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**LISTING CULTUS AND SAKINAW SOCKEYE UNDER THE
SPECIES AT RISK ACT
A SIERRA CLUB ANALYSIS OF THE FACTS**

On October 24, 2002, the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) granted a request for an "emergency" status assignment for both Cultus and Sakinaw sockeye, based on detailed reports prepared by Fisheries and Oceans biologists and COSEWIC's Emergency Assessment Subcommittee.

Both sockeye stocks were given the status of "endangered," and the findings were formally confirmed by COSEWIC on May 2, 2003.

Under DFO's care, both stocks have suffered dramatic declines over the past few decades, mainly because they have been overharvested as a consequence of the "mixed stock" ocean fishing regime favoured by the coastal commercial fishing industry and by Department of Fisheries and Oceans' fisheries management staff. Habitat loss, however, has also played a significant role.

Senior DFO officials maintain that recovery plans are being implemented for these stocks, and legal listing is not necessary. DFO's claims of heightened concern, however, need only be measured against its conduct during the two fishing seasons since COSEWIC's findings.

In 2003 and 2004, DFO authorized fisheries allowing Cultus sockeye to be harvested at rates of at least 15 per cent. This occurred despite COSEWIC's warning that, given the high pre-spawn mortality rates facing Late Run stocks, a 15-per-cent harvest rate implies a 50-per-cent likelihood of extinction within 12 to 15 years.

Cultus Lake sockeye:

This sockeye stock spawns at Cultus Lake, roughly 120 kilometres upstream from saltwater, returning via the Fraser River, the Vedder River and Sweltzer Creek. It is one of more than 50 sockeye stocks in the Fraser River's Late Run timing group.

Cultus sockeye has been central to the domestic economy and the ceremonial life of the Soowahlie First Nation for thousands of years. For more than a century, Cultus sockeye has also made important contributions to the commercial fisheries directed on the Fraser River's Late Run sockeye stocks.

While Cultus sockeye run sizes have been as high as 250,000 individuals in recent decades, annual commercial exploitation rates since the 1950s have routinely exceeded 80 per cent. The total numbers of sockeye spawners in Cultus Lake have fallen from more than 80,000 in the late 1920s to perhaps 70 fish in 2004.

COSEWIC has identified the major causes for the declines of Cultus sockeye abundance as overfishing, habitat loss, and losses associated with a disturbing "pre-spawn mortality" trend that has been affecting all Late Run sockeye stocks in the Fraser system since the early 1990s.

Sakinaw Lake sockeye:

This sockeye stock spawns at Sakinaw Lake, at the northern tip of the Sechelt peninsula, adjacent to Agamemnon Channel, in the Strait of Georgia. After having supported Sechelt First Nation fisheries from time immemorial, total run sizes rarely exceeded 12,000 fish after the 1940s. Commercial exploitation rates have varied widely over the past 15 years, but annual spawning numbers fell from about 1,000 fish in 1990 to fewer than 100 spawners by the first decade of the 21st century.

COSEWIC has identified overfishing as the main proximate cause of these declines, along with habitat loss and degradation. Continuing habitat threats include residential development, low water levels, high water temperatures, and the continuing effects of past logging. Fisheries that directly impact upon Sakinaw sockeye include net and troll fisheries in Queen Charlotte Sound and Johnstone Strait, directed mainly upon returning Fraser-bound sockeye runs from the Early and Mid-Summer timing groups.

1. The economic "costs" associated with bringing Cultus and Sakinaw sockeye under the protection of the Species At Risk Act have been grossly and irresponsibly overstated:

By way of context, not once in the past 15 years has the entire value of B.C.'s "salmon economy" (harvest, processing, commercial and recreational fishing) exceeded one per cent of British Columbia's gross provincial product.

In his October 22 announcement, Environment Minister Stéphane Dion stated that "the Fraser River sockeye fishery would have to be virtually shut down if these two populations were listed under SARA," and that the consequence to the fishing industry would be \$125 million in lost revenue over the next four years.

Such a statement betrays such a complete unfamiliarity with the Fraser River fisheries that the only reasonable conclusion we can reach is that Minister Dion has been profoundly misled by federal bureaucrats. The economic costs associated with placing Cultus and Sakinaw sockeye under the protection of the Species at Risk Act are short term, and need not amount to any more than a small fraction of the losses the minister has claimed.

Even a draconian "zero-tolerance" policy on any incidental harvests of Cultus or Sakinaw sockeye would not result in anything more than temporary closures to a few of the many fisheries directed upon Fraser-bound sockeye. Further, once the long-term economic benefits of conserving these stocks are taken into account, any short-term losses would be completely overshadowed by the economic returns associated with a resumption of harvests from these and associated stocks.

Defending his October 22 decision against critics, Minister Dion asked: "What would be their solution? Is it to shut down the fishery for two populations that make up less than 1 per cent of the whole?" The answer is an emphatic "No."

A legal "listing" of Cultus and Sakinaw sockeye would mean only certain Fraser River fisheries would be disrupted. In fact, most of the Fraser River fisheries, directed on the far-more abundant Summer Run stocks, would face no unanticipated disruptions at all.

To begin with, a legal "listing" does not imply that no harvests of Sakinaw or Cultus sockeye would be tolerated, even as unintended incidental harvest. The law provides for "incidental harm permits" as well as harvests that are consistent with stringent recovery plans, as made clear in Section 83(4) of the Species At Risk Act.

Even if a "zero tolerance" policy was implemented as a result of legally "listing" Cultus and Sakinaw sockeye, such a policy would likely mean only temporary disruptions to mixed-stock fisheries that are already problematic, and are already posing risks to many other small stocks. These disruptions would be confined to fisheries directed only upon certain Fraser River sockeye stocks, and only for limited times during the fishing season, and only in certain approach areas.

The economic impact of these disruptions would be negligible, especially if Fisheries and Oceans managers were prepared to adopt innovative harvest approaches, such as selective fisheries, more responsive and adaptive time-and-area closures, the movement of fishing-effort away from mixed-stock areas, and the development of more "terminal area" fisheries in cooperation with Interior First Nations.

To allow for the recovery of Sakinaw sockeye, most commercial fishing effort would likely have to be moved away from the Queen Charlotte Sound and Johnstone Strait areas during the Early Summer and Mid-Summer Fraser sockeye migration, when the Sakinaw sockeye are also migrating through those areas.

To allow for the recovery of Cultus sockeye, temporary disruptions to late-season fisheries would occur, but even these disruptions are already anticipated for the coming years in the course of providing necessary protections for all of the Fraser's Late-Run sockeye runs. These runs have been severely weakened over the past decade by an early-return, high pre-spawn mortality phenomenon that has drawn a significant degree of scientific attention and resources dedicated by the Canada-U.S. Pacific Salmon Commission.

None of the major tribal fisheries above the confluence of the Vedder and the Fraser River would be disrupted by any of these conservation measures, and in fact would likely benefit. Further, economic opportunities would arise allowing commercial fishing interests to develop cooperative fisheries with First Nations upstream of the Vedder confluence.

These are inconveniences and some disruptions to the fishing industry, and to fisheries management staff.

Despite these facts, an August 18 analysis prepared by DFO's Policy Branch and stamped "secret" leaves the impression that listing Cultus and Sakinaw sockeye under the Species At Risk Act would result in an unavoidable cost to the harvesting and processing sector of roughly \$100 million over the next four years.

The document, titled "Economic Importance of Fraser River Sockeye Commercial and Recreational Harvesters, Processors and Coastal Communities" cites costs of about \$100 million over the next four years. Of that value, \$80 million is the value attributed to approach-area Fraser sockeye fisheries that impact upon Sakinaw sockeye as an incidental harvest.

But that is a "worst-case" scenario that also assumes no innovative fisheries-management measures are available to harvest Fraser-bound sockeye without causing harm to Sakinaw sockeye. In fact, all those fisheries could be shifted away from the migratory path of Sakinaw sockeye, either to Juan de Fuca Strait, the mouth of the Fraser River, or other areas.

Perhaps the most disturbing inadequacy in Minister Dion's justifications, and in the GS Gislason economic analysis upon which the decision was based, is the failure to take into account the permanent cultural, ecological, economic and social costs that would be incurred by the extinction of these two irreplaceable salmon stocks. These losses far outweigh any short-term inconvenience to the fishing industry.

To be fair, it should be noted that the authors of the GS Gislason study were specifically prohibited from consulting with anyone apart from senior DFO officials and one provincial government official, so the report's inadequacy should come as no surprise. Still, the DFO members of the Cultus Sockeye Recovery Team have made several scathing criticisms of the GS Gislason study, which bear repeating here:

- The scientific analyses supporting the case for legally listing Cultus and Sakinaw sockeye were rigorously peer-reviewed. The "economic" analyses behind the decision to not legally list Cultus and Sakinaw sockeye were not reviewed at all (and in fact were not even made public, until now).
- The projected commercial impacts of listing Cultus sockeye are "totally unrealistic" and the projected impacts upon First Nations fisheries are "highly unrealistic." Even if both Cultus and Sakinaw sockeye were listed under SARA, the commercial fishing benefits of Fraser Sockeye could "still be realized."
- While it would take "institutional realignment," fisheries could be designed to harvest Fraser sockeye surpluses even under severe conservation restrictions for both Cultus and Sakinaw sockeye.
- "Severe" conservation measures are in fact not even considered necessary to meet Cultus recovery objectives in the 2005, 2006 and 2007 cycle-years. The most draconian restrictions were anticipated only for the 2004 cycle line (i.e. in 2008), but

because of the complete collapse of Fraser sockeye spawning returns in 2004, no commercial fisheries of any significance are expected to be directed on any Fraser sockeye stocks in 2008, anyway.

- The Gislason study failed to take into account the restrictions on Fraser sockeye fisheries already anticipated in the coming years to continue coping with adverse environmental conditions (i.e. early-return timing, high water temperatures, high rates of pre-spawn mortality) affecting all Late Run Fraser sockeye stocks.
- Absolutely no consideration was given to the ability of fisheries managers to adapt to and mitigate the impacts of fisheries restrictions arising from recovery plans.
- The study did not take into account the additional resources that would be made available to expedite stock recoveries under a SARA listing scenario.

Short-term "economic" justifications of the kind cited for refusing to extend SARA protections to Cultus and Sakinaw sockeye would ultimately mean the extinction of the vast majority of British Columbia's salmon populations:

Most of British Columbia's salmon populations, estimated at 9,600 in total, are "small" stocks that are vulnerable to overfishing in "mixed-stock" areas. Of 9,600 known salmon populations in B.C. and the Yukon, DFO is incapable of providing stock assessments for about half of them. At least 142 salmon stocks have already been driven to extinction, and the last comprehensive overview found 624 to be at "high risk" of extinction, with 78 facing a moderate extinction risk, and 230 were of "special concern."

Mart Gross, co-chair of COSEWIC's fisheries subcommittee, has observed that Minister Dion's decision to deny SARA protection to Cultus and Sakinaw sockeye is "in essence forfeiting these populations." Prof. Gross goes on to observe that if Minister Dion's reasoning stands, "a significant portion" of the thousands of distinct salmon populations in British Columbia will be condemned to extinction.

A persistence of the status quo – DFO's chronic disregard for its duty to protect habitat, its myopic preoccupation with short-term economic returns, and its defiance of the overwhelming scientific evidence against the concentration of fishing effort in "mixed stock" fishing areas – is already putting most of these salmon populations at risk.

A vivid example of this can be found by looking no farther than the Fraser River's Late Run timing group, of which Cultus sockeye has been such an important stock for so many thousands of years.

In the 1994 cycle year, for instance (i.e. 1994, 1998, 2002, 2006, etc.) of the 54 Late Run stocks, 36 stocks (67%) had fewer than 1,000 spawners in 1994, while 26 stocks (48%) had fewer than 100 spawners. These records are from the period prior to the high levels of pre-spawn mortality associated with Late Run stocks that were first observed in 1996 – so their status now may in fact be much worse.

Many of these runs are actually likely in far greater need of protection than even Cultus sockeye. The cruel irony here, about which most British Columbians know nothing, is

that Cultus sockeye may actually be one of the strongest stocks in the 1994 cycle-year Late Run group. The main reason Cultus sockeye was identified as "endangered" by COSEWIC is not that it is necessarily so much worse off than the other stocks with which it migrates. It was simply that Cultus sockeye simply happens to be one of the most intensively studied sockeye stocks on the planet – there was an overwhelming amount of data available to support the case that it is "endangered".

Neither Environment Minister Stéphane Dion, Fisheries Minister Geoff Regan, nor senior DFO staff took the views of British Columbians into account in the decisions about whether or not to legally list Sakinaw and Cultus sockeye. In fact, British Columbians have been misled into believing their views would be considered.

Senior DFO officials commissioned the G.S. Gislason and Associates study several months ago, and the study was completed in April, 2004. DFO did not release the study to the public, and did not subject the study to peer review. Neither did DFO make public the critique of the Gislason study undertaken by DFO's own Cultus Sockeye Recovery Planning Team.

Public consultations on what were misleadingly described as "Species At Risk Act Recovery Plans" for Sakinaw Lake and Cultus Lake Sockeye began on October 4, and were to continue to November 22. The consultations were grossly inadequate. Also on the agenda for these meetings were recovery plans for Interior Fraser coho, DFO's "Rockfish and Lingcod Sustainability Strategy" and recovery plans for a variety of other at-risk species such as the harbour porpoise and Steller's sea lion.

What is even more disturbing is that Ministers Regan and Dion made their decision to withhold SARA's protections from Cultus and Sakinaw sockeye while these public consultation sessions were still going on.

The federal decisions were announced less than three weeks after the meetings began, and a month before they were to conclude.

Fisheries and Oceans Canada officials argue that SARA listing is unnecessary because the department is prepared to implement its own recovery plans. Unfortunately, DFO's recent conduct shows that it cannot or will not live up to its commitments; and is incapable of meeting its own conservation objectives for B.C.'s precious salmon heritage.

This is not just what "environmentalists" think. Three auditors-general, and DFO's own biologists, say DFO is not up to the task of protecting endangered salmon.

On October 27, Canada's auditor-general, along with the auditors-general of British Columbia and New Brunswick, tabled reports declaring DFO incapable of protecting salmon, on both coasts.

Sheila Fraser, Canada's auditor-general, declared that DFO has failed to respond to repeated warnings from the auditor-general's office over the past several years. DFO does not even have a basic policy for the protection of wild salmon, on either coast.

Fraser's comments were echoed by the findings of B.C. auditor-general Wayne Strelieff, who observed that Ottawa's responsibility for protecting salmon habitat is not being shouldered adequately by either the federal or provincial governments. Both governments are doing a poor job. "The findings of the audit concern me," Strelieff noted. "Existing provincial legislation and regulations do not provide adequate protection for salmon habitat, because some key provisions are either not in force or not being acted on."

All three auditors-general found major gaps between jurisdictions on both coasts with respect to protecting wild salmon from the potentially adverse affects of salmon farms.

Significantly, in their report to COSEWIC urging a declaration that Sakinaw sockeye required an "emergency" listing, DFO's own biologists said that Sakinaw sockeye "lack protection from habitat loss and overfishing" under DFO's authority.

Commercial extinction faces Fraser Sockeye's entire 2004 cycle-year:

A disaster of epochal proportions occurred in the management of Fraser River sockeye fisheries in 2004. "Commercial extinction" may well have befallen the entire 2004 cycle year (2008, 2012, 2016, etc.), perhaps for only one or two generations, but perhaps forever. Only about 200,000 sockeye survived to spawn above the Fraser canyon, representing a 95 per cent loss of total estimated returns. DFO's management regime resulted in commercial fisheries that harvested roughly a million sockeye over the planned commercial allocation; About 1.8 million sockeye are "unaccounted for." The 2004 season resulted in the lowest sockeye spawning returns to the Fraser River since 1939.

As for DFO's capacity to conserve and restore Cultus Lake sockeye on its own, without applying SARA's legal protections, one only has to review DFO's recent record. In each of the past three years, fisheries authorized by DFO exceeded the department's own harvest-rate ceiling for Cultus sockeye.

In 2002, after COSEWIC initially declared Cultus sockeye endangered, DFO established a 15-per-cent harvest rate ceiling on all Late Run sockeye, including Cultus. DFO's own post-season estimate was that in fact 17.5 per cent of returning Cultus sockeye were harvested. In 2003, with a 15 per cent harvest rate ceiling, the actual harvest rate ended up being roughly 30 per cent. In 2004, with a 12 per cent harvest rate ceiling, the resulting fisheries ended up taking at least 17.5 per cent of returning Cultus sockeye.

DFO fisheries managers defy COSEWIC, B.C. government, on coho and steelhead conservation:

On October 20, DFO authorized a completely unnecessary gillnet fishery for chum salmon in the Fraser River, presenting grave threats to imperilled steelhead and coho runs that co-migrate with the low-value chum. The fisheries were authorized in spite of alternative "live-capture" fishing proposals, involving beach seines, traps and weirs, proposed by First Nations, commercial fishermen, and conservation groups.

Interior Fraser coho, which are facing a "serious risk of extinction," according to COSEWIC, have declined in abundance by 90 per cent over the past few decades. Thompson steelhead, under provincial jurisdiction, have suffered similar declines. The 2004 steelhead returns to the Thompson River were expected to be the second-lowest in a quarter century. The situation was so grave this year that the B.C. government, supported by anglers, First Nations and conservation groups, went so far as to ban catch-and-release fishing by anglers on the Thompson River.

The result was a pittance to commercial fishermen: a mere 37,821 chum, worth as little as 10 cents a pound, in some cases not enough to cover fuel costs. The October 20 fishery resulted in the incidental catch of at least 47 steelhead and 1,831 coho.

Key Sources:

- Cultus Lake Sockeye Recovery Planning Process – Report of the Stock Assessment and Fisheries Management Working Group, 2002
- Status of Sakinaw Lake Sockeye Salmon (*Oncorhynchus nerka*), Canadian Science Advisory Secretariat Research Document 2002/088; Clyde Murray and Chris Wood.
- B.C. Fisheries and Aquaculture Sector report, British Columbia Ministry of Finance and Corporate Relations, February, 2000.
- Status of Anadromous Trout in British Columbia and the Yukon, in Fisheries, American Fisheries Society, October, 1996; Tim Slaney et. al.
- The 1994 Fraser River sockeye salmon (*Oncorhynchus nerka*): Escapement. Canadian Technical Report of fisheries and Aquatic Sciences 2201; Neil Schubert, 1998.