

CONSERVATION OF PACIFIC SALMON

Policy Issues for
Management of Wild Salmon

June 23, 2003

WILD SALMON POLICY

INTRODUCTION

- There are five species of Pacific salmon, comprising thousands of separate populations, co migrating back to their separate rivers of origin.
- This resource provides food for First Nations, commercial and recreational opportunities, and is a cultural symbol that defines Canada's Pacific Coast.
- Fisheries management practices are increasingly challenged by a number of factors:
 - failure of traditional practices to protect weaker stocks;
 - coho rebuilding, and the move to weak stock management;
 - public concern over the well being of salmon; and
 - Species at Risk Legislation.
- Current management policies are criticized by all stakeholders, and a new policy framework is required to provide clarity around salmon conservation objectives.
- This presentation is intended to describe the changing approach to salmon management, and highlight the Policy issues that underlie the adoption of an explicit policy for wild salmon.

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SALMON MANAGEMENT IN TRANSITION

- In the past, harvest management has been based on protection of major aggregates.
 - Fraser sockeye is managed within four large aggregates of stocks based on run timing; collectively, these four aggregates include an estimated 151 individual populations.
- Larger stocks are more productive, and able to sustain higher harvest rates.
- Weaker stocks migrating within the larger aggregate will be subject to the higher harvest rate, but are unable to sustain themselves: over time, weaker populations will decline in abundance.
- Lower ocean productivity regimes in the 1990's exacerbated decline of weaker populations, stimulating greater public concern about salmon management practices and policy.
- Management policy has been evolving in response, shifting to a stronger emphasis to protect weak stocks.

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SALMON MANAGEMENT IN TRANSITION (cont'd)

- This shift in management policy has had success in rebuilding stocks at risk, but it has imposed significant costs on harvest-sectors, and created uncertainty, and tensions.
- Public polarization over policy objectives is at the root of the conflict.
 - NGO's and some FN's want greater emphasis on conservation and rebuilding of small stocks; and
 - Harvest sectors seek harvest opportunities, and less precaution.
- In addition, the listing of salmon stocks under SARA is adding a new and more challenging dynamic.
- A public debate leading to adoption of an explicit policy for conservation of wild salmon is required to reduce current conflict.

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- A draft Wild Salmon Policy was circulated for public comment in 2001.
- It was intended to codify management policy for salmon to ensure conservation of populations and maintenance of genetic diversity.
- Draft Policy proposed three principles to guide conservation of wild salmon:
 1. Conserve wild salmon by maintaining diversity of local populations and their habitats;
 2. Protect the key role that wild salmon play in their ecosystems; and
 3. Establish operational guidelines with best practices in risk management for carrying out harvest, habitat and fish cultivation activities.
- The Policy Principles would be given effect through the establishment of “conservation units” (aggregates of local populations), and minimum and target abundance levels would be set for each unit.
- Finalization of the Policy has been bogged down by the difficulty of translating the Principles into practical operational guidelines.
- There are a number of key policy issues that need to be resolved before a wild salmon policy can be adopted.

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KEY POLICY ISSUES

- There are four fundamental policy issues to be resolved to enable progress to be made.
- These include:
 1. What are we trying to conserve?
 2. What criteria are to be used in determining what is to be conserved?
 3. What should be the process for decision-making? and
 4. How do we give practical effect to risk management?
- An analysis of each of these issues follows.

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KEY POLICY ISSUES (cont'd)

1. Selection of Conservation Units

- Each species of salmon is comprised of hundreds or thousands of individual populations, and selection of how many populations are to be maintained has important social, economic and biological implications.
- The choices to be made can be illustrated by sockeye salmon:
 - Sockeye - a species, subdivided into:
 - Major stock aggregates – subdivided into:
 - Evolutionary significant units – subdivided into:
 - Local populations – made up of individuals.
- Using COSEWIC's definition of "designatable units", approximately 400 sockeye populations would be identified for individual management.

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KEY POLICY ISSUES (cont'd)

1. Selection of Conservation Units (cont'd)

- The size of the conservation unit chosen has large consequences.
 - The smaller the unit, the greater the biological certainty of preserving genetic diversity;
 - However, the smaller the unit, the greater the management costs, and the larger the costs imposed on traditional harvest sectors.
- There are three options for defining the level of Biodiversity to be conserved.
- Option 1 – Apply the COSEWIC definition
 - Under this option, biological diversity would be protected, but management costs and implications, and socio-economic consequences would not be considered.

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KEY POLICY ISSUES (cont'd)

1. Selection of Conservation Units (cont'd)

- Option 2 – Accept COSEWIC definition, but prioritize populations to be actively conserved based on biological and socio-economic information.
 - Under this option, the Department would conduct a socio-economic analysis to establish which COSEWIC populations would be designated, and manage to protect those scheduled.
- Option 3 – Develop an independent DFO proposal to select an appropriate level of biodiversity.
 - Under this option, the Department would set the unit of conservation based on a risk analysis of the biological, social, economic and management implications.
- Both Option 2 & 3 require that COSEWIC recommendations of certain salmon stocks be rejected.
- If the COSEWIC definition is deemed to have undesirably high societal costs, what criteria should be used to make choices about conservation?

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KEY POLICY ISSUES (cont'd)

2. Criteria for setting Conservation Units (CUs)

- There are choices to be made about the relative interplay between biological, social and economic factors in setting CUs.
- Should CUs be set strictly on the basis of biological considerations designed to maximize protection of biological diversity?
 - This is the approach used by COSEWIC.
- OR; should decisions about conservation include an assessment of social, legal and economic considerations?
- There is no scientific answer to questions about how much biological diversity needs to be maintained, and it is clear that society must decide what degree of biological security is desirable, and affordable.
- If there is consensus about the need for a broader, balanced assessment, what process should be followed for decision making?

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KEY POLICY ISSUES (cont'd)

3. Process for Decision Making

- If it is agreed that decisions about conservation are societal decisions, then the process followed must enable the weighing of socio-economic and biological tradeoffs.
- The process must involve a balanced interaction of scientists and resource managers, working in consultation with all public interests.
- Scientists should provide biological advice, and assess the probability of success of policy options.
- Resource managers should define the operational feasibility of options, evaluate socio-economic considerations, and manage risk.

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KEY POLICY ISSUES (cont'd)

3. Process for Decision Making (cont'd)

- Public groups with an interest in salmon harvesting and conservation should be consulted to enable a balanced assessment of the desirability of varying levels of biological diversity versus the socio-economic cost of achieving desired levels.
- Is this a role for the PFRCC to carry out?
- Do we need an alternative structure to gauge public opinion and provide advice?
- It is very clear that the final decision must be made by the Minister.

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KEY POLICY ISSUES (cont'd)

4. Risk Management

- Under the WSP, there is a need to agree on a process and roles for managing risks and reaching decisions on contentious issues related to co-migrating stronger and weaker stocks.
- Some have suggested that deterministic formula be established to manage risks based on conservation or biological limits to guide or even dictate decisions. This is not recommended as it is no more preferable than past practices that placed a heavier weight on socio economic considerations, often undermining the actions that would have been needed to conserve weaker stocks.

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KEY POLICY ISSUES (cont'd)

4. Risk Management

- Therefore a deterministic approach is not recommended. Rather a rigorous approach that will assess risks, explore options to manage those risks, provide decision makers with a clear description of the biological risks and the impacts of risk management options is suggested as follows:
- Risk Management involves 2 elements
 - Risk Assessment
 - What is the probability that something will happen? (extirpation or continued decline of stocks for example)
 - What are the biological impacts should that problem occur?
 - Risk Management
 - Given the risk assessment, what is the appropriate way to mitigate the risk given socio-economic impacts and societal values?
- In the context of the WSP, the role of **Science** would be risk assessment from a biological perspective to inform decision makers of the probability of a problem with particular stocks, and the impacts of various levels of mortality on those stocks in the short to long term, and identify potential strategies for controlling mortality on the stocks in question, (habitat and linked issues need to be considered as well as fishing mortality).

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RECOMMENDED APPROACH

QUESTION

Do we go out and consult with options;

or

Do we go out and consult with a recommended approach?

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NEXT STEPS

To come

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