

Restoration of a Channelized Salmonid Stream, Oullette Creek, British Columbia

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Abstract.—Oullette Creek, a second-order coastal stream, is located on the Sechelt Peninsula approximately 20 kilometers from Vancouver, British Columbia. This stream, which once supported thriving populations of anadromous salmonids, was relocated and channelized in 1978. This action resulted in major changes in stream geometry that affected fish habitat. In 1993 and 1994, detailed biophysical inventories were conducted on the lower reach of Oullette Creek. These inventories were followed by redesign and restoration of fish habitat. The primary goal of the restoration was to restore the natural pool and riffle ratio with instream rock weirs built to duplicate natural riffles and pools. The result has been the collection of spawning gravel on the upstream edge of riffles and increased areas in pools for rearing. The natural geometry of a stream of this size in this region was used to set the design width, depth, substrate size, and final pool/riffle sequencing. Basic stream characteristics of bankfull width, depth, and discharge were established by surveying a series of reaches in different tributaries in the project stream and similar drainage basins located nearby. In 1995, after the first phase of the restoration was completed, a third biophysical inventory was conducted on Oullette Creek. Preliminary results indicate that the restored areas are stabilizing, providing a significant increase in rearing habitat for both coho salmon and cutthroat trout.