

To: Water Committee

From: Jesse Montgomery, Division Manager, Environmental Management

Date: January 25, 2024 Meeting Date: February 7, 2024

Subject: **Watershed Fisheries Initiatives Annual Update**

RECOMMENDATION

That the Water Committee receive for information the report dated January 25, 2024, titled “Watershed Fisheries Initiatives Annual Update”.

EXECUTIVE SUMMARY

Water Services, Liquid Waste Services, Regional Parks, and other Metro Vancouver teams at large 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 primary dams in each of the three water supply areas in the Capilano, Seymour, and Coquitlam River Watersheds. 2023 was a good year for adult Salmon return numbers aided with a fall drought ending sooner than in 2022. Two new water supply agreements were developed with BC Hydro for fisheries conservation efforts and Sockeye Salmon restoration at Coquitlam. Metro Vancouver strives to continually improve fisheries protection and enhancement initiatives for the recovery of Pacific Salmon populations while collaborating with stewardship groups, First Nations, and agencies under Provincial and Federal regulatory regimes.

PURPOSE

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

BACKGROUND

The Board, through its 2022 – 2026 Strategic Plan, is committed to “*Work with First Nations and fisheries agencies to support the restoration of fish populations in the water supply areas while maintaining the delivery of high quality water*”. The GVWD collaborates with First Nations, Fisheries and Oceans Canada (DFO), Ministry of Water, Land and Resource Stewardship, Ministry of Forests, BC Hydro, and stewardship groups on various fisheries restoration and conservation initiatives. The initiatives described in this report are typically based on inter-agency collaboration and scientific assessment aimed at restoring or enhancing many of the Pacific Salmon species that occur in the Capilano, Seymour, and Coquitlam River Watersheds, namely Coho Salmon, Pink Salmon, Chum Salmon, and Sockeye Salmon as well as Steelhead and Cutthroat Trout. Adult Salmon returns to their natal streams were generally strong in 2023. Project updates are now available for fisheries management initiatives undertaken in 2023, this report provides the Committee with an update on activities as identified in the Committee’s 2024 Q1 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 Federal Pacific Salmon restoration objectives. The GVWD has a long-standing collaborative agreement to support water supply aspects of hatchery operations. The hatchery is currently in the early 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 associated with GVWD infrastructure and property.

The hatchery annually transports up to 7,500 adult Coho Salmon plus surplus Steelhead Trout upstream of the Capilano Reservoir for spawning. Metro Vancouver Staff capture out-migrating juvenile Coho Salmon and Steelhead Trout (smolts) on an annual basis in an effort to improve fish survival rates downstream past Cleveland Dam. In 2023, staff successfully captured and transported 29,705 Coho Salmon and 503 Steelhead Trout smolts from upstream of the dam to the Capilano River Estuary at Burrard Inlet. Smolt capture numbers in 2023 were average, with inter-annual variability typically attributed to dam operations and environmental factors. Similar to the 2022 summer-fall drought, 2023 brought challenges with low river flows, impeding upstream adult salmon migration to the Capilano River Hatchery. Staff worked collaboratively with DFO and Skwxwú7mesh Úxwumixw (Squamish Nation) to provide a higher flow dam release in mid-summer which was successful in improving adult fish passage from the lower river to the hatchery. Drought conditions came to an end earlier in 2023 than in 2022 and fish returns to the hatchery were above average through the spawning season.

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 November 2023, the GVWD Board approved renewal of the long-standing Contribution Agreement with the SSS for 2024 – 2026. This annual funding provides the primary contribution for core operations, adjusted for inflation; \$153,500 in 2024; and \$156,500 in 2025; and \$160,000 in 2026. Metro Vancouver staff are continuing to work with the SSS on a License Agreement for the lands occupied by the Seymour River Hatchery infrastructure. This license agreement will be brought to the Committee for endorsement later in 2024.

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 moved to the Seymour River upstream of the dam for natural spawning. In 2023, 197 adult Coho Salmon were released in the Seymour River upstream of Seymour Falls Dam. In addition, 27,000 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 as one or two year olds.

Due to 2023 summer drought conditions and many hundreds of Pink Salmon isolated in downstream river reaches, staff worked in collaboration with DFO and First Nations to conduct a flow release from the dam in late summer to improve adult salmon upstream migration conditions.

Coquitlam Watershed

Staff continue to participate in the Kwikwetlem Sockeye Restoration Program (KSRP), in collaboration with BC Hydro, kʷikʷəłəm (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, anticipated to be complete in 2024. Staff worked with kʷikʷəłəm and BC Hydro consultants in fall 2023 to capture male Kokanee Salmon in Coquitlam Lake which can be used as spawners to supplement hatchery collection required in fall 2024 to get the facility started on its first generation of production. In 2023, GVWD signed a water supply agreement to provide raw (untreated) water to the hatchery facility. GVWD and BC Hydro also completed installation of a permanent cold water supply from the GVWD water main to BC Hydro's adult fish trap at the base of the Coquitlam Dam and signed an associated water supply agreement in late 2023.

10-YEAR SALMON ENHANCEMENT ACTION PLAN

Metro Vancouver has recently awarded expert fisheries consulting resources to commence a 10-Year Salmon Enhancement Action Plan, funded through the Water Sustainability Innovation Fund. This is a joint project between Water Services, Liquid Waste Services, Regional Parks and Regional Planning to review the state of Pacific Salmon populations in Metro Vancouver and prioritize enhancement projects. Initial engagement with First Nations has occurred and staff are planning workshops through 2024 to further engage First Nations, member jurisdictions, and Salmon enhancement organizations throughout the region to gather data and develop Salmon restoration action 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, the Water Sustainability Innovation Fund, as well as through partnerships with other organizations.

CONCLUSION

Metro Vancouver continues to proactively participate in Pacific Salmon 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 year 2023 was once again challenged by summer drought although fall rains returned and adult Salmon returns were generally good on the Capilano and Seymour River systems. Staff continue to collaborate with Provincial and Federal fisheries managers, First Nations and stewardship groups to troubleshoot and solve complex fisheries restoration matters. Metro Vancouver is committed to consistently meet or exceed regulatory requirements in the protection and restoration of fish populations while continuing to provide high quality drinking water.