APPENDIX E. MARY'S RIVER SURVEY

The Mary's River was surveyed by canoe on May 4, 2001. Significant habitat units, large woody debris (LWD) accumulations, areas of bank erosion, off-channel habitats, and channel morphologic features were recorded. The riparian buffer widths and species composition also were assessed from the river. The survey was conducted using the following protocols:

1. Individual habitat units were identified and their locations marked on aerial photographs. When the length of the habitat unit was less than 100 meters (30.5 feet), its length was estimated. The total length of runs was estimated from maps and aerial photos.

2. Species of trees, approximate widths of riparian buffers, and amount of overhanging and shading vegetation were estimated and recorded.

3. In riffle habitats, the substrate composition was assessed to give an indication of suitability for spawning.

4. Large woody debris was recorded as number of individual pieces, accumulations, or jams. Large woody debris pieces, accumulations, and jams were defined as follows:

    A. Pieces: Woody debris greater than 3 meters (.9 feet) in length and having a diameter greater than 10 centimeters (3.9 inches)

    B. Accumulations: Between one and four pieces of LWD that function as one habitat unit

    C. Jams: five or more pieces of LWD that function as one habitat unit

5. The length of eroding banks was estimated and their locations were recorded.

6. Other significant features, such as low terraces and gravel bars, were characterized and recorded.

7. Many of the more significant features also were documented photographically.

Habitat Overview

The portion of the Mary's River within the urban growth boundary (UGB) of the City of Corvallis is a highly sinuous, low energy reach. Approximately 95% of the aquatic habitat consisted of slow-moving runs. These runs tend to be long, often more than 200 meters (656.2 feet) and separated by relatively short riffles and pools. Lateral scour pools and short riffles usually were associated with bends in the river channel.

The substrate of the river bottom was difficult to assess because of the high turbidity of the water and depths that precluded easy sampling. Substrate in the shallow portions of the riffle was assessed. The substrate in the riffles was most commonly a mix of gravel embedded in a layer of fine sediment. Occasionally the riffle substrate consisted of a bedrock-like cemented alluvium.

The riparian areas along the lower Mary's River are variable in condition. In places, especially near the south edge of the UGB, the riparian areas are over 61 meters (200 feet) wide and appear to be relatively undisturbed. In other sections of the reach, they have been converted for agricultural or residential purposes. In these areas, riparian trees and shrubs are restricted to narrow bands along the stream, often below the top-of-bank. Eroding and revetted banks are common throughout the reach. Large areas of erosion often are associated with the outsides of river bends and LWD jams. Bank revetments are more common in the lower portion of the reach closer to urban developments.

Salmonid usage of the reach probably is limited to rearing and migration. The high levels of fine sediment present in the substrate likely limit successful reproduction in the reach. Instream cover is provided by LWD accumulation and jams. The scarcity of riffle habitat may limit the amount of foraging habitat available to cutthroat trout and juvenile salmon and steelhead. Low flows, increased temperatures, and poor water quality may substantially limit rearing habitat during the summer and early fall.