

1. How are SARA listing decisions made?
2. Example of Thompson and Chilcotin Rivers Steelhead Trout (TCS)

Eric B. Taylor, UBC

1.1 To “list” a species under the federal *Species at Risk Act* means that: (i) it is added to the [official list of species](#) for which legal prohibitions against killing or harming that species or damaging its critical habitat on federal lands, oceans, and inland waters apply, and (ii) recovery plans must be initiated.

How are SARA species listing decisions made after COSEWIC assesses a species as Extirpated (no-longer existing in Canada), Endangered, or Threatened (i.e., how do they decide to add a species to the official list of species at risk of extinction from Canada, or not)?

First, the decisions are officially made by the Governor-in-Council (GIC), a special sub-committee of the federal cabinet. The decisions regarding SARA are made after a recommendation (and the rationale for such recommendations) by the Minister of Environment and Climate Change is made to the GIC. For fishes, such a recommendation is effectively made by the Minister of Fisheries and Oceans whose department runs the various advisory and consultation processes that inform the recommendation to the Minister of ECC and the GIC decision.

Second, the recommendation by the Minister(s) is informed by: (i) a recovery potential assessment (RPA), (ii) a regulatory impact analysis (RIA, basically a socio-economic analysis of listing a species), and (iii) a public consultation process.

1.1.1 Recovery Potential Assessment. This exercise basically generates a technical, science-based [document](#) that quantifies as best as possible the likelihood of recovery of a species. There is not much point in listing a species under SARA if all available information suggests that, despite prohibitions under SARA and recovery actions, the actual likelihood of recovery is negligible (say, in the extreme, if habitat for the species no longer exists in Canada).

1.1.2 Regulatory Impact Analysis. See section 6.1.2 [HERE](#). This stage has many components of which key ones include to: “analyze the benefits and costs of the regulatory change” (i.e., a decision to list a species on SARA), and “recommend an option [i.e., list or not list] that maximizes net benefits to Canadians while considering administrative burden, impacts on small businesses, impacts on the environment of Canadians and other considerations”.

Essentially, economic analyses are used to assess what the costs of listing or the benefits of listing will be to the greatest range of Canadians. Clearly, and in the extreme, if listing a species cost billions of dollars in direct (recovery actions) or indirect costs (lost jobs) the chances of a species getting listed on SARA would be slim indeed. This process, again, could take months to a year or more to complete depending on the complexity of the case (say for commercially fished species).

- 1.1.3** A third process to inform listing decisions is the **public consultation process**. These consultations may take the form of travelling ‘town hall’-like meetings or surveys on the internet, workshops with targeted stakeholder, etc and may take from 2-3 months to a year or more to complete. See [HERE](#) for more information and examples.
- 1.1.4** After all this information is collected a “Draft Listing Advise” document is developed by DFO that once approved is passed on to the Minister of Environment and Climate Change (ECC). This latter Minister then examines the advice and then (presumably) goes through some internal process to agree or disagree with the DFO advise before making a final recommendation to the GIC. Once the Minister makes a recommendation to GIC, the latter has **nine months** to make a listing decision. If no decision is made within that timeline, the species in question is **automatically** added to the [Species at Risk list](#). Critically, however, there is **no legislated time limit** within which the Minister of ECC must make a species listing recommendation to GIC. This means that some species have sat waiting **10 years** or more after a COSEWIC assessment for a decision by GIC to be made.

For a summary of the listing process used by DFO see [HERE](#).

2. The listing decision for Thompson and Chilcotin and Rivers Steelhead Trout (TCS)

COSEWIC conducted an emergency assessment of TCS in January 2018 and recommended an Endangered listing for TCS to the Minister of ECC in February 2018.

- 2.1** To inform the eventual listing decision NOT to the list TCS (see below), DFO led an RPA. This process led to a [document](#) that basically concluded that *recovery to specified spawning fish numbers* (between 500-900 fish) would only exceed a probability of 0.70 if population productivity levels (i.e., the number of new fish produced per spawner) doubled over the next 5-10 years. In general, the report was rather pessimistic in terms of the potential for recovery even if directed and by-catch fishing was reduced to zero. Thus, even **before** considering any economic costs of listing, the biological rationale for listing appeared weak.

The RPA, however, has been the subject of [considerable criticism](#) given that: (i) the consensus document that (importantly) was **externally reviewed** by many authorities appeared to have been subsequently altered **unilaterally by DFO** without consulting all authors of the report or being subject to additional external review, and (ii) these changes **diminished the impact of by-catch in commercial net fisheries for salmon** on steelhead trout. Consequently, the basic conclusions of the RPA (low potential for recovery) that were used to inform the subsequent cost-benefit analysis are, at the very least, problematic.

- 2.2** The Regulatory Impact Analysis (RIA). The next stage was to conduct a cost-benefit analysis (CBA) of listing TCS under SARA. The CBA was conducted by the Economics branch of DFO under several scenarios of potential recovery as detailed in the RPA

described above and the different scenarios of listing or not listing. I am still trying to understand the process used to construct and review the CBA (if indeed it was reviewed externally), but it can be examined [HERE](#).

Essentially, the CBA concluded that the cost to Canadians of listing TCS (i.e., from lost fishing opportunities of all kinds) would be equivalent to an average of **\$18-\$24 million annually for 20 years**. For some context, the total wholesale value of the commercial wild salmon fishery in BC is typically between **\$150 and \$250 million annually**. Recreational fishing for TCS has been closed completely for the last two years so the economic costs of NOT fishing recreationally should not have been included because fishing is already prohibited by the province of BC.

Unfortunately, because of the inherent uncertainty of recovery (it is a biological system after all), the CBA concluded that direct benefits value of listing could not be estimated which seems like a simplistic conclusion. In other words, there was **no direct monetary value** of listing to compare to the costs of \$18-24 million/year. Rather, the CBA used a “willingness to pay” (WTP) by Canadians scenario estimated based on studies on conservation of steelhead trout in the US. Here, estimated WTP was CAD \$69.4 to \$79.6 per household (2016 dollars), **far in excess** of the “break even” value of only **~\$2 per household**. Thus, the CBA concluded over that the **“benefits of recovery, if achieved, could potentially be greater than costs.”**

A closer read, however, suggests the following. The estimated “costs” of listing are all expressed in terms of “millions” of dollars, yet the benefits as estimated by WTP are expressed a mere dollars per household. A **cost of \$18-\$24 million per year** might seem overwhelmingly vast compared to **benefits of ~\$75 per household**. Footnote 7 of the RIA statement, however, states that as of 2016 there were some 14,072,080 households in Canada. So, the product of say \$74/household (the midpoint of \$69-\$79 per household) x 14,072,080 households is a staggering **\$1.04 billion potential benefit of listing!** The summary statement that the “benefits of recovery, if achieved, could potentially be greater than costs” seems, therefore, a tad understated!

At this point, listing of TCS was looking bleak; the RPA basically concluded (arguably overly pessimistically) that recovery to the predetermined number of spawners indicated above even with no commercial by-catch was unlikely, and the costs of listing could be as high as \$24 million annually. The logic not to list seems clear; why incur the substantial economic costs of listing when recovery associated with listing is unlikely and the monetary benefits of listing are uncertain?

3. **Public consultations.** A request by myself to view the details of the public comments submitted on listing TCS has not been answered. So, we must rely on the summary statement contained in the rationale not to list TCS posted by the Minister of ECC. **The summary can be viewed [HERE](#)** – scroll down to the bottom. The public comments were

described as “mixed” and certainly not uniformly, or even in the majority, in favour of listing TCS. Somewhat perplexingly, the summary states that: “The Province of British Columbia has not provided an official position on listing; they have, however, indicated **concerns** (my emphasis) with the expected impacts associated with listing.”

4. **Three strikes against listing TCS under SARA.** When all the above was considered, the Minister of ECC decided **NOT** to list TCS in mid 2019 and published the rationale, as required by law, [HERE](#). Again, the logic seems clear - why incur the substantial economic costs of listing (the **RIA**) when recovery associated with listing is unlikely (the **RPA**) and the public and province seem ambiguous about listing (**Public consultations**)?
5. **Not listing TCS** – was it the right or justifiable decision?

In my view, the decision not to list TCS under SARA is an unfortunate and problematic one. I feel this way for four reasons:

5.1 Unresolved problems with the RPA. The RPA document that was eventually published was changed by DFO in a manner that was not agreed upon by the larger team that developed the original document. As a **science** document, this is simply indefensible. No author of a scientific paper in the literature would ever change an accepted publication without prior approval of all authors. Thus, the process to produce the RPA was fundamentally flawed and this flawed document informed subsequent steps in the listing decision. Finally, the RPA emphasizes “recovery” to specific numbers of fish spawning as a response to management actions (e.g., closing fisheries). This seems overly restrictive. The probability of *growth* of the populations (which by definition reduces risk of extinction) under management fishing closures should be the goal. Surely a *doubling* of current population sizes (134 in TRS and 62 in CRS steelhead), even if those do not yet approach the population size targets of ~500-900, under fishing closures would be a conservation success and set the stage for further increases.

5.2 Problems with the RIA. First, as described above the RIA was informed by a flawed RPA. Second, recreational fishing for steelhead has been closed independently of any SARA listing so costs of closing an **already closed** fishery should, arguably, not be added to the costs of a SARA listing. Third, the RIA used a **discount rate of 7%** applied to the costs of listed over 20 years. The 7% value is mandated by the federal government and is also typically used by the US government in cost-benefit analyses. That said, cost-benefit analyses for environmental assessments are typically lower, from [2-5%](#), which means the costs over the 20 years would be lower than the RIA forecast. This is especially important because the costs of listing will be incurred immediately (lost fishing opportunities), but the benefits will accrue over a longer time frame). Further, sensitivity analysis (employing different discount rates) or “intergenerational discounting” where the different between immediate costs and future benefits are explicitly accounted for (see [Sumaila 2004](#)) would have better accounted for the uncertainty inherent in CBAs. A good discussion of discounting can be found [HERE](#). It also seems to me that the RIA

was written in a way, perhaps unintentionally, to **undervalue the benefits** of listing steelhead trout under SARA.

5.3 Vague and unquantified public consultations. Anonymized public comments are not available for viewing and requests to view them were unanswered. It is, therefore, difficult to assess their value in justifying the decision not to list. The [summary text](#) in ECC's rationale not to list TCS, however, was longer than the summary for "Science Advice". Some of the consultations seem to involve comments that addressed important issues peripheral to the listing decision *per se*, i.e., some First Nations did not opine on the proposed listing itself, but rather commented on the process and the more general potential infringement of Indigenous rights.

5.4 What's the alternative: DFO, the *Fisheries Act* and the Provincial Framework for Steelhead Management in BC?

Although not an official part of the rationale for not listing TCS under SARA, unofficially I have heard many folks state that listing a species under SARA is not necessary because Pacific salmon and steelhead trout can be managed from a conservation perspective under existing legislation such as the [Fisheries Act](#). In fact, in the reasons for not listing TCS, ECC cites existing federal and provincial management regimes and the *Fisheries Act* as [mitigating factors](#).

This thinking is problematic for at least two reasons. First, the existing management regime under DFO and the province is the very one under which the current Endangered assessment for TCS occurred. Surely it is time for a new approach. Second, the *Fisheries Act* was **not designed** to deal with issue of extirpation, or endangerment. In terms of depleted populations, the act only speaks of measures to "rebuild the stock" with no **legislated** explicit steps or timelines. The [Southern Pacific Salmon Integrated Fisheries Management Plan](#) of DFO (all 561 pages(!) of it) suffers from the same limitations. By contrast, SARA has legislated prohibitions (to not kill, harm, or harass a species at risk or damage its habitat), and mandated steps for recovery (Recovery Plans, Action Plans) with **specific timeframes** and **public reporting** requirements (on the SARA Public Registry). In effect, the steps are more proscriptive and the Minister and ECC Canada are more easily accountable. The non-listing rationale also cites the [Provincial Framework for Management of Steelhead Trout in British Columbia](#) as part of an existing process to help TCS. Unfortunately, the document is a very general one and devotes only a single paragraph in 37 pages to "Strategic Actions" to promote sustainable management of steelhead trout, none of which have any specific targets or measures of effectiveness. It has no legislated timelines or reporting requirements to help the public easily keep track of progress or lack thereof. It, like the *Fisheries Act*, is not a document that outlines specific plans or actions to recover **endangered species** like TCS. That is what SARA is for and that, fundamentally, is why the rationale presented by the Minister of ECC for the decision not to list TCS is weak.

Finally, the government's rationale for not listing TCS under SARA (published [HERE](#)) includes the statement (under "Conservation outcomes") that:

"The Government of Canada has determined that the application of the prohibitions that would follow the listing of Chilcotin and Thompson River Steelhead would not provide for the best conservation outcome for these wildlife species. As the protections would be prohibition based, they would *not lead to proactive measures* (emphasis mine) being taken in a timely manner that would promote increases in these wildlife species' productivity."

This statement is simply not true or, at best is disingenuous. A SARA listing for TCS is *not only* about prohibitions against killing and harming (e.g., through commercial by-catch) as the above statement implies. A SARA listing of Endangered requires, by law, the development of a detailed "Recovery Strategy" within one year of listing and an "Action Plan" (how to implement the Recovery Strategy) both of which, by definition, are "proactive". Further, the ECC Minister is required, again by law, to report on the implementation of the Recovery Plan, and its outcomes publicly, every 5 years.

In the end, the only thing that matters for TCS is the number of fish that end up on the spawning grounds. We shall see how the decision not to list TCS under SARA and the alternative measures proposed by DFO and the province described above fair over the future in terms of reversing the steeply declining numbers.

To come full circle, one can see that the assessment and listing processes involve many moving parts. It is easy for even the specialist to get lost amongst all the documents, consultations, calculations, websites, etc. It is the purpose of this document and the accompanying [website](#) to try and provide a digestible guide to how it all works. It is my hope that this allows for clearer public accountability of the officials who are responsible for the conservation of our fantastic salmon and steelhead trout.