

FWA Model Glossary

Watershed

Watersheds, which provide linked gradients of terrestrial, riparian, and aquatic systems, were established as the critical, ecosystem delineation/mapping unit. A watershed (also known as a hydrologic unit, catchment, or drainage basin) is defined as that area of land draining into a particular stream or other surface water body. For any location in a stream, there is an associated area that contributes water to its flow. The watershed divide is that line which divides the area contributing water to the stream and that which contributes water to neighboring streams or water bodies. Therefore, each watershed is defined by its outlet or pour point (the point in the stream which receives all water in the watershed) and the associated watershed divide derived from that point and the local topography

Stream Order

Stream ordering is a process of identifying and grouping stream segments and their corresponding watersheds in terms of size and complexity. Theoretically, watersheds of similar order display similar hydraulic properties and ecological function. There are four commonly described approaches to stream ordering. In this study, the approach used was that originally described by Horton (1945) and revised by Strahler (1952). In this ordering scheme, the smallest stream segments near the drainage divide are assigned the lowest order (i.e., first-order stream) and the stream segment at the watershed outlet is assigned the highest order. Each sub-basin identified is assigned the same order as the largest stream segment within it. The ordering system can be described by the following series of steps: a) The smallest recognizable channels are designated order 1; these channels normally flow only during periods of wet weather. b) Where two channels of order 1 join, a channel of order 2 results downstream; in general, where two channels of order i join, a channel of order $i + 1$ results. c) Where a channel of lower order joins a channel of higher order, the channel downstream retains the higher of the two orders. d) The order of the drainage basin is designated as the order of the stream draining its outlet, the highest stream order in the basin,

TRIM

Terrain Resource Information Management. The digital base map of British Columbia. Nominal scale, 1:20,000. Dataset includes a non-gridded DEM.

Topology

The "connectedness & adjacency" between features. In FWA context: - Connectedness could represent how tributaries drain into the main channel of a river. - Adjacency could show how a series of wetlands surround a neighbouring lake.

Gazetted Name

The official name of the waterbody being surveyed as listed in the Gazetteer of Canada for British Columbia.

Headwaters

The source of a stream, river or lake.

Mouth

A mouth is the downstream terminus of a waterbody as it intercepts another waterbody (i.e., confluence, estuary, delta, etc.)

Watershed Atlas

The topologically structured digital map used by various organizations to geo-reference aquatic-related data. The Atlas consists of all aquatic-related linework (lakes, streams, wetlands) and text. In addition, watershed boundaries have been delineated for third order and greater stream systems.

Breakline

A breakline is a natural or man made occurrence in the topography where there is a definite and obvious change in contour direction. There is a definite change in deflection along a breakline, and elevations are captured along its entirety. An example would be a stream or a vertical bluff. I. Sharp Breakline: A sharp breakline causes a definite pointed

character to the interpolated contour. ii. **Rounded Breakline:** A rounded breakline causes a smoother but still well defined deflection to the contour. Terrain data points, whether in a regular or irregular pattern, always fail to represent terrain fully in areas where there are sharp breaks or discontinuities in slope. Such discontinuities occur along ridge lines, at the upper and lower edges of a steep embankment, along drainage lines (streambeds), and in the vicinity of constructed cuts and fills. In these areas, the DEM points must be supplemented by breaklines that indicate sharp changes in slope. TRIM contains three types of breakline: - Hypsographic breaklines (prominent land features such as ridges and cliffs); - Hydrographic breaklines (the streams, rivers and lake edges); - Anthropological breaklines (e.g. manmade features such as roads and railways)

Catchment Area

The entire area from which drainage is received by a river system. It is also referred to as a basin. Any point on a stream will define an upstream catchment area, whereas watersheds are typically defined only at confluences (places where streams meet).

DEM

Digital Elevation Model. A series of points and breaklines (such as ridges) defining the Earth's surface. In TRIM, the DEM data consist of individual (x,y,z)-tuples, as well as some ridge lines, streams and certain other linear features.

Height of Land

A portion of a watershed boundary. Often used in defining the legal definition of a land parcel. Definition from FAMAP Global Glossary: The high point of land which separates watersheds and which forms part of the legal description of various Forest Tenures.

Hypsography

The scientific study of the earth's topologic configuration above sea level, especially the measurement and mapping of land elevation. **Hypsometry:** The measurement of elevation relative to sea level.

Planimetric Features

Geographic features whose two-dimensional representations have significance (unlike points and surfaces). These include all man-made features such as roads, buildings, fences, etc., as well as natural features such as streams, lakes, swamps, etc.

Spatial Query

Queries to a database or GIS in which the returned data are constrained by some spatial description (e.g., return all points within 100 meters from the well site at location (49:32:12.231N, 123:42:45.693W)).

TWA

TRIM Watershed Atlas. A database comprising the HoL Database and the Stream Network Database.

Oxbow

1: the land inside an oxbow bend in a river 2: a U-shaped curve in a stream

Hydrography

1. The scientific description and analysis of the physical conditions, boundaries, flow, and related characteristics of the earth's surface waters. 2. The mapping of bodies of water.

Riparian

Of, on, or relating to the banks of a natural course of water.