

Management of Interior Fraser Steelhead

Robert Bison

Province of British Columbia

for

Pacific States Marine Fisheries Commission

Pacific Coast Steelhead Management Meeting

March 15, 2023

Session Four (Part 2: Case Studies)

Interior Fraser Steelhead spawn and reside as juveniles in watersheds of the Fraser River that are located upstream of the Coast Mountain Range and downstream of large interior lakes. They are late-run summer steelhead, comprised of 10 spatially discrete spawning populations, collectively arriving to the mouth of the Fraser River from about late August to late November. In recent decades, fisheries that have materially exploited these steelhead include salmon purse-seine fisheries along the coast, salmon gillnet fisheries along the coast and in the Fraser River, sport fisheries located inland, and First Nation fishing targeted steelhead also located inland, occurring mostly where steelhead overwinter. Over this period, exploitation rates have been dominated by exploitation in salmon fisheries, not fisheries targeting steelhead. Interior Fraser Steelhead are currently in a state of extremely low abundance, classified as Extreme Conservation Concern by a provincial classification, and Endangered by national classification (COSEWIC). Among a list of potential causes of decline examined to date, predation ranks highest and freshwater conditions rank lowest. The statutory obligation to conserve native steelhead rests with the Federal Government of Canada while the statutory obligation to provide angling opportunity for steelhead (and species other than salmon, and in non-tidal waters) is delegated from the Federal government to a Provincial official (Director of Fish & Wildlife). Conservation of wild steelhead populations takes priority over recreational opportunity, stated in The British Columbia Freshwater Fisheries Program Plan (Provincial) and the Provincial Framework for Steelhead Management in British Columbia. By design, steelhead management decisions are organized according to abundance classifications of Extreme Conservation Concern, Conservation Concern, and Routine Management. The delineation between Conservation Concern and Routine Management is Smsy and the delineation between Extreme Conservation Concern and Conservation Concern is the abundance below which the stock is unable to recover to Smsy in one generation under average survival conditions. The analytic approach to implementing this abundance-based framework for Interior Fraser Steelhead has involved continuous spawner abundance monitoring, stock reconstruction and estimation of pre-fishery abundance, followed by the estimation of adult recruitment, stock recruitment analysis, the estimation of abundance reference points, and the continuous monitoring of abundance status relative to reference points. A noteworthy *overall* challenge has been the estimation of exploitation rate in salmon fisheries.

A noteworthy *recent* challenge has been the accuracy and precision of spawning population estimates when abundance is extremely low which, if unsuccessfully met could lead to an impairment in our ability to estimate the degree by which populations may persist. Interior Fraser Steelhead have been classed an Extreme Conservation Concern since 2016. Current goals and objectives across three levels of management jurisdiction (international, federal, and provincial), imply an unquantified, but relatively fixed, exploitation rate objective in the management of steelhead bycatch in salmon fisheries by way of moving “window closures”. Provincially, sport fisheries on Interior Fraser Steelhead remain closed. Interior First Nations that have targeted Interior Fraser Steelhead in the past are also closed, as declared by local councils. If abundance classification improves, the strategy and policy of wild catch & release when stocks exceed a classification of Extreme Conservation Concern implies a relatively fixed sport fishing exploitation rate objective across the two higher abundance classifications, amounting to a low single-digit exploitation rate in the case of Interior Fraser Steelhead.