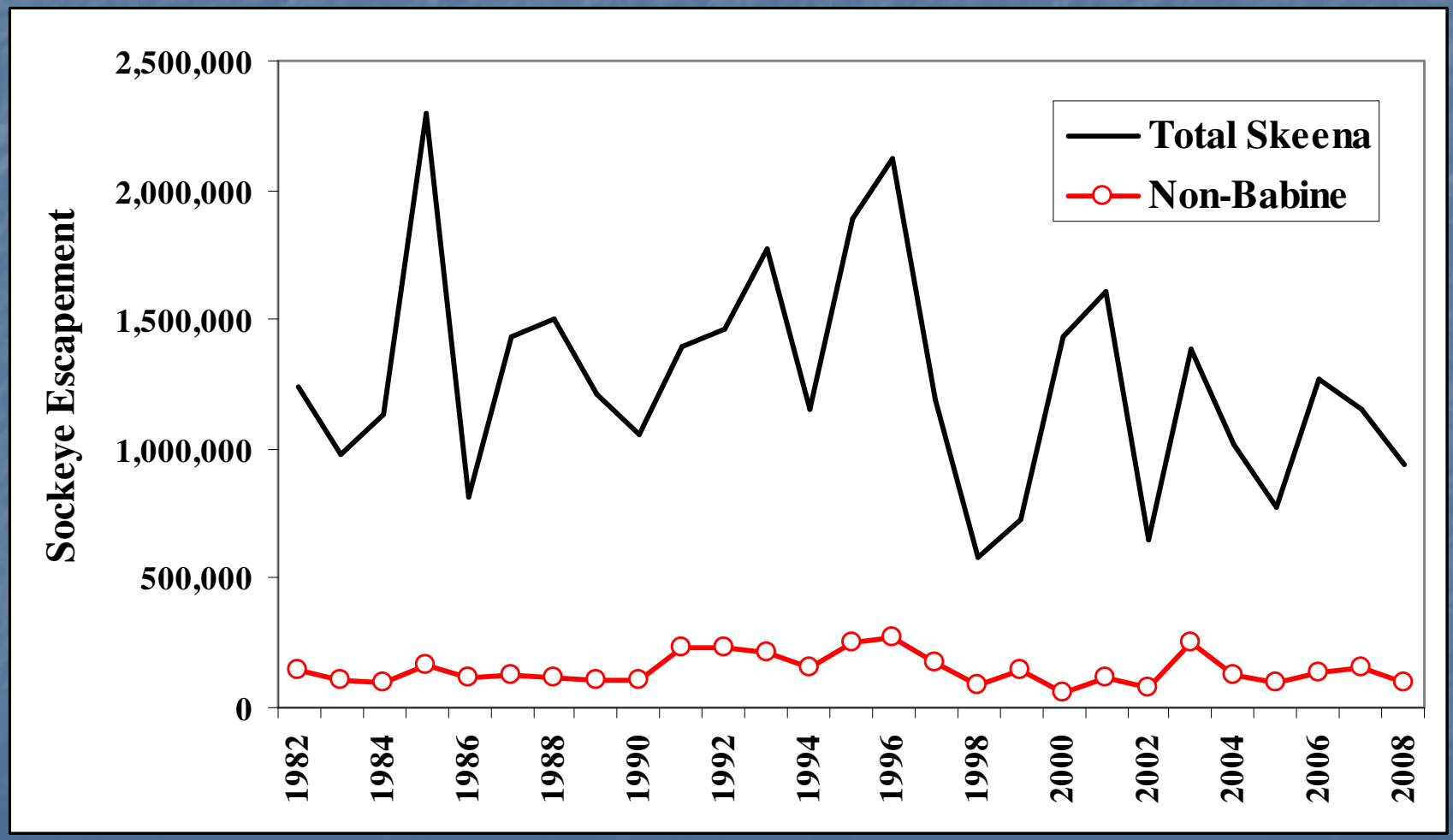
Questions Addressed

- What is the current status of salmon and steelhead?
- Are the existing management approach and tools capable of implementing the WSP for salmon and steelhead?
- What additional research or monitoring would improve management and best prepare for future uncertainties such as the effects of climate change?
- What is the current status of habitat and what are its future prospects?

Questions Related to Enhancement

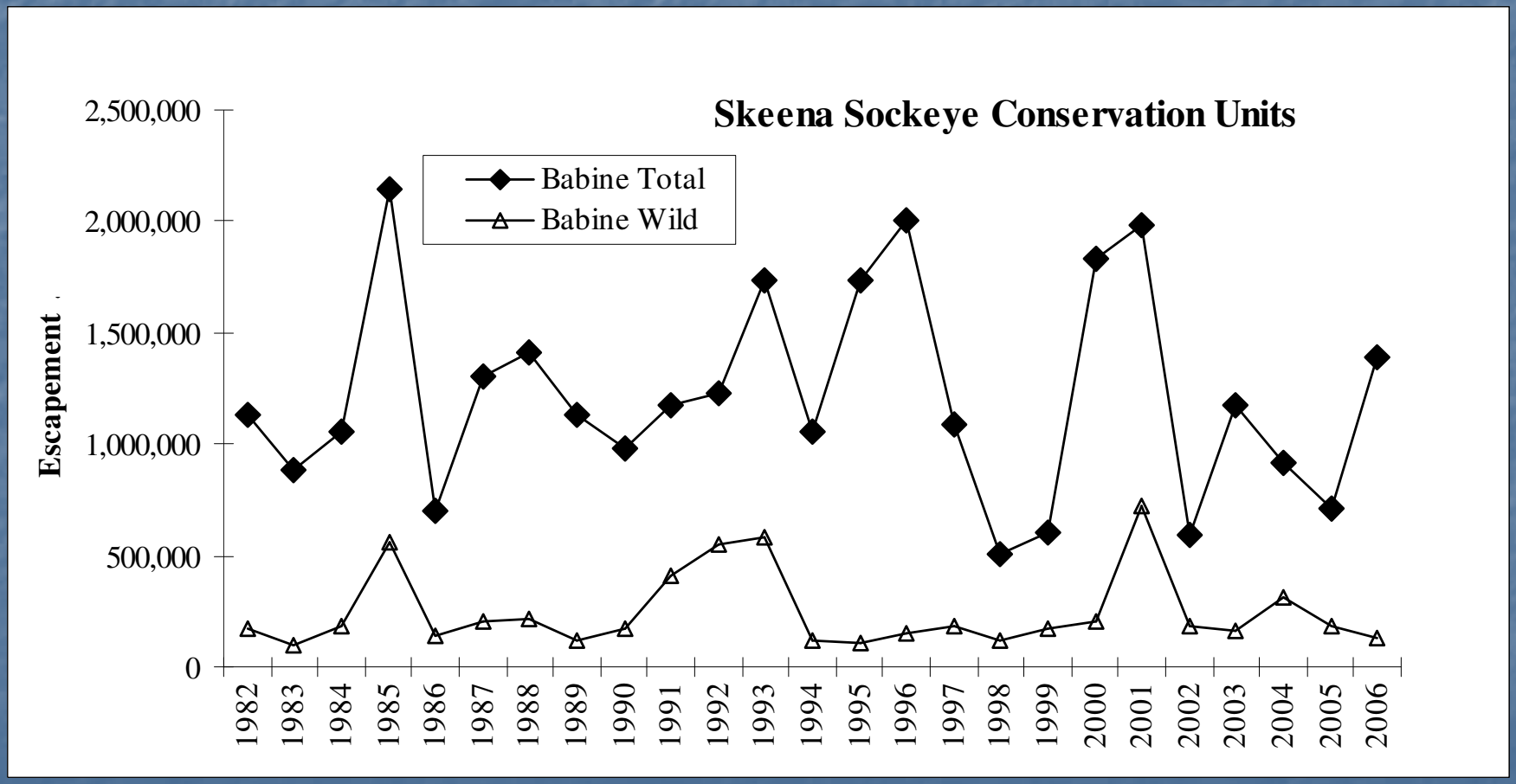
- What have been the impacts of fisheries for enhanced sockeye on other stocks?
- Should sockeye enhancement continue at current levels?

Babine Sockeye = 90-98% of Skeena Sockeye

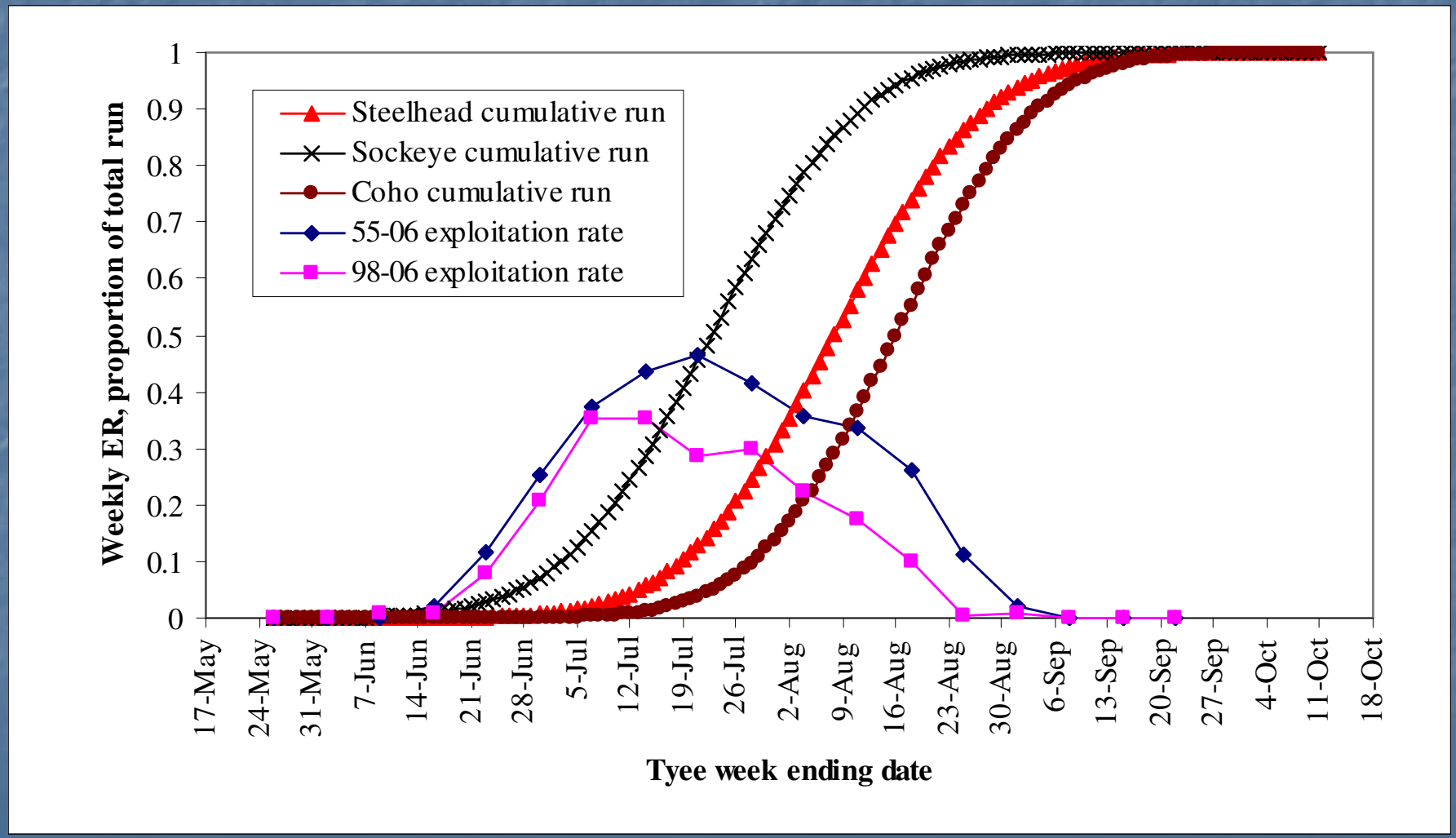


Skeena (non-Babine) Sockeye

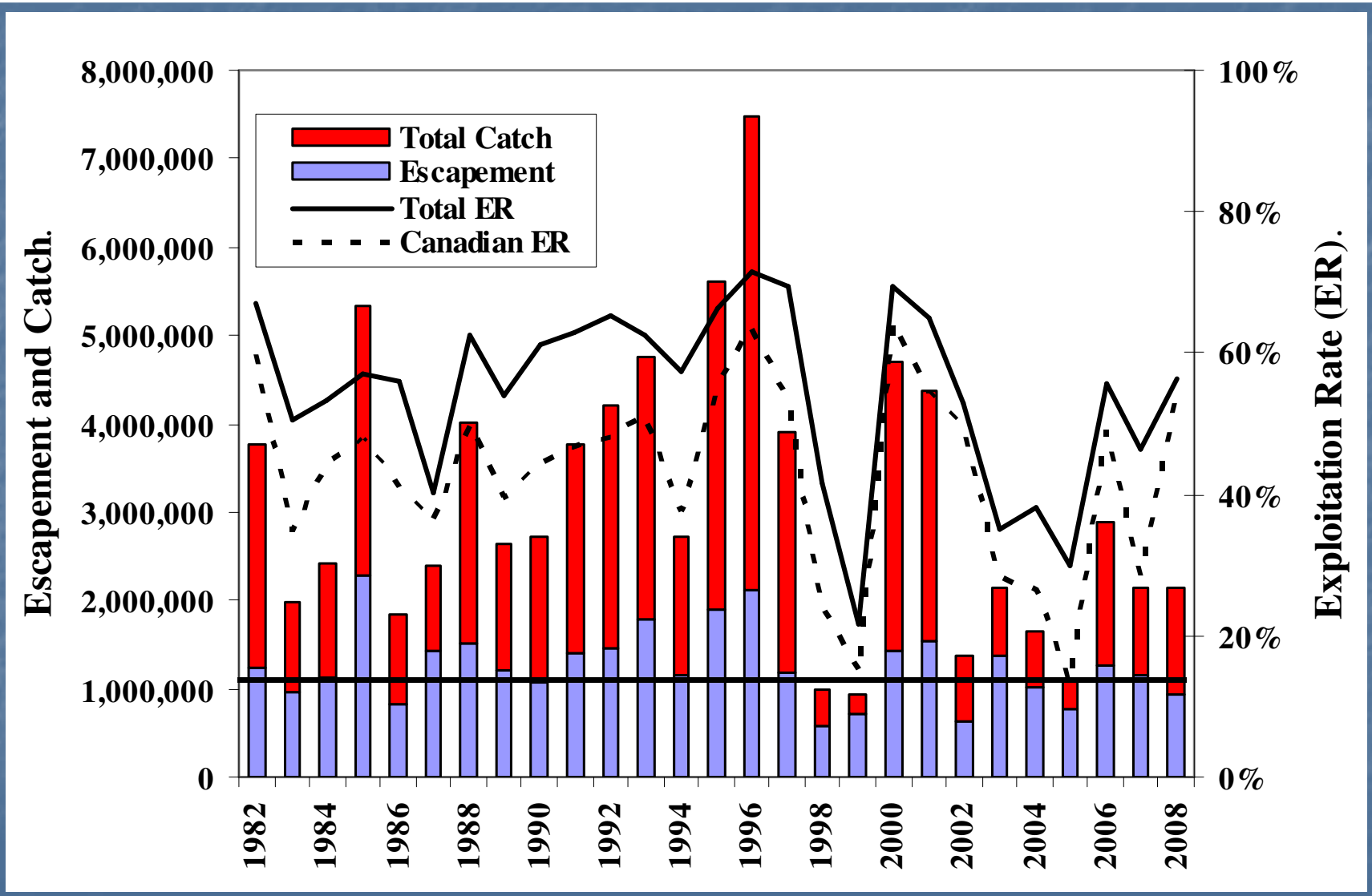
Babine Enhanced = 56-92% of Babine sockeye



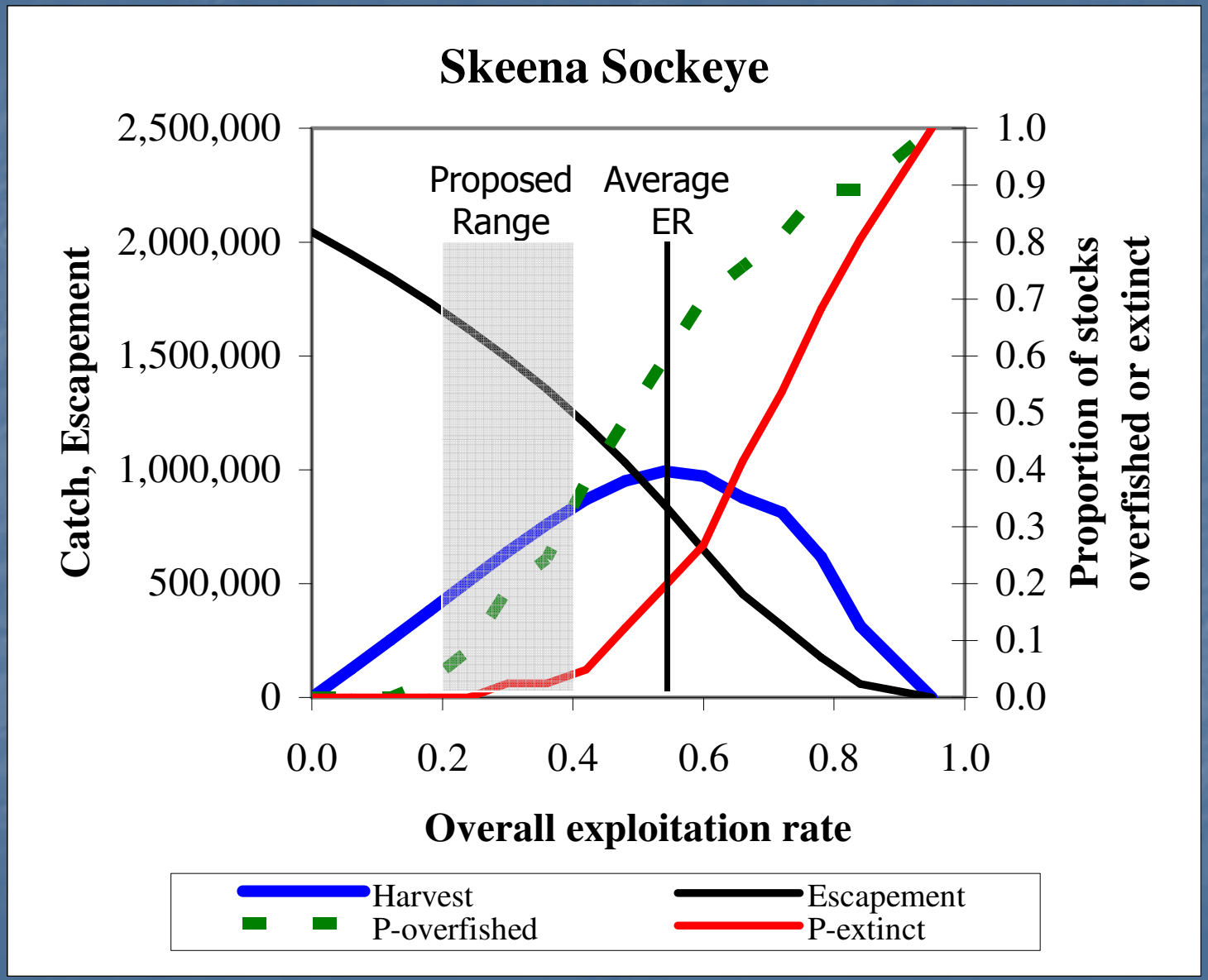
Average Run Timing & Exploitation Rates



Skeena Sockeye Abundance and ERs



Sockeye Tradeoff Analysis



Recommendation 1

- Need to confront the major tradeoff decisions that are implied by the Wild Salmon Policy and the impacts of mixed-stock ocean fisheries on Skeena stocks.

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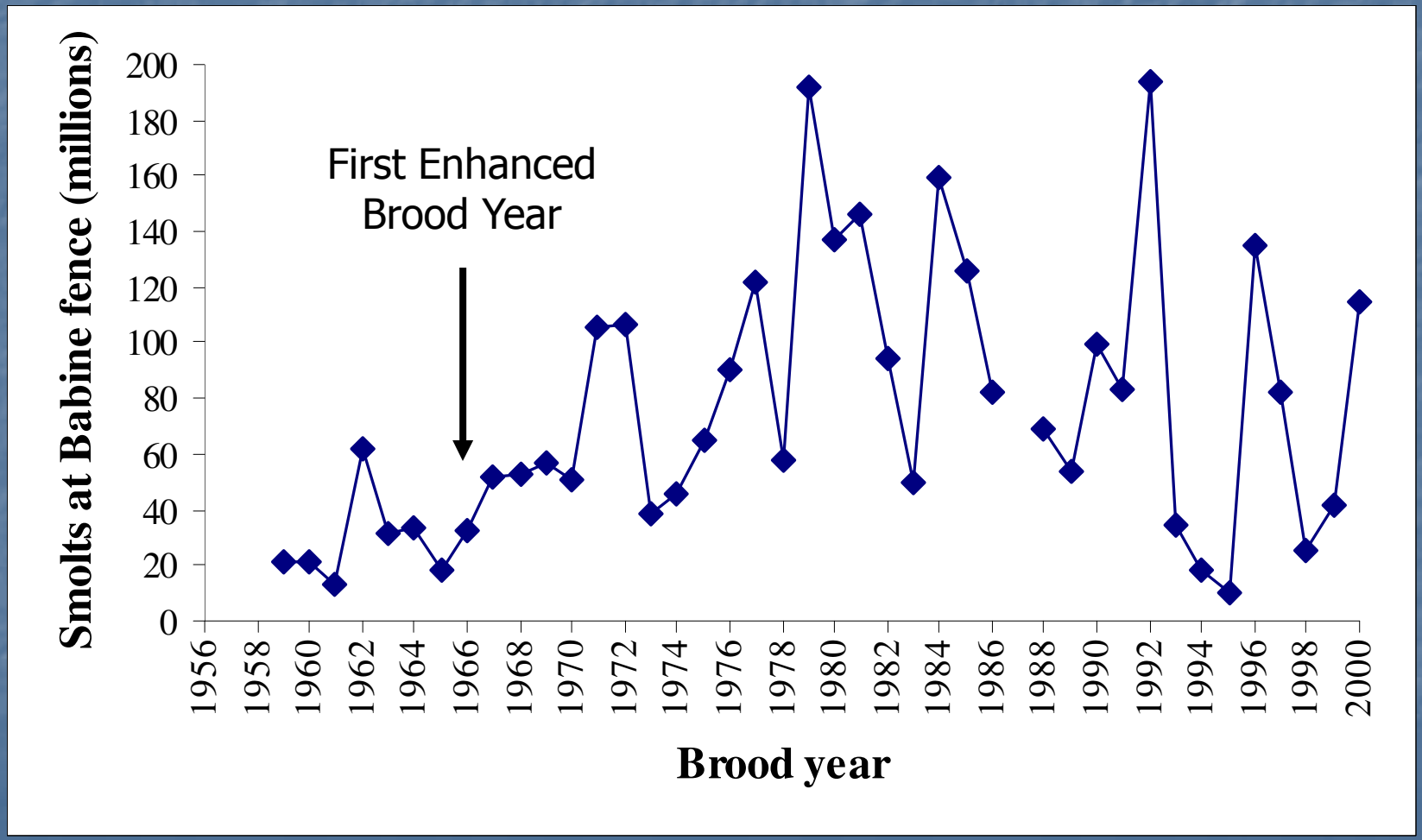
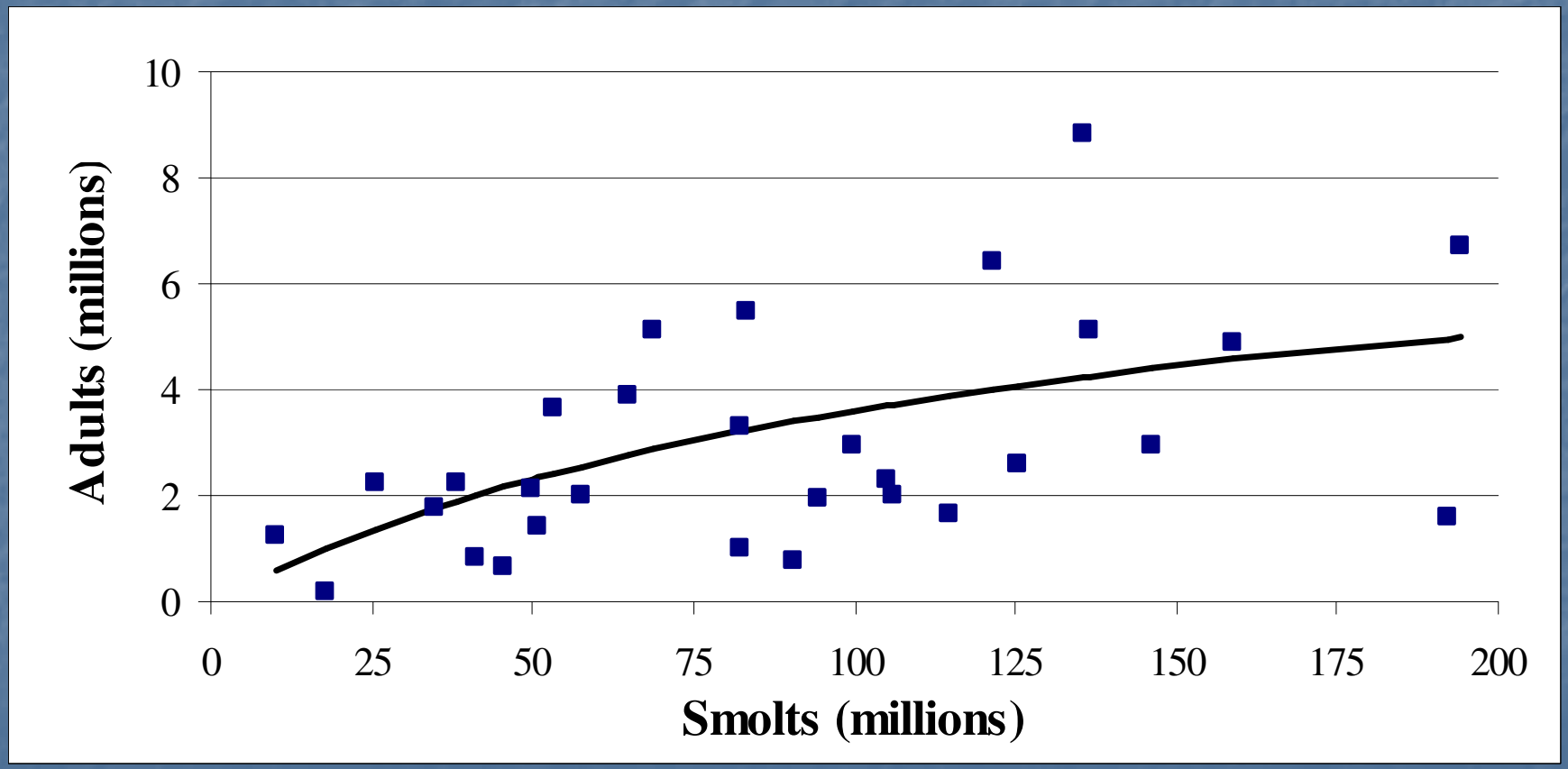
Question 2

- Should sockeye enhancement continue at current levels?

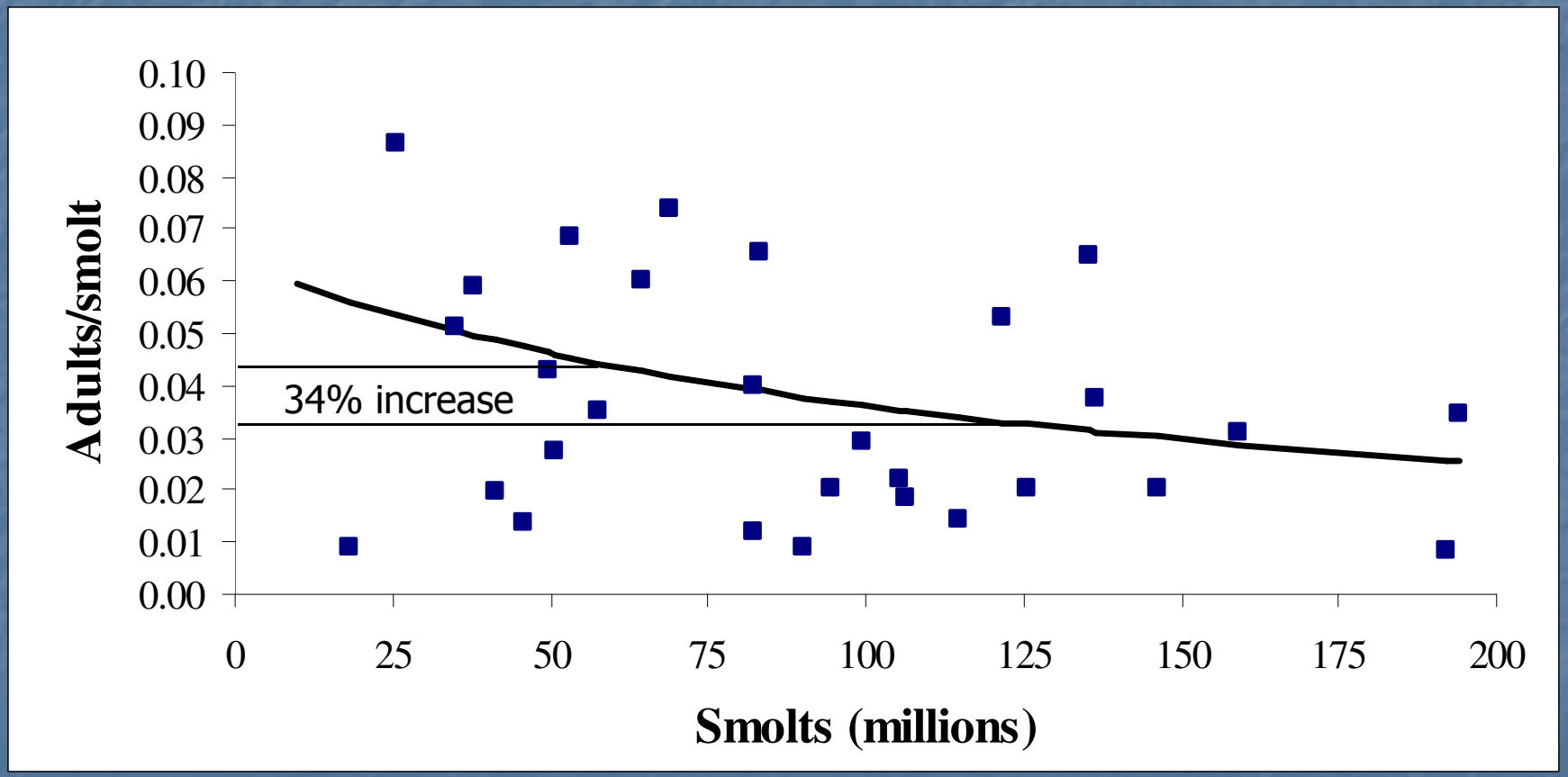
Sockeye smolt production from Babine Lake increase by 3 fold after enhancement



100% increase in smolts (50-100 M) produced a 57% increase in adult returns



Higher marine survival at lower total smolt abundance



Marine survival by 34% higher for 60 M smolts than for 120 M smolts

Recommendation 20

- The full costs and benefits of continued or reduced operation of the Pinkut and Fulton spawning channels should be examined.

It is widely acknowledged that these spawning channels have exacerbated the mixed-stock fisheries problem and potentially reduced the survival of wild stocks.

Other Recommendations

- Changes to fishing practices to reduce impacts on non-target stocks and species (7)
- Approaches for improving information need to manage steelhead, chinook and chum stocks (7)
- Development of a new governance structure (7)
  - Improving communication between DFO, MoE, First Nations, NOGs and others
  - Establishing a permanent Skeena Science Committee