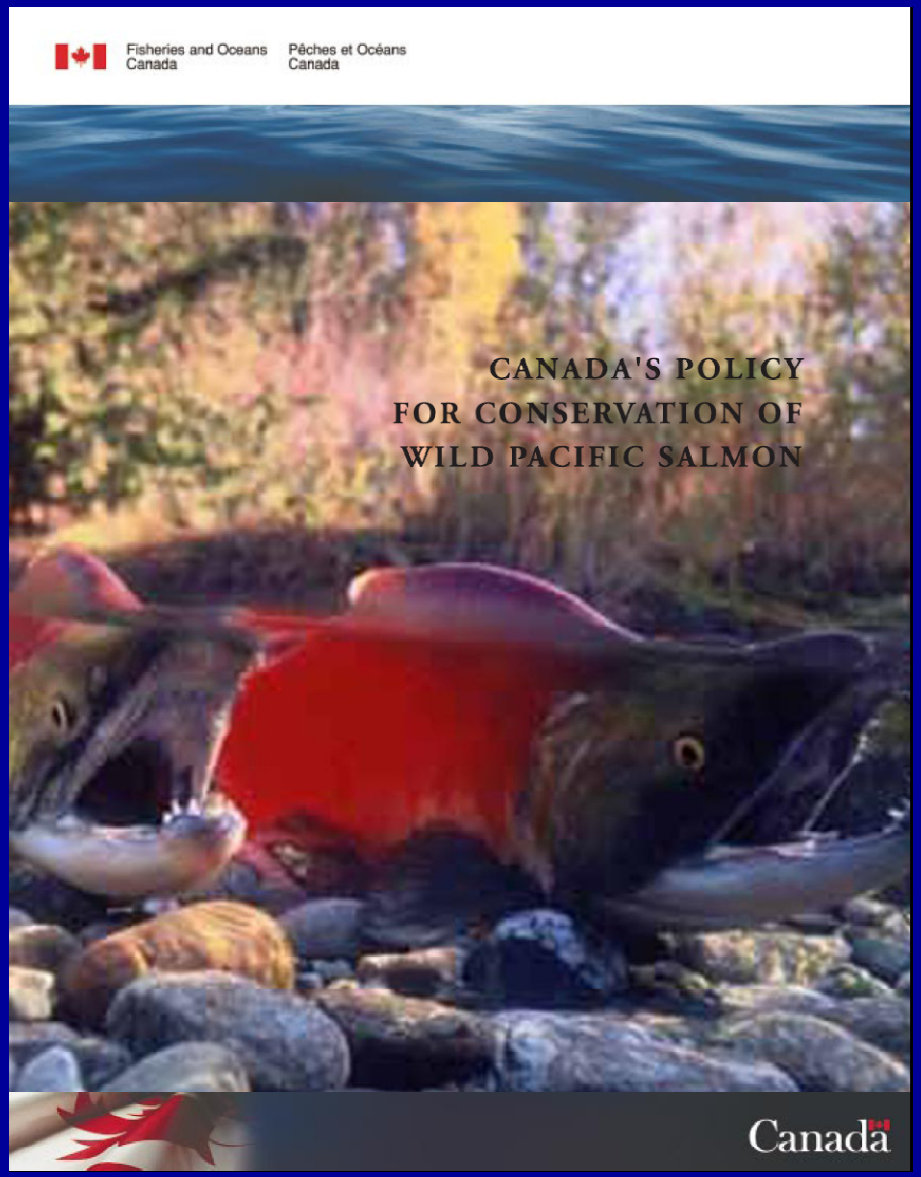


Canada's Policy for the Conservation of Wild Pacific Salmon: conservation planning for an uncertain future.

Brian E. Riddell, Dr.
Pacific Salmon
Foundation, Vancouver, B.C.

briddell@psf.ca

State of the Salmon
Conference, Vancouver B.C.

February, 2009

http://www-comm.pac.dfo-mpo.gc.ca/publications/wsp/

Wasn't the "Stock Concept" sufficient?

1) Stock concept recognized diversity amongst Pacific salmon populations. But, in practice, "stocks" became identifiable management units and the composition within them not fully appreciated or protected.

2) In BC/Yukon, there are over 8000 combinations of streams and salmon species. But, each of these are not individual lineages … the Department does not and can not manage them individually!

3) The "Stock Concept" emphasizes current adaptations in populations. But, most people failed to appreciate underlying processes (*adaptability*).

4) More recently as the value of Biodiversity emerged, people questioned "how much do you really need?" The Stock Concept did not provide a sufficient answer.

Principles & Action Steps within the Policy

Four Guiding Principles

Conservation of wild salmon and their habitat is the highest priority in management	Respect Obligations to First Nations	Use must be Sustainable	Use Open Transparent Processes
(1)	(2)	(3)	(4)

3 Scientific inputs

- **1) Standardized monitoring of wild *salmon status***
- **2) Standardized monitoring of *salmon habitats***
- **3) Inclusion of *ecosystem* values and monitoring**

Process development → **4) Integrated Regional strategic planning (new)**

5) Annual program delivery (Departmental programs)

6) Independent Performance Review after 5 years.

Step 1: Standardized monitoring of wild *salmon status*

Defined geographic units of wild salmon ➔ Conservation Units

A Conservation Units is defined as: "*Groups of wild salmon living in an area sufficiently isolated from other groups that, if extirpated, that area is very unlikely to be recolonized naturally within an acceptable time frame.*" pg. 38 WSP

Holtby, L.B. and Ciruna, K.A.. 2007. Conservation Units for Pacific salmon under the Wild Salmon Policy. CSAS Research Document 2007/070: 367p.

www.dfo-mpo.gc.ca/csas

The definition of Conservation Units acknowledges:

- the natural spatial organization of salmon (Networks of populations across varying habitats = intra-specific diversity)

- the need to manage uncertainty (be precautionary)
  - in management and assessment data,
  - inherently high environmental variability (across both time and space), and
  - expectations of climate change (but unpredictable at local scales).

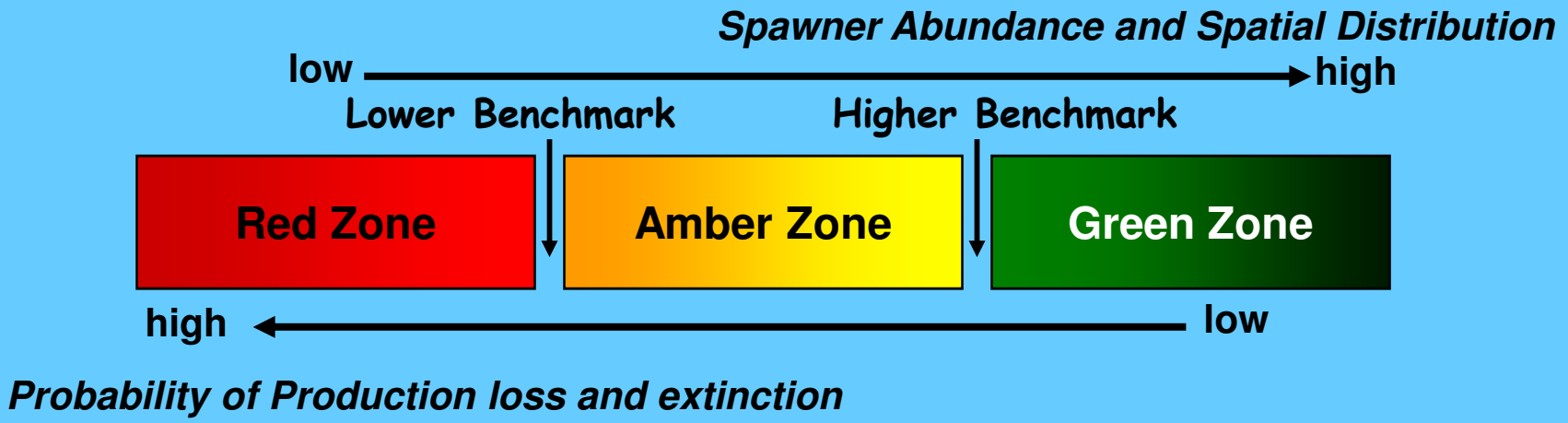
- the essential need to protect *adaptability* … demographic and genetic population processes.

Number of CUs by species in BC

species	number of CUs
Pink-odd years	19
Pink-even years	13
Chum	38†
Coho	43
Chinook	68†
Sockeye-river	24
Sockeye-lake	218
Sub-total	**423**

† Additional CUs will be described in the Yukon River. Although additional CUs are possible in the Mackenzie River, they would be outside of the geographic purview of the Wild Salmon Policy at this time.

Strategy 1, Step 2: Determine Biological Status



Three fundamental changes to past assessments:

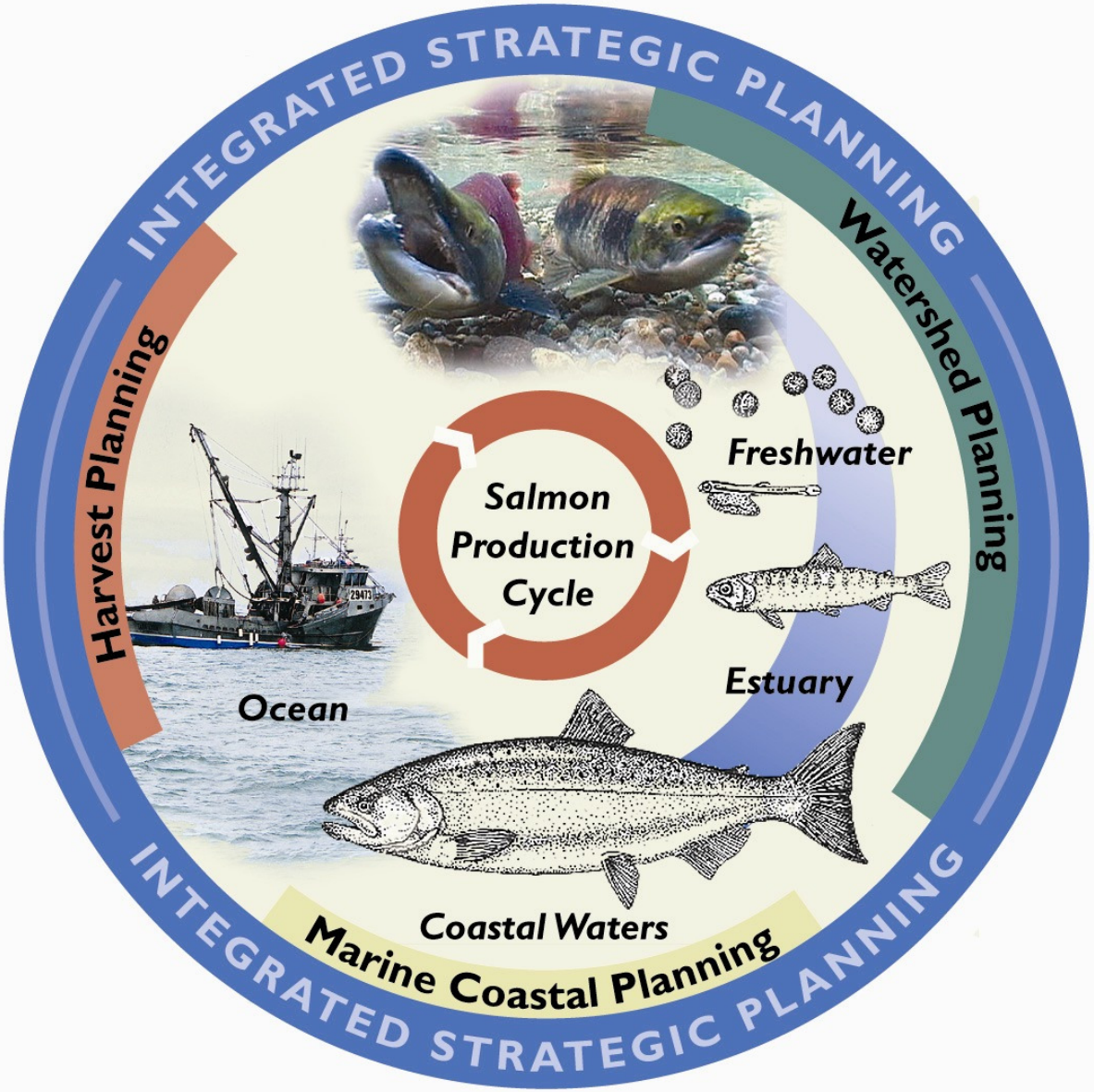
1. Definition of a "conservation" or Lower Benchmark
2. Explicit consideration of diversity within CU's during assessment (multiple populations)
3. Incorporation of precaution ("buffers") to account for uncertainty in definition of benchmarks.

How does the full Policy address an Uncertain Future?

1. Definition of Conservation Units to include all spawning demes in BC and Yukon (all CU's must be conserved, but may exist at different degrees of status)
2. More precautionary assessment base (two benchmarks) plus multiple assessment criteria (abundance and distribution of spawners between streams).
3. Annual monitoring framework required for each CU.
4. Inclusion of habitat monitoring and assessment (Strategy 2) and inclusion of freshwater and marine ecosystem indicators in annual management planning (Strategy 3).
5. Community-based, regional planning process develop strategic plans for each CUs (Strategy 4).

Ecosystem-based management is likely necessary for effect strategic planning … but it is also likely to increase uncertainty in outcomes.

Figure 8 **Wild Salmon Policy Integrated Strategic Planning**



Schematic showing that the Integrated Strategic Planning Process will cover all stages of Pacific salmon life history.