

## SARA LISTING SUMMARY

### Species:

- sockeye salmon, Cultus Lake population
- Region: Pacific
- Occurrence: Cultus Lake, lower Fraser Valley, BC

### Description, Status, Threats:

- Single-lake population of sockeye which mixes in the Georgia Strait and at sea with other sockeye populations
- Genetically distinct, shows distinct biological characteristics and is geographically distinct, and thus is eligible for listing under SARA.
- Assessed as endangered because of a significant decline in abundance and current very low abundance. The population of adults returning to the lake declined by 92% between 1995 and 2002.
- Status information from COSEWIC and subsequent DFO assessments is good, with little uncertainty
- The primary threat has been overexploitation, including directed and incidental catches in mixed-stock fisheries.
- these fish are also affected by predation, ecological impacts to the lake habitat from colonization by Eurasian water milfoil, land development, stream channelization, nutrient input, and recreational use;
- since 1995, spawning adults have also suffered very high pre-spawn mortality, associated with unusually early migration into fresh water and with *Parvicapsula* parasite infestation
- the Pacific Salmon Commission and Fraser Panel managers have taken conservation steps since 2001 to reduce fishery harvest levels on late-run Fraser sockeye;

### SARA Listing Considerations:

#### Benefits:

- potential increased supply of salmon in both the marine and freshwater environments for present and future generations; potential increased opportunities for harvest in mixed-stock fisheries by allowing a higher level of bycatch of Cultus sockeye;
  - continued source for First Nations, increased opportunity for commercial and recreational fisheries, and an increased source of jobs, income and profits in affected sectors, such as seafood processing;
  - Increased abundance of salmon upstream of Cultus Lake is dependant on what restrictions are put in place for Cultus. Reduced exploitation rate on this population will result in larger returns available to First Nations upstream of Cultus Lake.
- genetically and biologically unique sockeye populations are important to Canada's natural heritage;
- Salmon form part of BC and Canada's international identity and are often presented as an icon of our natural resource wealth;
- sockeye salmon import marine-derived nutrients to Cultus Lake and contribute to the productivity and complexity of the Cultus ecosystem )??)
- listing could support international salmon management and conservation efforts under the Pacific Salmon Treaty with the USA (listing this level of population is consistent with ESU under ESA).
- listing this population, and the resulting protection and recovery efforts, could help support initiatives to certify BC salmon fisheries under the Marine Stewardship Council, and thus improve market prospects for BC salmon;
- strong protection and recovery efforts for this population would have benefits for other weak sockeye and salmon populations (??)

**Costs:**

- restrictions to mixed-stock fisheries would be necessary in Johnstone and Georgia Straits where it is not feasible to commercially harvest other populations without incidental harm to *Cultus sockeye*;
  - forecast lost revenue varies with cycle year between \$2m in 2004 and \$14m in 2006
  - impacts would be borne by commercial harvesting sector (68%), processing sector (28%) and recreational sector (4%)
- could increase the losses in the salmon processing sector which has already experienced many years of insufficient catch for operation
- recreational ?? minimal losses due to non-retention fishing ?
- FSC fisheries in mixed stock at sea fisheries are not expected to be restricted in amount but there could be restrictions on timing of fisheries removing some of the flexibility enjoyed by First Nations in recent years
- impacts on cottage and land development, and on recreational activities, in the lake etc (??)
- coastal communities in Johnstone Strait on mid-Vancouver Island would be impacted (see details in Sakinaw summary)
- if the US does not agree to further restrictions to protect and recover this species in their mixed-stock fisheries, Canadian fishers may have to bear a disproportionate share of the protection and recovery efforts.

**Government Issues:**

- incremental fishery management costs in enforcement and fishery management following listing would not be high;
- costs for pro-active recovery measures, such as broodstock protection, habitat improvement, monitoring and science, are potentially (e.g., \$250K per year based on 2004, though a portion will be spent on one-time capital expenditures). Cost may increase if populations continue to decline

**Federal-provincial considerations**

- government of BC has expressed significant concern at potentially wide-ranging fishery restrictions needed to save this small population
- province will be expected to contribute to protection and recovery by limiting relevant human activities under its jurisdiction et logging, cottage development, watercraft etc

**Long-term considerations**

- the future status of this population will depend to a large degree on late run migratory behaviour and pre-spawn mortality levels, which are outside human control; the population could undergo further decline despite best protection and recovery efforts
- once listed under SARA, the population can only be down-listed via another COSEWIC assessment which proves that it is no longer endangered

**Consultations and Results:**

- what consultations were held and what are the results? (statements below are forecasts)
- aboriginal fishery stakeholders in the Interior support this listing, while coastal First Nations throughout southern British Columbia and in the lower Fraser River will oppose this listing on the basis that it may impact FSC and commercial harvesting prospects, as well as economic opportunities;
- Commercial Fishery will strongly oppose listing this population, believing that fisheries should not be managed to protect small, weak populations;

- recreational fishery stakeholders views depend on the extent to which a sockeye catch and release fishery can be implemented; probably limited opposition
- Environmental groups will strongly support this listing,

SARA Listing Recommendation:

- list as endangered, consistent with COSEWIC assessment