
To: Water Committee

From: Jesse Montgomery, Division Manager, Environmental Management

Date: January 17, 2023 Meeting Date: February 8, 2023

Subject: **Watershed Fisheries Initiatives Annual Update**

RECOMMENDATION

That the Water Committee receive for information the report dated January 17, 2023, titled "Watershed Fisheries Initiatives Annual Update".

EXECUTIVE SUMMARY

Water Services, Liquid Waste Services, Regional Parks, and other Metro Vancouver departments collectively contribute to Pacific salmon conservation and restoration in the region. The Greater Vancouver Water District (GVWD) manages and participates in fisheries management and restoration initiatives both upstream and downstream of the dams that define the three water supply areas in the Capilano, Seymour and Coquitlam River Watersheds. The GVWD strives to ensure fisheries protection and enhancement initiatives are evaluated, planned, and implemented in a manner that consistently meets or exceeds the Capilano Seymour Joint Water Use Plan Provincial Order and all pertinent regulatory responsibilities.

PURPOSE

To provide the Committee with an annual update on fisheries initiatives and activities associated with the Capilano, Seymour, and Coquitlam River Watersheds.

BACKGROUND

To facilitate Metro Vancouver's commitment to protect and conserve fish populations while continuing to provide clean, safe drinking water, Metro Vancouver collaborates with Fisheries and Oceans Canada (DFO), Ministry of Water, Land and Resource Stewardship, Ministry of Forests, BC Hydro, First Nations and stewardship groups on various fish restoration initiatives in the water supply areas. The initiatives described in this report are based on many years of inter-agency collaboration and rigorous scientific assessment aimed at restoring or enhancing many of the Pacific salmon species that occur in the Capilano, Seymour, and Coquitlam watersheds, namely Coho Salmon, Pink Salmon, Chum Salmon, and Sockeye Salmon as well as steelhead and Cutthroat Trout.

With fisheries management initiatives wrapped up for 2022 and project updates now available, this report provides the Committee with an update on activities as identified in the Committee's 2023 Work Plan.

WATERSHED FISHERIES INITIATIVES

Capilano Watershed

DFO's Capilano River Hatchery is located immediately downstream of Cleveland Dam to supplement commercial and recreational fisheries and contribute to Pacific salmon restoration objectives. The

GVWD has a long-standing collaborative agreement to support aspects of hatchery operations. The hatchery is currently in the pre-construction phase of a comprehensive redevelopment of the 50-year-old facility. Staff are working with DFO to support this project, primarily in improvements of existing and new water supply configurations from GVWD infrastructure.

The hatchery annually transports up to 7,500 adult Coho Salmon plus surplus steelhead trout (averaging 30 adults) upstream of Cleveland Dam/Capilano Reservoir to spawn. Staff actively capture out-migrating juvenile salmon and trout (smolts) on an annual basis in an effort to improve fish survival rates downstream past Cleveland Dam. In 2022, staff successfully captured and transported 17,135 Coho Salmon and 225 steelhead trout smolts from upstream of the dam to the Capilano River Estuary. Smolt capture in 2022 was less than average; variability in fish capture numbers are typically attributed to dam operations and environmental factors such as spring flows and over-wintering success of juvenile salmon. The fall drought brought challenges with low river flows and staff worked collaboratively with DFO and Squamish Nation to provide dam releases which were successful in improving adult fish passage from the lower river to the Capilano River Hatchery.

The *Water Sustainability Act* Order for the Capilano Seymour Joint Water Use Plan (JWUP), issued by the province in January 2018, guides dam operations and fisheries management activities in Capilano and Seymour. The three monitoring studies required under the JWUP order have now been completed. Staff and consultants continue to work on implementing the study recommendations and looking for opportunities to minimize fisheries impacts and restore habitat.

Seymour Watershed

The Seymour Salmonid Society (SSS) operates the Seymour River Hatchery immediately downstream of Seymour Falls Dam. Hatchery operations are funded by DFO, Metro Vancouver, grants, and community sponsors. In September 2020, the GVWD Board approved renewal of the long-standing Contribution Agreement with the SSS, which provides \$125,000 in annual core funding through December 31, 2023. A renewal of this agreement for a further three-year term is anticipated to come to Committee later this year.

Adult Coho Salmon and steelhead trout returning to the Seymour River will either naturally spawn in the river downstream of the dam; be captured and transported to the hatchery for processing; or, as in accordance with a 2021 Board decision, moved to the Seymour River upstream of the dam for natural spawning. In 2022, 20 adult steelhead trout were released in the Seymour River upstream of the dam/reservoir in 2022, the first of that species since fish passage was blocked approximately 90 years ago. In addition, 40,000 Coho Salmon juveniles (fry) raised at the hatchery were transported upstream of Seymour Falls Dam, to rear in wild habitat and out-migrate to the ocean the following year.

Coquitlam Watershed

Staff continue to participate in the Kwikwetlem Sockeye Restoration Program (KSRP), in collaboration with BC Hydro, Kwikwetlem First Nation, local and senior government agencies, as well as community stewardship groups. Staff continue their work with the KSRP partnership to support the construction of BC Hydro's Coquitlam Sockeye Hatchery (commencing in Q1 2023) on

GVWD fee simple land and serviced from GVWD water supply infrastructure. This hatchery is anticipated to form a key aspect toward restoration of a Sockeye Salmon population, a critical cultural goal of the Kwikwetlem First Nation.

Coho Salmon continue to be captured in a trap downstream of the dam and transported upstream of Coquitlam Dam for natural spawning in reservoir tributaries. In 2022, 100 adults and 25,000 juveniles were released. All Sockeye captured in this trap are also transported over the dam and released in the lake. Unfortunately, only a single Sockeye Salmon adult was captured in 2022. Staff also work with BC Hydro personnel and their consultants in the assessment of fisheries aspects throughout the watershed.

10-YEAR SALMON ENHANCEMENT ACTION PLAN

Through 2023 – 2024, Metro Vancouver will be completing a 10-Year Salmon Enhancement Action Plan funded through the GVWD Sustainable Innovation Fund. This is a joint project between Water Services, Liquid Waste Services, Regional Parks and Regional Planning to review the state of salmon populations in Metro Vancouver and prioritize enhancement projects. Staff will be working with First Nations, member jurisdictions, and salmon enhancement organizations throughout the region to gather data and project ideas. Regular reporting on this project will occur through the Regional Planning Advisory Committee - Environment Subcommittee, the Climate Action Committee, and the Water Committee.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

The initiatives described in this report have been funded from the Watersheds and Environment Program budget as well as through partnerships with other organizations.

CONCLUSION

Metro Vancouver continues to proactively participate in a variety of meaningful fisheries initiatives both upstream and downstream of the dams that define the three water supply areas in the Capilano, Seymour and Coquitlam River Watersheds. Metro Vancouver ensures fisheries protection and enhancement initiatives are evaluated, planned and implemented in a manner which consistently meets or exceeds our regulatory requirements and its commitment to protect and conserve fish populations while continuing to provide clean, safe drinking water.

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