

A Refuge in the City

During the mid 1980s while walking through a small linear park alongside Millstream Creek in Langford, I witnessed a couple of young boys fishing for and catching small trout. This piqued my interest and I started a concerted effort to make an inventory of trout habitat. With the help of another biologist, we determined that there was ample habitat and that it was being underutilized. This started a whole thought process that might eventually result in the introduction of juvenile coho salmon to this watershed. There were no salmon utilizing the stream because there were a number of waterfalls on the creek that prevented upstream access for spawning adults returning from their years of foraging at sea. However, this problem had been overcome in a couple of other local creeks either through the construction of fish ladders or by trapping the returning adult fish and physically transporting them over the barriers.

I had been working with a number of volunteers associated with salmon enhancement in the Goldstream River who, when approached, were keen to try and establish a self-sustaining run of coho salmon in Millstream Creek. So, with the help of our local Department of Fisheries (DFO) Community Advisor (CA), we secured the necessary permitting with federal and provincial fisheries agencies and achieved buy-in with property owners. The first juvenile coho salmon were introduced to the creek in the spring of 1993.

Fast forward to the fall of 1995 and lo and behold we received a report from a retired couple who, from their ringside condo on Price Bay adjacent to the outlet of Millstream Creek into salt water, were seeing schooling salmon gathering there. Shortly after their report, the fall rains began and the salmon started to arrive at the first set of waterfalls. We gathered together a number of volunteers who managed to trap 63 adult coho salmon and carry them over the falls to where they could spawn naturally. We relied on this system until 1998 when we constructed the first of many fish ways (ladders). Over the next few years and with considerable financial assistance from the City of Langford, the Goldstream volunteers were able to construct a total of five fish ladders. There remains the construction of two more of these ladders before we can say that the entire available habitat is open to spawning salmon.

Coincidentally with this construction, in the summer months the volunteers were also engaged in trapping and enumerating juvenile coho salmon in stream to determine the success of the previous year's spawn. These exercises were always successful which led to the conclusion that the work was going to eventually result in establishing a self-supporting salmon run. The volunteer-operated Goldstream Hatchery was still providing some juveniles to augment natural production.

While this type of enumeration is useful, it does not provide an absolute in terms of enumerating the total production of young salmon heading to sea. To learn this information meant the volunteers were going to have to install and operate a trap, which they did. This proved to be very successful. However, there were still gaps in information when high water levels made access to the trap in the creek difficult or downright dangerous. With the

technical support of DFO, the volunteers purchased and installed an in-stream, state of the art digital camera and recording device that was operated by remote motion sensors and recorded with great accuracy the movement of adults upstream and juveniles downstream. In utilizing this equipment we were able to get an accurate count of the number of returning adult coho salmon during the fall of '07. That count was 407 spawners which turned out to be about 100 coho shy of the total coho return for Goldstream River. It is interesting to note that following our experience with this type of technology, DFO has acquired the same hardware. We have also been able to witness a few sea run cutthroat trout starting to use the fish ladders. These are wild fish that are now taking advantage of habitat that was heretofore denied to them.

Future plans include continued monitoring of adult and juvenile salmon movement up and downstream. We need to construct two more fish ladders which will involve three more years' work and approximately \$50,000.00. Also we will be looking for opportunities to restore and enrich habitat as well as become involved in initiatives to protect what habitat we have for future generations of creatures (including humans) that rely on this marvelous creature for their physical and/or spiritual well-being.

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