Glossary

Critical Environmental Flow Threshold. Defined in Section 1 of the *Water Sustainability Act* as "the volume of water flow below which significant or irreversible harm to the aquatic ecosystem of the stream is likely to occur".

Conservation Flow. Essentially equivalent to EFNs. Used by nhc (2001) and other historic EFN work in the Okanagan and elsewhere in BC.

Environmental Flow Needs (EFNs). In relation to a stream, means the volume and timing of water flow required for the proper functioning of the aquatic ecosystem of the stream (*Water Sustainability Act*, Section 1).

Habitat Suitability Indices (HSI). HSIs are models that weight locations relative to one another considering key criteria. Fisheries HSIs typically relate velocity and depth to spawning or rearing habitats of fish using preferences for different conditions.

Inflection Point. Inflection point is used to characterize the point on a trend line where the slope of the curve appears to change from an almost linear increase in useable width with increasing flow, to a much more gradual increase in useable width with flow.

Instream Flow Needs (IFNs). Equivalent to EFNs. Used in the BCIFN method and other historic EFN work prior to current adoption of EFN terminology.

Long Term Mean Annual Discharge (LT mad). The arithmetic mean of individual **naturalized** mean annual discharge values at a specific point on a stream over a multi-year period. Calculated by adjusting the measured or estimated mean annual flow to compensate for flow regulation and water withdrawals. The long term mean annual discharge is equivalent to the mean annual flow rate that would occur naturally in the absence of storage reservoirs and water extractions.

Lower Quartile (P25). The value represented by the 25th percentile in a range of data. 25% of the values will be lower, and 75% will be higher.

Maximum (Max). The highest value in a range of data.

Maximum Weighted Useable Width Flow. The flow, expressed as %LT mad, that corresponds to the highest point (i.e., the maximum amount of weighted useable habitat width for that transect) on the weighted useable habitat width curve.

Mean. The arithmetic mean of all values in a range of data.

Median (P50). The value represented by the 50th percentile in a range of data. Establishes the average flow condition when used with flow data, as 50% of the values are lower, and 50% are higher.

Mean Annual Discharge (MAD). Not used in this report. Historical EFN methods such as Tennant refer to %MAD, and it is understood that the usage is synonymous with "LT mad" as used in this report, but LT mad is preferred as it is defined as both naturalized and long term.

Mean Annual Flow (MAF). The arithmetic mean of all of the individual daily mean flows for a given water year at a specific site on a stream.

Mean Monthly Flow (MMF). The arithmetic mean of all of the individual daily mean flows for a given water month at a specific site on a stream.

Minimum (Min). The lowest value in a range of data.

Naturalized Flow. This is the flow that would occur naturally in the absence of all forms of flow regulation such as storage reservoirs and water withdrawals.

Percentile (Pn). A measure used in statistics indicating the value below which a given percentage of observations in a group of observations fall. For example, the 20th percentile (P20) is the value below which 20 percent of the observations may be found.

Percentile Flow. The flow value represented by the nth percentile of a range of flows at a specific site in the stream. For example, the P20 mean monthly August flow in Mission Creek is 1.07 m^3/s, indicating that that August mean monthly flows have been lower than 1.07 m^3/s in 20% of the years and higher in the other 80% of the years on record.

Productivity. Productivity is the maximum potential production under optimal growth conditions, and is measured in terms of both area and a specific unit of time (Wetzel 2001).

Productive Capacity. The natural maximum capability of habitats to produce healthy fish, safe for human consumption, or to support aquatic organisms upon which fish depend (DFO 1986)

Residual Flows. The actual volume of water flowing at a specific point on a stream or river at a point in time that can be recorded by stream flow measurements. The term residual flow is used to describe the flow that remains in the stream after flow reductions due to water extractions. Residual flows are also known as net flows.

Spatial. Considering things in terms of where they exist in the real world. This is typically accomplished using GIS applications, where data can be expressed as either existing at a specific point, line, or polygon in real world coordinates such as UTM or latitude / longitude for instance.

Upper Quartile (P75). The value represented by the 75th percentile in a range of data. 75% of the values are lower, and 25% are higher.

Weighted Useable Width (WUW). Weighted Useable Width is the estimated "suitable width" of a stream, calculated by determining the suitability of the flow for fish at each increment of width across the stream. The suitability is derived from HSI curves where velocity and depth are the two parameters used to estimate suitability. HSI curves and the resultant WUW vary by species and life stage.