



WATERSHED TALK

NEWSLETTER

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2019 STEELHEAD MANAGEMENT EDITION

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On July 11, 2019 the Federal Cabinet decided to not list either Thompson and Chilcotin Steelhead, jointly referred to as Interior Fraser Steelhead (IFS) on the Species At Risk Act (SARA) as Endangered under the Emergency Listing process. Instead the Federal Government has announced a joint Action Plan to protect IFS. The Action Plan covers three overarching topics: watershed management, fisheries management, and supplementation & predation. It should be noted that not listing IFS as Endangered on the SARA means that there is no additional legal protection to IFS from the Species At Risk Act.

As many First Nations have been involved in the Emergency Listing process for Thompson and Chilcotin Steelhead, it was suggested that a special edition of the Watershed Talk specific to the recent management changes regarding Interior Fraser Steelhead and process that inform those management changes be produced. FRAFS Biologists were involved in some of the technical aspects of the Emergency Listing Process for Interior Fraser Steelhead, specifically as peer reviewers on the Recovery Potential Assessment. This edition of the Watershed Talk will review the recent management actions, and the differences between the three recent management regimes for Interior Fraser Steelhead, up to management actions for 2019.

First Nations have been concerned with the declines long before the Emergency Listing, closure to the FSC fishery for Interior Fraser steelhead fishery happened decades ago. Governmental concern for Thompson Steelhead was initiated in 1990, with the development of the Thompson Steelhead Technical Subcommittee, which described the decline and presented the potential management tools to support recovery. Declining escapement due to reduced productivity was identified as one of the driving factors to the decline, along with a variety of other factors further impacting the species (Levy, 2014). There is a substantial and complicated history to Interior Fraser Steelhead management, which should be noted but will not be covered here.

The decline of Thompson and Chilcotin Steelhead (IFS) has continued since the 1990s, with the escapement and productivity estimates continuing to decline. Although the estimates of escapement from 2018 are a slight increase from 2017, the adult returns of Steelhead are still under the Extreme Conservation Concern benchmark used by the Province.

Interior Fraser Steelhead is a particularly complicated salmonid due to plastic life histories. Steelhead are the anadromous life history of Rainbow Trout and the two life histories are able to interbreed and generate both life histories. There is some information as to the dynamics of heritability of life histories in other watersheds, but not a good understanding of how this is realized for Thompson and Chilcotin populations. Additionally, they can be iteroparous (spawning more than once), and their age-at-maturity is variable between 2-4 years in freshwater and 2-3 years in the ocean. Coupling the complicated life histories, and the naturally small population sizes, characterizing encounters of IFS in salmon fisheries is difficult.

We will summarize the management actions for the 3 recent management regimes, associated with recent changes to Interior Fraser Steelhead management: Pre-2018, 2018, and 2019 Onward.

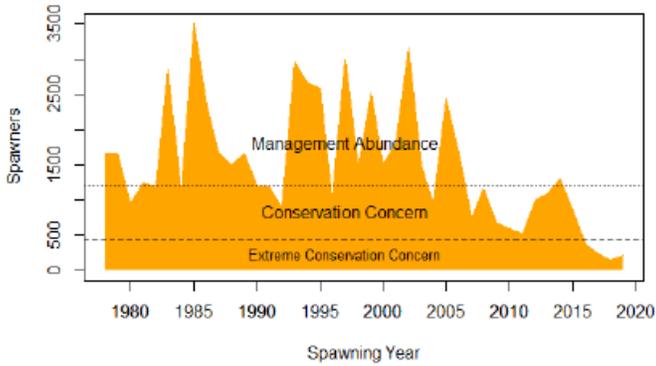


Figure 1. The estimated spawning abundances of Thompson River steelhead in relation to conservation reference points.

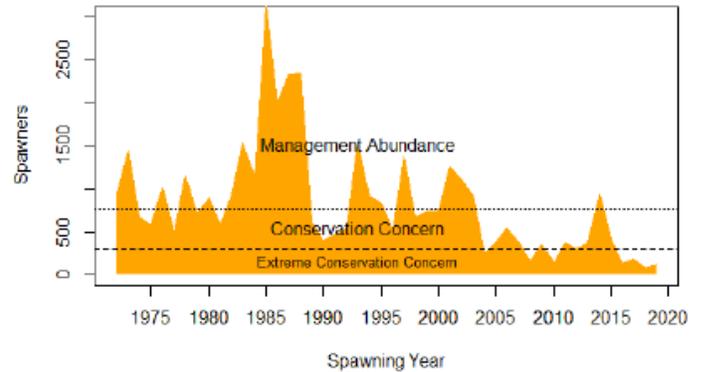


Figure 2. The estimated spawning abundances of Chilcotin River steelhead in relation to conservation reference points.

Pre-2018

DFO management of Interior Fraser Steelhead was described as a “protection of 80% of the IFS return with a high degree of certainty” from in-river commercial gillnet fisheries. The pre-2018 fishery management actions were not accounting for IFS impacts in a holistic manner, only in-river commercial salmon fishery impacts were actively managed to reduce impacts on IFS.

The main management tool used to protect IFR steelhead from in-river commercial gillnet fisheries was to allow only a small window for chum fisheries such that 80% of the steelhead run can migrate through the fishing areas without being intercepted in those fisheries (Hawkshaw, 2015). In order to manage commercial gillnet fisheries to protect 80% of IFS with a high degree of certainty DFO developed an exposure model to plan fisheries. The model assumes median run timing, and run duration for IFS through the Lower Fraser based on historic encounters with Steelhead in Lower Fraser commercial fisheries. Using historic data, DFO identifies dates for the small window of commercial fisheries that would not expose 80% of the IFS run to commercial fisheries, the window for fisheries is usually identified on the last week of October.

The DFO IFS management strategy in salmon fisheries was not accounting for potential encounters in marine commercial fisheries, marine and in-river recreational fisheries and marine and in-river FSC fisheries. The Pre-2018 management regime was not managing for impacts to IFS from any of these sources and associated mortality.

IFS management only considered limiting exposure to in-river commercial gillnet fisheries. It has been noted that these fishery management measures have resulted in reducing steelhead encounters from in-river commercial gillnet fisheries. However, mortality from bycatch in all the other fisheries with potential encounters was ignored. The challenge when dealing with stocks like IFS is their naturally small run sizes. Small run sizes make it difficult to produce estimates of encounters in salmon fisheries. Specifically in the case of IFS where Fraser chum returns are over a million and we must identify <1000 comigrating IFS it is a challenge to even enumerate the encounters. Even when abundances of IFS were high, they were rare encounters in fisheries.

When abundances of IFS are extremely low the actual encounter rate in fisheries is extremely low. To address this issue DFO used the exposure model approach that estimates return timing for IFS and identifies a window when fishing can occur to reduce exposure of the IFS run to fisheries, as reducing actual encounters is very difficult to characterize.

2018: Emergency Assessment and Emergency Listing SARA Process

Based on public outcry an Emergency Assessment process was implemented. COSEWIC initiated the Emergency Assessment, to determine whether or not there is an “immediate threat” to the species, for IFS this was finished on January 10, 2018. The determination of the COSEWIC report was there was an immediate threat to the species and they were designated as Endangered.

Once the Emergency Assessment process is completed and COSEWIC designates a species “Endangered” from the Emergency Assessment, the SARA Emergency Listing process starts which is lead by DFO. The Emergency Listing process develops abbreviated documents and skips other documents compared to a regular SARA Listing process. For IFS, the Recovery Potential Assessment (RPA) is undertaken but with an abbreviated list of elements compared to a regular SARA listing RPA in order to expedite the process. The other documents that are usually developed for a SARA listing decision are not developed during the Emergency Listing process (Management Strategy, Socio-Economic Analysis).

Based on the determination of the COSEWIC Emergency Assessment, and initiation of the SARA Emergency Listing processes, DFO changed the IFS management regime for 2018 compared to previous years. The management regime was changed to a 4 week window closure, during which “most chum-directed fisheries would be closed in the marine approach areas and within the Fraser River”. The marine approach areas also have the 4 week window closure applied. The fisheries where the window closure was applied: marine commercial gillnet, Area 29 commercial purse seine, in-river commercial gillnet, in-river beach seine EO, and in-river recreational.

Some chum fisheries were excluded from the closure, instead alternate management actions were put in place and in others no action was taken. Johnstone Strait troll, marine recreational, and marine FSC fisheries continued as normal. Johnstone Strait purse seine fisheries were open with additional observer coverage, but no restriction in fishing time or effort. Lower Fraser FSC fisheries were heavily restricted, a reduction in fishing time of nearly 75% during the closure. There was no action taken in the marine recreational salmon fishery or the marine FSC fishery.

Despite DFO communicating the management regime as a window closure, many chum fisheries which could encounter IFS were allowed to continue. In some cases, commercial fisheries that have recorded encounters with IFS were allowed to continue with similar fishing patterns as previous. Concerns regarding this management regime were raised with DFO by First Nations, specifically the concerns about conservation of IFS and priority access for First Nations FSC fisheries.

2019 Onward: The Steelhead Action Plan and SARA listing

The decision by the Government of Canada on the Emergency Listing under the SARA for IFS was to not list. The decision was based on a “determination that an emergency listing would not produce the best ecological, social and economic outcomes relative to a comprehensive, long-term collaborative action plan with British Columbia” (Canada, 2019).

The Action Plan for IFS describes three overarching management measures: Watershed management, Fisheries management and Supplementation & predation. The goal is to develop a collaborative action plan between DFO and the Province to protect and rebuild IFS. The Government of Canada specifically identifies the significant impact of Listing IFS as Endangered on Indigenous communities and recreational and commercial salmon fisheries.

The fisheries management regime that results from the Action Plan is an extension to the window closure implemented in 2018. For 2019 and onward, the window closure management actions will be substantially expanded in duration and fisheries affected. For in-river FSC fisheries and commercial troll fisheries the window closure will last 27 days. Commercial gillnet and seine fisheries, and in-river recreational fisheries will have a 42 day window closure. Marine FSC and recreational fisheries will not be affected by the proposed window closure for IFS. The window closure for 2019 and onward is a closure of fisheries listed, instead of changes to licence conditions for some fisheries which occurred in 2018.

The underlying data that assumes migration timing for the application of the window closure remains the same between all 3 management regimes. The difference is how DFO is considering impacts from various chum fisheries on IFS between all 3 management regimes. As more scrutiny is applied to IFS, the management restrictions have expanded and become more restrictive in potential impacts from salmon fisheries on IFS. The management regimes have become more strict regarding

impacts from chum fisheries to IFS, but there is still potential impact to IFS from marine fisheries that are licenced to continue through the window closure. First Nations have continued to voice concerns regarding the consideration of Priority Access in all 3 management regimes, specifically in the 2019 and onward regime the allowance for continuation of the marine recreational fishery through the window closure.

Looking forward, IFS is on the schedule for COSEWIC for complete investigation on the conservation status of the two populations (Thompson and Chilcotin). Now that the Emergency Assessment/Listing process has completed, the regular Listing process for IFS will continue. This differs from the Emergency Assessment/Listing process because the complete list of documents will be developed and consulted on. The calendar for completing the regular COSEWIC Assessment of IFS is April 2020, and if they are still determined to be Endangered then the regular SARA Listing process will begin.

Steelhead Management Action Summary: Details of the management actions are summarized in the Southern Salmon IFMPs (2017-2018, 2018-2019, and 2019-2020).

	Pre-2018	2018	2019 Onward
Marine FSC	No restrictions	No restrictions	No restrictions
Lower Fraser FSC	No restrictions	Limit fishery exposure	No fishing window closure
Interior FSC	No fishing	No fishing window closure	No fishing window closure
Marine Recreational	No restrictions	No restrictions	No restrictions
In-river Recreational	No restrictions	No fishing window closure	No fishing window closure
Marine Commercial	Limit fishery exposure	Limit fishery exposure	No fishing window closure
In-river Commercial	Limit fishery exposure	No fishing window closure	No fishing window closure

References:

Levy, D.A. and E. Parkinson. 2014. Independent review of the science and management of Thompson River steelhead. Prepared for Thompson Steelhead Technical Subcommittee c/o Cook's Ferry Indian Band, Spences Bridge, BC. 104p.

Canada, 2019. Backgrounder: The Steelhead Action Plan. <https://www.canada.ca/en/fisheries-oceans/news/2019/07/backgrounder-government-of-canada-and-province-of-british-columbia-partner-to-take-bold-action-to-protect-steelhead-trout.html>

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