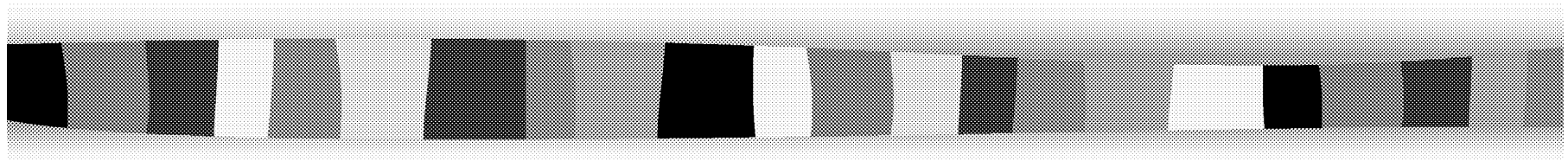


Wild Salmon Policy



Conservation and Management of Wild Pacific Salmon

BCI

November 5, 2003

DRAFT – For Discussion Purposes Only



Purpose of Presentation

1. Develop a common understanding of events leading to the preparation of the Wild Salmon Policy (WSP)
2. Review recent progress in developing key policy direction
3. Receive input on Integrated Planning Process
4. Highlight further activities and timing



Introduction

- Management of these important species increasingly is being challenged by a number of factors:
 - Failure of traditional practices to protect weaker stocks
 - Public interest over the well-being of the resource critical of current management practices
 - Increasing pressure on salmon habitat and water flows with increased population growth
 - Concern around the potential impact of enhancement and aquaculture on wild stocks.
 - Recognition of decadal scale changes in climate/ocean conditions that directly affect productivity.
 - Species at Risk legislation and listings by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC)



Introduction

- As the Department moves towards more discrete stock management required to conserve genetic diversity, decision making remains confounded by uncertainty over:
 - how to measure genetic diversity;
 - how to balance biological, social and economic factors in decision-making;
 - the role of others in decision- making;
- A new policy framework is necessary to provide clarity around salmon conservation objectives for fisheries and habitat management.



Background - Efforts to Date

- A draft policy document comprised of 6 principles (Appendix 1) was circulated for public comment in 2000;
- a subsequent 3 principle draft was written in 2001 (Appendix 2) but not widely distributed (Policy Committee April 2002)
- High public interest and extensive public consultation followed the release of the 2000 document. The result was conflicting input:
 - strong support for conservation of genetic diversity and habitat
 - divergent views on the role of enhancement, and the need to take a more holistic, ecosystem approach to implementation
 - environmental and some First Nation groups sought increased conservation measures while the harvest sector sought increased access



WSP Goal and Principles - DRAFT

To promote the long term viability of Pacific salmon populations in natural surroundings for the sustainable benefit of the people of Canada.

- Conservation of wild Pacific salmon and their habitat is the first priority of integrated resource management decision making. Conservation is defined as a process that safeguards geographic and genetic diversity, ecological processes for the sustainable use of present and future generations.
- Wild Pacific salmon are a common property resource to be managed for the benefit of all Canadians, consistent with conservation objectives, the constitutional protection afforded Aboriginal and treaty rights, and the relative contributions that various uses of the resource make to Canadian society.
- Decision making will be open and transparent and recognize the need for integration of social, economic and environmental considerations.
- The Minister of Fisheries and Oceans, on behalf of all Canadians, retains the authority for the sustainable use of fisheries resources and their habitat, and for the access and allocation thereof.



Progress on Key Strategic Issues

1. What level of genetic diversity are we trying to conserve?

Background

- Every level of the biodiversity spectrum from individual to species has importance for conservation, but relative importance increases as the level increases.
- The intensity of management action should increase to prevent serious or irreversible harm.
- The draft policy promotes the conservation of populations but recognizes there is no correct answer to the question of precisely how much biological diversity and population structure should be maintained.
- The answer is the degree of biological risk society is willing to take with the time required to repopulate if the unit is lost, balanced with the social and economic impacts.
- DFO requires a baseline that can be used to assess management success in maintaining genetic diversity.

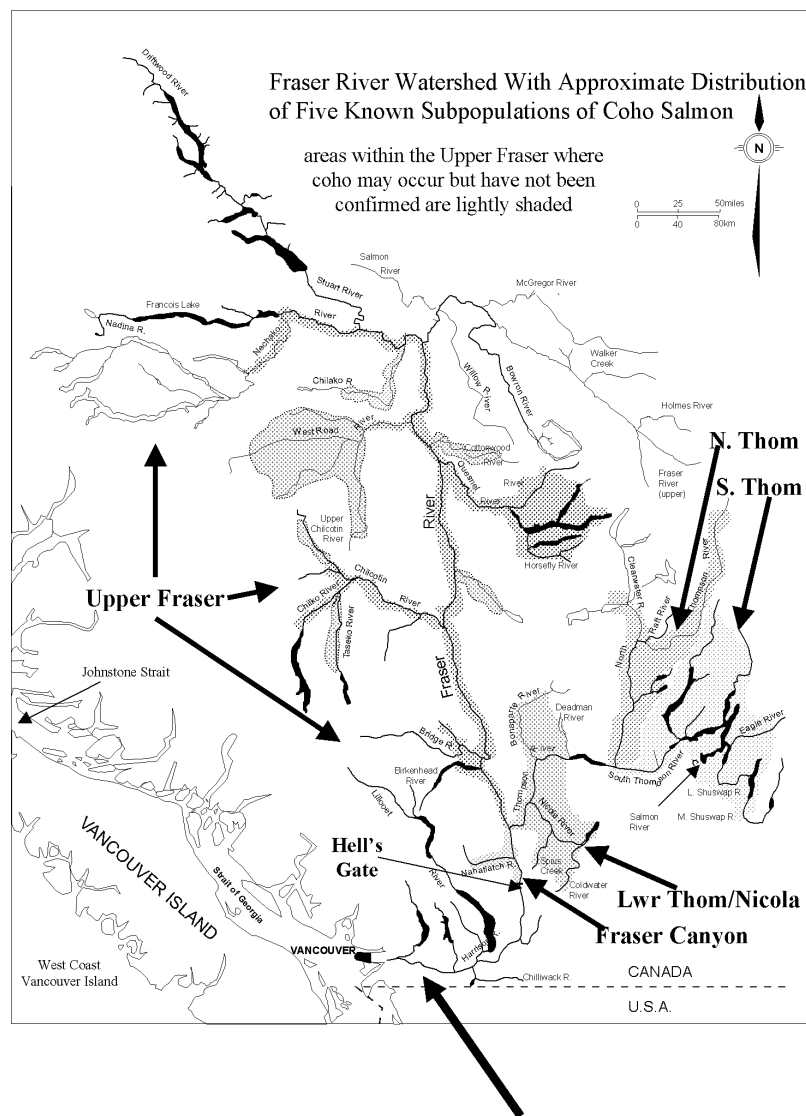


Progress on Key Strategic Issues

1. What level of genetic diversity are we trying to conserve?

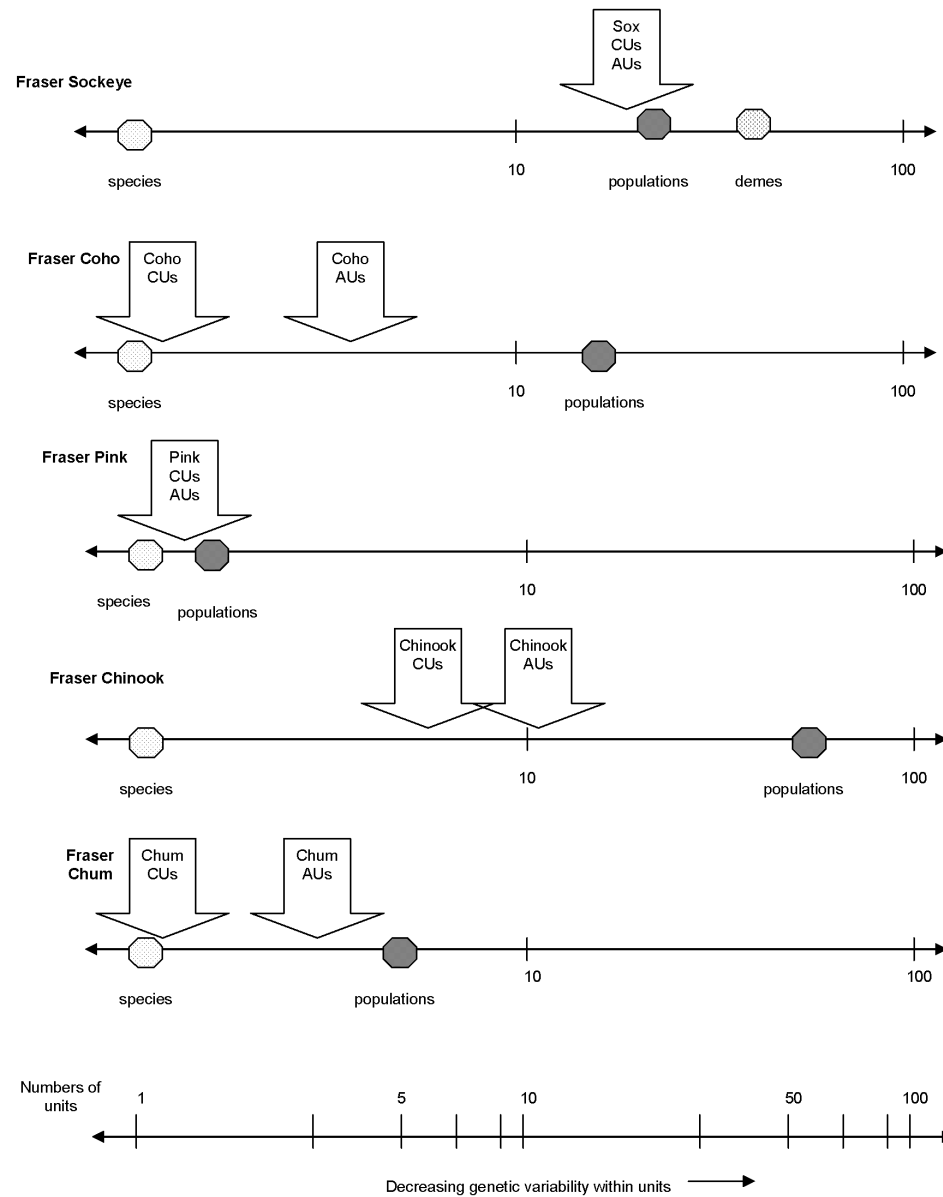
Solution

- General agreement that we should develop a **Conservation Unit (CU)** judged by DFO to be irreplaceable through natural processes within a reasonable time (eg 100 years) with acceptable confidence (eg >90%). This corresponds to a modern species under SARA that may be a species OR subspecies OR variety OR geographically OR genetically distinct population.
- The status of the CU will be the basis for assessing genetic diversity and will inform the development of resource management plans. The status of Population and CU's will be determined using tools such as Indicator System's (IS) or Assessment units (AU's). Criteria require further work and are at this point an abundance-based Precautionary Reference Point (PRP).
- Fisheries Management Units (FMU's) can continue to be aggregates of Populations or single populations. Planning for an aggregate must consider the status of component CU's.

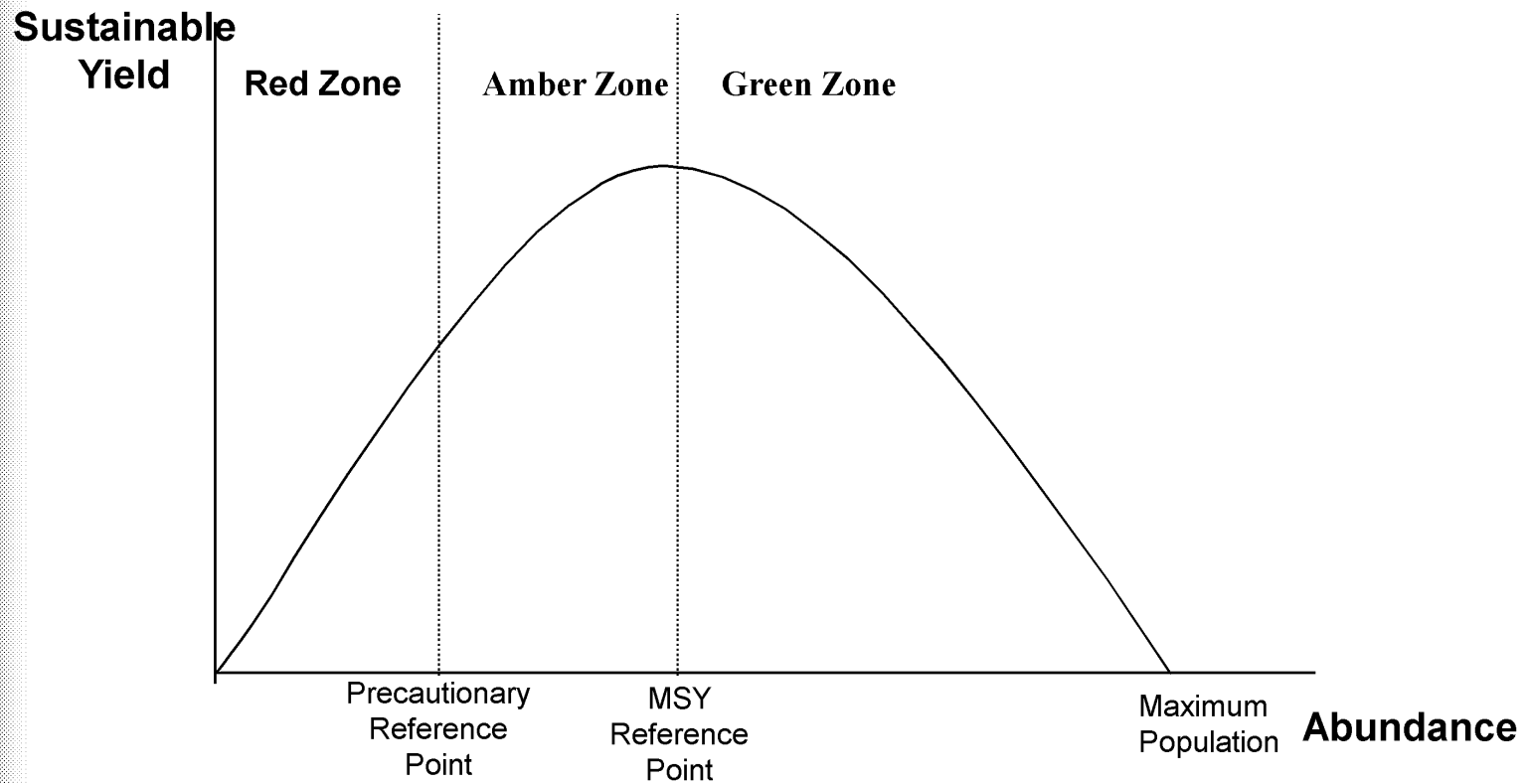


Lower Fraser

Semi-diagrammatic representation of the relationships among population units using preliminary estimates for Fraser River salmon as examples.



Reference Points – Possible WSP Status Zones



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Key Strategic Issues

2. How do we ensure that the decision making process is open and transparent and that role of economic and social factors are considered?

Background

- This policy must fit within broad governmental objectives including sustainable development, fostering rural communities, and building a prosperous and economically diversified Canada.
- There are questions and choices to be made about how biological, social and economic considerations factor into sustainable development decision making framework; to what extent should relevant social and economic factors be taken into consideration; where and when?
- If it is agreed that judgements have to be made on weighing the relative benefits of conservation with economic and social costs, then what is the role of others in the decision process and who should be involved?



Integrated Planning Process - Challenges

Integration: Adj. - Composed of separate parts united together to form a more complete, harmonious or coordinated entity.

- The INTEGRATION challenge is over a number of fronts in particular time (long term/short term), geographic area (watersheds, N/S), internally among sectors (Science, HEB, FMgmt, Oceans), and externally among all salmon interests (First Nations, General public, Commercial and Rec. Fishers, ENGO's, Communities)
- 'Salmon management objectives' (biological and socio-economic) are often not clear to all, nor widely supported.
- Conservation objectives and performance measures not well-defined.
- Perception that many decisions are not based on established and consistent policies, nor made with opportunity for broad public input.
- Decisions often made without full consideration of benefits and costs of biological, social and economic accounts.
- Harvest management' processes continue to be independent of 'Production management' (habitat management, enhancement programming, collaborative stewardship).



Integrated Planning Process- Vision

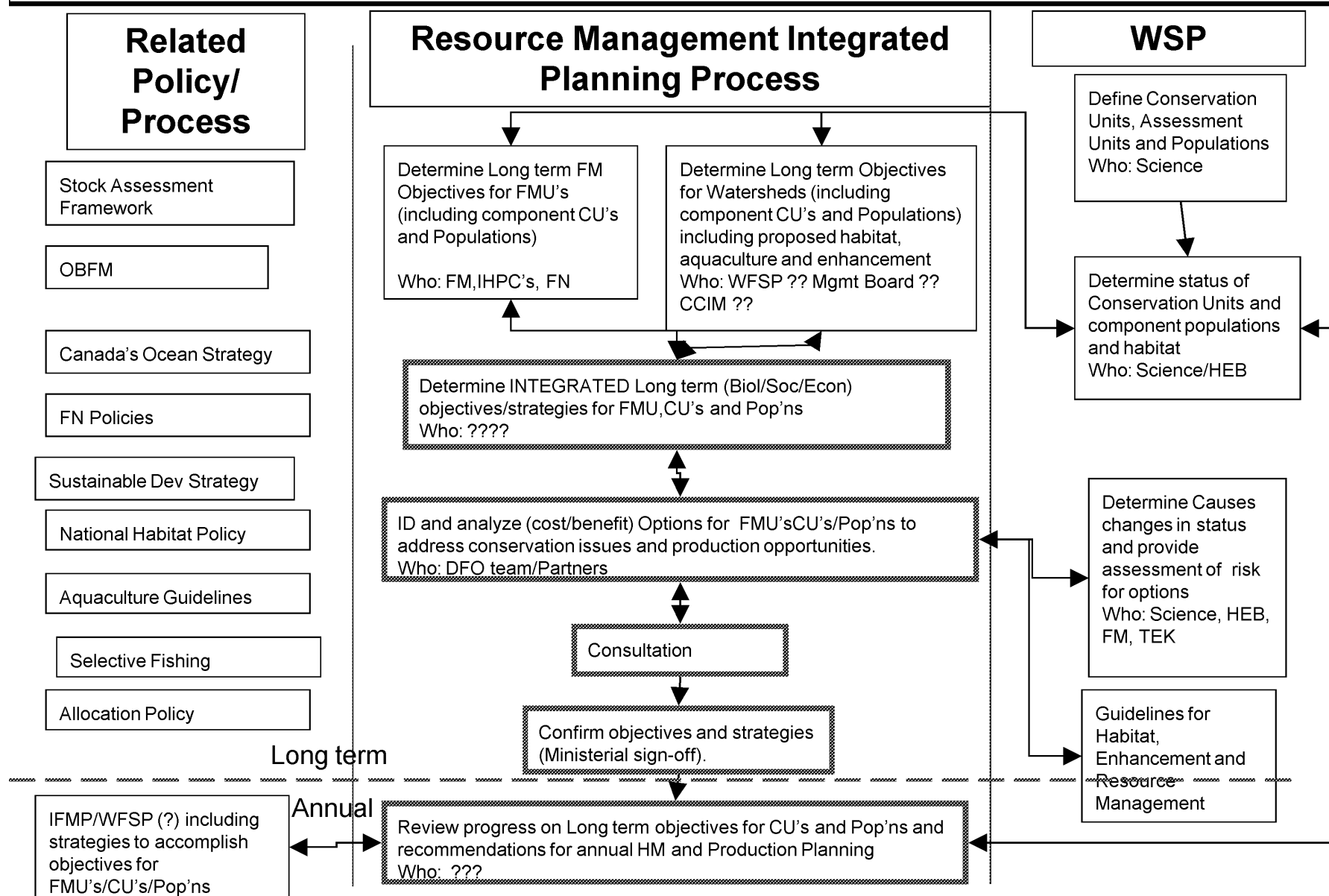
- The IPP in combination with the Guidelines, operationalize the WSP Goal and Principles
- The process is informed by the status of habitat and salmon Conservation Units and Populations through internal and external sources including DFO Science, DFO HEB, First Nations and other interests.
- The process has separate long and short term planning components.
- Long term planning is the development of long term (5-50year?) biological and socio-economic objectives for Fishery Management Units (FMU's), Conservation Units (CUs) and Populations with associated goals and strategies.
- Initial long term Harvest and Production objectives are developed separately through IHPC's and Watershed-based processes with joint objectives determined through a planning FORUM.
- In cases of conflicting objectives or objectives relating to Conservation Units or Populations of concern, options for achieving objectives will be developed that consider the full range of potential harvest, habitat and enhancement actions and the associated biological social and economic impacts.



Integrated Planning Process- Vision

- Short term planning is the annual development of workplans and Integrated Fishery Management Plans (IFMP's) with objectives and strategies that support the long term objectives. It includes an annual review of performance measures.
- The public and other interests gain understanding through involvement throughout the integrated Planning Process.
- The IPP is implement as efficiently as possible. Strategies to reduce the fiscal impact include:
 - efficient us of present and evolving programs and structures ie Integrated Harvest Planning Committees, AAROM, WBSFP
 - improved efficiency and stability with the implementation of a long-term management framework. (Agreements for multi-year decision rules, escapement targets, exploitation/abundance scenarios, etc.)
 - Cost recovery ??
- Overall the IPP is consistent with the Precautionary Approach and Marine Stewardship Certification criteria.

Figure 1. DRAFT Integrated Planning Process and related policies



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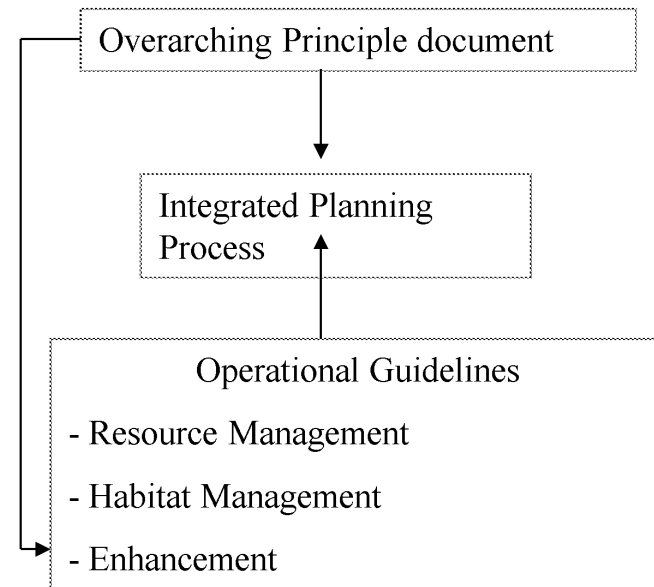


Summary of Balanced Approach

- The status of DFO-defined Conservation Units will be the basis for assessing genetic diversity.
- DFO continues to manage stocks as aggregates and populations but over time increasingly seeks opportunities for more discrete stock management
- Multi-interest advisory process to develop resource management plans (fishing, habitat and enhancement) that will consider biological, social and economic factors.
- Minister retains final authority to make resource management decisions

Next Steps - Policy Framework

- In considering the next steps, it is important to clarify the components of the policy framework:
 1. Overarching document
 - this is the main policy framework which will contain the policy principles and objectives derived from the recommended approach
 2. Integrated Planning Process
 - this document will set out the decision-making process for multi-year and in-season resource management planning
 3. Operational guidelines
 - 3 guidelines: resource management, enhancement, and habitat will accompany the principle document and provide the detailed assessment of actions and relative risks of these actions.



DFO Process

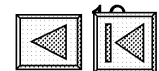
Steering Committee



Coordinating Committee



Res. Mgmt, Habitat and Enhancement and
Decision Framework



Next Steps and Timelines

Activity	Completion Date
1. Complete preparation of policy framework (overarching Document) consistent with recommended option; ensure appropriate context and reference to legislation, government wide and national policy (e.g. Canada's Ocean Strategy, SARA, Sustainable Development Strategy, National Fisheries Management Policy)	October, 2003
2. Complete Integrated Planning Process Document	December, 2003
3. Revise operational guidelines consistent with recommended approach	December, 2003
4. Seek departmental review of documents prior to public release of policy framework and guidelines; information briefing for Minister	January, 2003
5 Release to public and initiate consultation.	TBA
6. Present WSP to FN through information sessions.	TBA
6. Undertake public and FN Forum components of WSP	TBA
7. Finalize policy document; seek internal review and approval	TB A



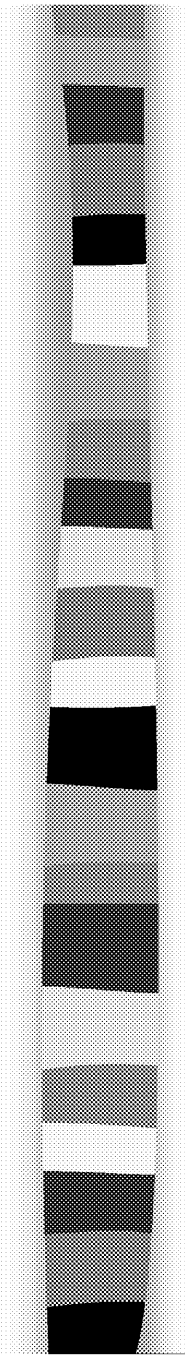
Points for Discussion

- Are there any issues surrounding the continued development of the balanced approach?
- Integrated Planning Process
 - Feedback on the overall process including suggestions for improvement
 - Is the vision of integrated habitat and fisheries management achievable?
- Communication – suggestions for improved communication with staff regarding the WSP



Appendix 1 - 6 Principle Document (March 2000)

- The primary goal of the Wild Salmon Policy is to ensure the long-term viability of Pacific salmon populations in natural surroundings and the maintenance of fish habitat for all life stages for the sustainable benefit of the people of Canada
- 1. Wild salmon will be conserved by maintaining diversity of local populations and their habitats
- 2. Wild salmon will be managed and conserved as aggregates of local populations called conservation units
- 3. Minimum and target levels of abundance will be determined for conservation units
- 4. Fisheries will be managed to conserve wild salmon and optimize sustainable benefits
- 5. Salmon cultivation techniques may be used in strategic intervention to preserve populations at greatest risk of extirpation
- 6. For specified conservation units when genetic diversity and long-term viability may be affected, conservation of wild salmon will take precedence over other production objectives involving cultivated salmon.



Appendix 2 - 3 Principle Draft (February 2002)

- The primary goal of the Wild Salmon Policy is to promote the long-term viability of Pacific salmon populations in natural surroundings and fish habitat for all salmon life stages, for the sustainable benefit of the people of Canada
 - 1. Conserve wild salmon by maintaining diversity of local populations and their habitats
 - *conserve genetic and geographic diversity of wild salmon and their habitats*
 - 2. Acknowledge and protect the key role that wild salmon play in their ecosystems
 - *the key role that wild salmon play in their ecosystems will be considered in decision-making*
 - 3. Establish operational guidelines consistent with best practices in risk management for carrying out harvest, habitat, and fish cultivation activities
 - Apply best practices in (and??) risk management when evaluating harvest, habitat and fish cultivation options
 - 4. *Open and transparent processes will be used to incorporate biological, social and economic considerations into reaching balanced decisions*
- * Note: *italics indicate proposed wording*

Appendix 3 - Comparison of Units by Species for BC.

Species	Populations	Conservation Units	Current Commercial Fisheries aggregate management
Sockeye	~300- 500	~100-300	~10 -20
Chinook	~200-300	~20-40	~6-8
Coho	~150-250	~15-40	~5-10
Pink	~75-125	~10-30	~40-50
Chum	~125-175	~10-30	~40-50



Appendix 4 - Consultation Process

- Principle document released to public Two forums
 - 1. 2 day session with First Nations
 - 2. 4 day session open to 60 - 80 participants
- Application process to determine public participants
 - extensive criteria for participation to be reviewed by an independent panel
- Other public participation open to observers for plenary sessions with opportunity to ask questions at the end of each day
- Communication Plan

Appendix 5 – Proposed WSP Terminology

Families, demes, populations, and taxonomic species are all biological entities that can be ordered along a continuum of genetic similarity. Individuals within families are more similar to each other than are individuals within demes, within populations, and so on. The genetic diversity of a species is the sum of the genetic variation within and among entities on this continuum. The WSP seeks to promote the preservation of genetic diversity. Genetic differences underlie the various adaptations that biological entities develop through evolutionary processes. This diversity of adaptations is the basis for the production and survival of populations and species, and hence their ability to adapt to change, and to withstand harvest. The following definitions for deme, population, and conservation unit will be used in the WSP to facilitate discussion about approaches to protect and preserve genetic diversity.

- A **deme** is a reproductive unit (spawning site) comprised of individuals who are likely to breed with each other (i.e. well mixed). A single population may include more than one deme and demes may be partially isolated from one another. Their partial isolation may or may not be persistent over generations. There will always be at least as many demes as populations.
 - A **population** is a group of interbreeding salmon that is sufficiently isolated from other populations so that there will be persistent adaptations to the local habitat[2]. Local adaptations improve survival in specific habitats and consequently increase the productivity of the population. Diversity in these adaptations is necessary to the long-term viability of the species. There will always be at least as many populations as Conservation Units.
 - A **Conservation Unit** (CU) is a group of one or more populations that DFO considers eligible for protection under the Species at Risk Act (SARA) as a "wildlife species". A wildlife species is defined by SARA as a [named] species, subspecies, variety, or geographically or genetically distinct population[3]. The key characteristics of a CU are 1) if extirpated, a CU will not be replaced through natural processes within a reasonable time (e.g. 100 years) with acceptable confidence (e.g. >90%), and 2) if a CU is comprised of more than one population, then the populations will share a common genetic lineage. There will always be at least as many CUs as named taxonomic species.
- In addition to these biological entities there are other groupings of demes, populations and CUs that may be thought of as "tools" to improve the effectiveness of assessment and management within the context of existing fisheries and habitat conditions.
- An **Indicator System** (IS) is a persistent deme, group of demes, or a population that is assumed to be representative of the CU it is a member of. The status of the surrounding CU is inferred, in part, by comparing measures of abundance or survival gathered by monitoring the IS to reference points. If there is more than one population within the CU, then it can be advantageous to have more than one IS within the CU. Consequently there are no general rules about the number of Indicator Systems relative to the number of CUs.
 - An **Assessment Unit** (AU) is a group of one or more populations that can be managed effectively as a single unit because of common risk factors (e.g. fishing, land-use activities, or critical habitat). If the populations are drawn from more than one CU, then the relative productivities of the CUs should be known or inferable, perhaps by having multiple ISs within the AU. AUs can be defined pragmatically and the rules for aggregating populations might differ among species and within species among regions. There may be more AUs than CUs or populations for some species (e.g. pink) but similar numbers of AUs as CUs for other species (e.g. sockeye).
 - A **Fisheries Management Unit** (FMU) is a group of demes, populations or CUs that are aggregated for the purpose of managing fisheries. Fishery managers should be cognisant of the implications of each fishery on the biological entities susceptible to being caught in the fishery. There are no generalizations about the number of FMUs and biological entities. However, to be consistent with the primary goal of the WSP, FMUs should conform as much as possible to CUs.

[1] 24 October 2003

[2] A variety of information types can be used to delineate populations under the WSP including results from genetic surveys, measures of phenotypic variation, and ecological criteria.

[3] This terminology is from Bill C-5 (SARA). COSEWIC (Committee on the Status of Endangered Wildlife in Canada) is responsible for identifying wildlife species under SARA that are called DUs (designatable units). Canadian DUs can differ from American ESUs (evolutionarily significant units) since DUs do not have to be evolutionarily significant. CUs identified by DFO are intended to be analogous to DUs.