

# EXECUTIVE SUMMARY: MORSE CREEK

Volunteers and staff of the Eight Streams Project collected quarterly data on water and habitat quality between July 1997 and April 1999. Streamkeepers of Clallam County, which inherited the responsibility for volunteer stream monitoring begun during the 8 Streams Project, then coordinated with volunteers to produce a summary report on the Eight Streams data. This citizens' summary report combines volunteers' data with other information on stream health collected from local resource professionals. It represents an initial assessment of the condition of the creek, and is intended to help educate fellow citizens of Clallam County, as well as elected and appointed officials. Each team on the Morse Creek had at least two members, and most times three to four adults, each time they went out. To crosscheck data, the same test was done at least three times, often by two different adults.

Morse Creek had only 3 monitoring reaches until the summer of 1998, when Reach #4 was established on City of Port Angeles property. General site conditions are as follows:

**Reach #1:** The creek at this site has not changed much in the 3 years that we have been doing the observations. The reach is at the mouth of the creek, running through the 4 Seasons Ranch. Their community golf course borders the creek near its mouth. The creek runs along the west bank side that has been riprapped with big rocks in a man-made channel until it enters the Strait a few hundred yards north. The east bank side is also man-made with big rocks but has a series of gravel and sand bars that extend two-thirds of the way across the channel. There is a side channel which follows the east rock bank. The gravel-and sandbar has been quite stable over these years, even after the flood seasons. Clallam County performed stream rehabilitation work in this area in 1997; logs, root balls, and boulders were placed to improve the habitat for salmon. All of these structures have stayed in place. However, there are no trees or brush of any size to provide any shade or cover over the water. The alders or other brush that grow along the bank are cut to provide views and allow the golf balls to cross the creek, as the tee is on the east and the green on the west side of the creek. The "brush" was last cut during the summer of 1997. However, just upstream of the golf cart bridge, the bank has both young alder and maple trees to 30+ feet along it. This tree cover continues up to Reach #2, generally unbroken. We have had trouble making stream flow measurements here, as the water along the west bank is over boot tops and too swift to stand in using waders, with big cobbles underfoot. Only during low water periods have we been able to make measurements.

**Reach #2:** This site has very heavy tree cover, some seasons over 75% shaded above the water. The east bank is riprapped, protecting Strait View Drive, and the west bank is natural. The site is just downstream from Highway 101 and its 4-lane curved bridge, but does not seem to show road oil or other effects; however, a chemical spill on the bridge would get into this area quickly.

**Reach #3** is much like Reach #2 in that one bank is naturally vegetated and the other is landscaped, leading to homes and lawns. Just upstream of the monument stump, the creek turns into the east hillside and our site is on the inside of the curve as the creek flows back toward the west, pulling away from the east hill. Erosion of the west bank alongside the homes will likely lead to future moves to artificially protect the bank, as some structures (mostly decks and doghouses) are within 5-10' of the stream. The site is also over 90% tree-shaded, with some conifers as well as maple and alder along both banks. There is a gravel bar on the east and a hard clay or soft shale bank along the west side by the homes. The clay is exposed along much of the stream bottom here as you cross the stream. Both water and flow samples are taken in this area. Downstream the creek has quite a wide floodway, with small alders growing on the bars and floodways. Water testing found no problems with nitrate, soap, or household junk in the stream.

**Reach #4** was first sampled in the summer of 1998 and is just below the site of the Port Angeles City Light hydropower plant, which is not currently in use. As Elwha dam removal efforts proceed, the City Council will be asked to consider giving up the license for production of power, thus freeing the water right to supply water for the City in lieu of water coming from the Elwha in case the Elwha's intakes are affected by removal of the dams. Such a withdrawal from Morse Creek could have a major impact on instream flows during low-

flow periods. The site is in a steep canyon with heavy tree cover and a very steep east bank of unknown height. This site has been proposed for a fish-rearing project, and sampling could provide baseline data on any effects from that effort. A large development, Hawks Ridge, is platted uphill from this site on the west, but had few homes built by the summer of 1998. We do not know what is above this site on the east side. Upstream a mile or so is the old City water intake, a small dam across the creek which has no fish ladder on it. We do not know if this dam stops fish passage or not, but no salmonids have been reported historically above river-mile 4.7, which is downstream of the dam. The Clallam County Public Utilities District does get part of the water for their water system from this dam.