

# Steelhead Stock Status in British Columbia

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for

Pacific States Marine Fisheries Commission

Pacific Coast Steelhead Management Meeting

March 14, 2023

The abundance status of steelhead varies regionally within British Columbia. In southern BC, most steelhead populations are in a state of extremely low abundance, classified as “Extreme Conservation Concern”, which is an adult spawning abundance less than about 10% of the asymptotic, time-invariant carrying capacity, estimated across available monitoring time frames. In northern BC, most steelhead populations appear to be in a more abundant state, classified in recent years as either “Conservation Concern”, which is an abundance between about 10% of carrying capacity and  $S_{msy}$  (often at about 30% of carrying capacity), or classified as “Routine Management”, which is an abundance exceeding  $S_{msy}$ . In contrast, southern BC populations of wild non-anadromous *Oncorhynchus mykiss* are in comparatively abundant and stable state relative to their anadromous conspecifics. Dramatic non-stationarity in stock recruitment relationships is observed over the available monitoring timeframes, which are now 4 to 5 decades long. Unfished equilibrium stock sizes have progressively declined from the 1970’s to present, from low thousands to low hundreds in monitored stocks. Observations of survival at low stock sizes are accumulating and if estimated accurately and precisely enough will inform on persistence, albeit in retrospect. Decline in smolt to adult survival has been the cause of declining abundance status in southern BC. To date, two “designatable” conservation units (DU’s) have been formally identified and assessed in BC; the Thompson DU and the Chilcotin DU. Both have been classified as endangered, but neither have been listed to date under Canada’s endangered species legislation (Species at Risk Act, SARA).