Appendix E
Stream Channel Types

Channel types are used to classify streams based on observable characteristics. The classification system used in this assessment was developed by Rosgen (1994). It has the following objectives:

1) Predict a river's behavior from its appearance;

2) Develope hydraulic and sediment relations for a given channel type and state;

3) Provide a means to extrapolate site-specific data from a stream reach to streams of similar character; and

4) Provide a consistent and reproducible frame of reference for communication for those working with rivers.

The morphology of channels is governed by the laws of physics and is the result of the influence of stream variables, including width, depth, velocity, discharge, slope, roughness, sediment load, and sediment yield. Changes in these variables often result in channel adjustments and a change in channel pattern. This process creates measurable variables that can be used as stream classification criteria. In Rosgen's system, the major classification criteria are as follows:

1) Thread (single versus multiple channels);

2) Entrenchment (access to floodplains, measured vertically in the channel);

3) Sinuosity (stream length relative to valley length);

4) Width to depth ratio (measured at bankfull stage);

5) Stream gradient (measured in percent); and

6) Substrate size (median of inorganic bed materials).

The diagram below illustrates some of the major criteria used to delineate stream channel types at the broad geomorphic characterization level. It was originally published in Rosgen (1994).

Figure E - 1