

# Human impact rava

## Fish stocks slowly return

•Third in a series  
By **BOB JONES**

The indignities heaped upon the Tsolum River watershed provide classic examples of misuse, abuse and mismanagement.

Most Comox Valley rivers are relatively short and run through rocky, steep-sided valleys. The upper Tsolum and its main tributaries -- Dove, McKay and Murex creeks -- are similar, but the lower Tsolum meanders through a wide, fairly level valley for about 20 kilometres before joining the Puntledge River at Courtenay.

Human impact on the watershed was virtually non-existent until settlers arrived in 1862. Farms upstream from the junction introduced fecal pollution through seepage from outhouses, plus runoff from grazing areas, livestock pens, and manure used for fertilizer.

Drinking or bathing in water degraded by human and animal waste is distasteful, but the impact to the river itself was probably minimal. However, as farms multiplied along the Tsolum, water used for irrigation and consumption increased, as did pollution. Later, the introduction of chemical fertilizers added new dimensions to the problem.

In addition to providing water and fertile farming soil along its banks, the Tsolum supplied a bounty of autumn and winter-run fish. Pink salmon returns ranged from 100,000 to 200,000, there were good runs of coho and steelhead, and cutthroat trout were abundant.

A healthy, fish-bearing river requires sufficient flows of clean water to maintain fish life; suitable habitat for spawning, incubation and rearing; plus a food supply for resident and juvenile fish. If one or more basic necessity is slightly altered, a river's fish-bearing potential is jeopardized. All of the Tsolum River's were altered dramatically.

When RCAF Station Comox was constructed during the early 1940's, vast amounts of gravel were removed from the lower riverbed. Entire channels that once supported thousands of spawning salmon were reduced to little more than smooth, shale-bottomed sluiceways.



**FINE STEELHEAD** was landed by Jim McClean near the Headquarters Road area in 1960. The Tsolum River was once noted for runs of larger than average steelhead.

Logging started in the watershed during the 1870's, but the greatest impact occurred when the headwaters area was clearcut in the early 1950's. Uncontrolled spring and fall floods washed more gravel from the river, while increased siltation not only destroyed unhatched eggs, but also much of the aquatic life on which fish feed. Deep pools filled in, eliminating protective habitat and raising water temperatures during low flow periods.

The most devastating attack on the Tsolum's environment began in 1964, when Mount Washington Copper Mine opened amid much fanfare about its monetary benefits to the Comox Valley. It closed in 1967. As mine reclamation legislation was not passed until 1969, the company simply abandoned the open pit mine site. Left behind were a tailings pond covering 2.8 hectares, and 1.03 million tons of waste rock containing high levels of copper. It was a legacy of death.

When water and oxygen contact sulphide compounds found in some types of rock, acid water containing high levels of dissolved metals is formed. As breaking or crushing rocks increases this reaction, rain and melting snow washing over the mine site created a deadly copper leachate which flowed down Pyrrhotite Creek into Murex Creek, then into the Tsolum.

By the early 1970's, pink salmon returns to the Tsolum were zero, and other species were virtually non-existent. In 1985, the Comox Valley Chapter of the Steelhead Society of B.C. reformed in Courtenay. An intensive campaign to reclaim the Tsolum was launched, which eventually

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# ges Tsolum River



The Tsolum River has gone into dramatic decline due to acid mine drainage

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saw the provincial government allocate \$600,000 toward cleaning up the mine site.

Work started in 1988 still continues, and costs have more than doubled. While copper levels have been reduced, they are still unacceptable during increased flow periods.

Due primarily to efforts of the Puntledge River Hatchery staff, limited numbers of salmon are



now returning to the Tsolum River. Whether or not their progeny survives remains to be seen.  
**FRIDAY: Brooklyn Creek.**