

Stream Functions Pyramid

A Guide for Assessing & Restoring Stream Functions » OVERVIEW

5 BIOLOGY » *Biodiversity and the life histories of aquatic and riparian life*

4 PHYSIOCHEMICAL » *Temperature and oxygen regulation; processing of organic matter and nutrients*

3 GEOMORPHOLOGY » *Transport of wood and sediment to create diverse bed forms and dynamic equilibrium*

2 HYDRAULIC » *Transport of water in the channel, on the floodplain, and through sediments*

1 HYDROLOGY » *Transport of water from the watershed to the channel*

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A Guide for Assessing & Restoring Stream Functions » FUNCTIONS & PARAMETERS

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BIOLOGY »

FUNCTION: *Biodiversity and the life histories of aquatic and riparian life*

PARAMETERS: *Microbial Communities, Macrophyte Communities, Benthic Macroinvertebrate Communities, Fish Communities, Landscape Connectivity*

4

PHYSIOCHEMICAL »

FUNCTION: *Temperature and oxygen regulation; processing of organic matter and nutrients*

PARAMETERS: *Basic Water Chemistry, Nutrients, Organic Carbon*

3

GEOMORPHOLOGY »

FUNCTION: *Transport of wood and sediment to create diverse bed forms and dynamic equilibrium*

PARAMETERS: *Sediment Transport Competency, Sediment Transport Capacity, Large Woody Debris Transport and Storage, Channel Evolution, Bank Migration/Lateral Stability, Riparian Vegetation, Bed Form Diversity, Bed Material Characterization*

2

HYDRAULIC »

FUNCTION: *Transport of water in the channel, on the floodplain, and through sediments*

PARAMETERS: *Floodplain Connectivity, Flow Dynamics, Groundwater/Surface Water Exchange*

1

HYDROLOGY »

FUNCTION: *Transport of water from the watershed to the channel*

PARAMETERS: *Channel-Forming Discharge, Precipitation/Runoff Relationship, Flood Frequency, Flow Duration*