

## SARA LISTING SUMMARY

### Species:

- Sockeye salmon, Cultus Lake population
- Pacific Region

### Description, Status, Threats:

- Single-lake (Cultus Lake, lower Fraser Valley) genetically distinct population of sockeye which migrates with other late-run sockeye populations.
- COSEWIC assessment is Endangered. Assessment is not disputed, as the population of returning adults declined by 92% between 1995 and 2002.
- The primary threats are: high pre-spawn mortality due to early migration into freshwater and *Parvicapsula* parasite infestation; overexploitation prior to 1995; pike minnow predation within Cultus Lake; and ecological impacts to the lake habitat from colonization by Eurasian Water Milfoil, land development, stream channelization, nutrient input and recreational use.

### SARA Listing Benefits and Costs:

#### Benefits:

- First Nations would achieve former levels of food, social and ceremonial fish.
- Reduced exploitation rate resulting from listing would result in larger returns for First Nations upstream of Cultus Lake.
- Actions to protect this population may lead to increased abundance of similar migratory stocks which would provide an increase supply of salmon for present and future harvesters as well as an increased source of jobs, income and profits in direct and indirect affected sectors.
- Increased marine-derived nutrients to Cultus Lake would contribute to the productivity of the Cultus Lake ecosystem.
- May support international salmon management and conservation efforts under the Pacific Salmon Treaty with the USA; listing this population is consistent with the Endangered Species Act.
- May support the certification of BC salmon under the Marine Stewardship Council by taking conservation measures to support the sustainable use of fish, thus improving market prospects for BC salmon;
- Would demonstrate to Canadians the government is committed to Species At Risk legislation.

#### <sup>1</sup>Costs:

##### First Nations

- **Impact - Low**

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<sup>1</sup> RANGE OF IMPACT- N/A=\$0; Low=\$1-99,999; Medium=\$100,000-\$999,999; High= \$1million+

- Nature of Impact: It is anticipated that FSC allocations will be harvested but flexibility may be limited.
- **Risk - Low**

#### Fishing Industry

- **Impact – High**
- Nature of Impact: Mixed-stock fishery restrictions will be necessary, primarily in Johnstone and Georgia straits.
- Listing will result in an estimated loss of revenue of 28.0 million<sup>2</sup> (decrease of 12% of projected industry revenue value) over a salmon cycle (four years) which will be borne by the commercial harvest sector (48%), salmon processing sector (35%) and recreational sector (17%). If listed, Cultus sockeye would require more than one generation to recover.
- Commercial harvest: Fraser River sockeye provide an estimated 75%-80% of the total landed value in the following commercial fishing impact areas: B, D, E and H.
- These four areas consist of 1,012 eligible<sup>3</sup> salmon licences, which could provide a total estimated 2,450 part-time employment opportunities. However, as of July 14, 2004 only 974 salmon licences are actively being fished.
- Of the active southern salmon licences within the impact areas, 21% (209 licence holders) also hold other vessel based licences and 19% (181) hold either a herring gillnet or seine licence<sup>4</sup>.
- First Nations will also be affected by foregone commercial fishing revenues, as they hold 25% of southern commercial salmon licences.
- Southern salmon processing sector: This sector will continue to suffer, as 2004 is anticipated to be the tenth consecutive term returns have been negative. First Nations will also be affected by foregone employment opportunities, as they hold 25% of southern processing jobs. The southern salmon processing industry provides an estimated 1,467 person years of employment. There are 167 active seafood plants processing wild capture products in BC, concentrated primarily in the Lower Mainland, Vancouver Island and Prince Rupert areas. Seafood processing (including wild salmon) accounts for nearly 20% of the value of food manufacturing activity in the province.
- Recreational Sector: This will be less severely affected, with impacts primarily in the Juan de Fuca and Georgia straights due to sockeye non-retention restrictions.
- **Risk – High**

#### Tourism and recreational

- **Impact – Low**
- Nature of Impact: Cultus sockeye spawn on the beach of Cultus Lake in late fall, so beach use restriction is anticipated to be minimal. The need for better sewage treatment

<sup>2</sup> \$2.3 million revenue loss in 2004; \$9.1 million revenue loss in 2005; \$14.5 million revenue loss in 2006; and \$2.1 million revenue loss in 2007.

<sup>3</sup> Note, that eligible does not imply total number of licences fished each year, rather the total number of licences that may be fished if he/she chooses.

<sup>4</sup> This percentages are not additive as salmon licence holders may hold both a herring and other vessel based licence.

and restricted water use may result in increased costs for campground owners and other tourist facilities.

- **Risk - Low**

#### Land use and development

- **Impact - High**
- Nature of Impact: Future developments surrounding Cultus Lake will need to be reviewed by DFO to ensure they will not adversely affect recovery. If water quality issues are a concern, alternative water management systems may need to be considered.
- **Risk - Moderate**

#### Forestry

- **Impact – None to Low**
- Nature of Impact: Future logging activity on or near Cultus Lake would need to be reviewed by DFO to ensure it is not adversely affecting recovery.
- **Risk - Low**

#### Agriculture

- **Impact – Low**
- Nature of Impact: There may be costs incurred through pesticide restrictions used in farming practices should water quality be shown to adversely affect recovery.
- **Risk - Low**

#### Mining

- **Impact - Low**
- Nature of Impact: There is one mining company located on Cultus Lake. There may be restrictions on fuel and lubricant use if future research indicates this activity is adversely affecting water quality.
- **Risk - Low**

#### Aquaculture

- **Impact – NA**
- Nature of Impact
- **Risk - NA**

#### Coastal Communities

- **Impact - High:**
- Nature of Impact: Coastal communities, especially on the north-east coast of Vancouver Island are heavily dependent on fishing harvest revenue for economic revenue generation. For example, the percent of basic and non-basic income fishing dependence in the following regions are: Port Hardy (4%, fourth most important industry), Port McNeil (4%, fourth most important industry) Alert Bay (15%, second most important industry)<sup>5</sup>.

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<sup>5</sup> Source: BC Stats, “2001 Economic Dependencies and Impact Ratios for 63 local Areas.”

- The majority of the impacts (total number of people affected) are expected to be realized in the Vancouver-Lower Mainland region. However, the coastal communities identified are anticipated to be hardest hit due to heavy dependence on the salmon harvest for income and employment within their local economies.
- **Risk – High**

Federal-provincial considerations:

- The current BC government will react negatively to a decision which implies significant new restrictions on fishing, logging and recreational development.

Government Issues/Long-term considerations:

- **Impact – High**
- Nature of Impact: There will be a significant increase in costs resulting from developing and implementing recovery strategies. For example, DFO would have to increase enforcement, science, stock assessment and fishery management measures to monitor and take proactive recovery measures to protect Cultus Lake sockeye (i.e. broodstock protection, habitat improvement, monitoring and science which can each cost upwards of \$250K/year - based on 2004).
- Extra domestic measures may have to be taken to offset US catch of Cultus sockeye.

Listing considerations:

- The future status of this population will depend on late run migratory behaviour and pre-spawn mortality levels. However, if mortality remains at recent levels, recovery may be rapid with continued implementation of recovery measures.
- Once listed under SARA, the population can only be down-listed via another COSEWIC assessment which proves that it is no longer endangered.
- The parties interested in this population have highly polarized positions and any decision will create controversy.

Consultations and Results:

- First Nations: Interior groups have expressed support for conservation measures, while coastal First Nations throughout southern British Columbia and in the lower Fraser River have expressed alarm at the impact closures would have on FSC fisheries.
- Commercial fishing industry: The industry will strongly oppose listing this population, believing that fisheries should not be managed to protect small, weak populations. They are also concerned about First Nations' fisheries, enforcement, recovery feasibility and compensation for lost income as a result of listing. Overall, the respondents predicted severe social and economic hardship as a result of legal listing.
- Recreational fishery stakeholders: Their views depend on the extent to which a sockeye catch and release fishery can be implemented.
- Environmental groups: Groups will strongly support this listing, and can be expected to initiate litigation (as will Soowahlie Band) if this population is not listed.

SARA Listing Recommendation:

- To be determined.