

Limiting Factor Report

This report contains a list of limiting factors by watershed (HUC5) as generated during multiple processes. These factors have been described as impediments to fish productivity or abundance that occur in the tributary habitat of the species. They pertain to salmon, generally Chinook or Steelhead, that spawn, rear, or migrate through these watersheds. We provide these lists here for Tribal PCSRF project solicitors so that they may use them as needed for project selection and design, and also for documentation of how projects will meet the objectives to remedy limiting factors in their areas. Because limiting factor definitions were not standardized between these different sources, they are provided here as separate lists.

Up to three sources of limiting factors are provided here, although not all basins were assessed for each process:

1) Subbasin Planning: Limiting Factors were identified at CRITFC as they were documented in the 2001/2002 Subbasin Plans. Generally, this information was generated for Ecosystems Diagnosis & Treatment (EDT) or Qualitative Habitat and Analysis (QHA) modeling of subbasin processes, but in many cases the Subbasin Planners edited these lists for publication in the Subbasin Plans according to their knowledge.

2) Tribal Remand Process: During the Tribal response and habitat action proposal process of the BiOp Remand, Tribal biologists identified limiting factors by watershed that affect Chinook and Steelhead habitat. These limiting factors were used to assess the potential benefit for survival improvement if habitat actions occur. These lists of limiting factors are provided here.

3) NOAA Technical Recovery Team: We have been assured that NOAA will generate a standardized set of limited factors for use, probably during the Fall of 2007. When these lists are made available, we will add them here.

Limiting Factors identified during Subbasin Planning by Watershed

HUC4: Middle (17070101)
**Columbia-
Lake Wallula**

Watershed Lower Lake (1707010102)
(HUC5): Wallula

Limiting Factor:

Channel Stability
Competition (Hatchery)
Flow
Habitat Diversity
Pathogens
Predation
Sediment Load
Water Temperature

Watershed Upper Lake (1707010106)
(HUC5): Umatilla

Limiting Factor:

Channel Stability
Habitat Diversity
Sediment Load
Water Temperature

Watershed Lower Lake (1707010114)
(HUC5): Umatilla

Limiting Factor:

Habitat Diversity
Key Habitat Quantity
Predation
Sediment Load

Limiting Factors identified by Tribes during Remand by Watershed

HUC4: Middle (17070101)
Columbia-
Lake Wallula

Watershed Glade Creek (1707010105)
(HUC5):

Limiting Factor:

Ecologic – Community

Sediment

In-channel Characteristics

Water Quality - Toxics

Water Quality - Temperature

Watershed - Hydrology

Riparian / Floodplain

Watershed Alder Creek (1707010110)
(HUC5):

Limiting Factor:

Riparian / Floodplain

In-channel Characteristics

Sediment

Watershed - Hydrology

Water Quality - Temperature

Watershed Pine Creek (1707010111)
(HUC5):

Limiting Factor:

Sediment

Water Quality - Temperature

Watershed - Hydrology

In-channel Characteristics

Passage / Entrainment

Watershed Wood Gulch (1707010112)
(HUC5):

Limiting Factor:

In-channel Characteristics

Watershed - Hydrology

Sediment

Riparian / Floodplain

Water Quality - Temperature

Limiting Factors identified by Tribes during Remand by Watershed

Watershed Rock Creek (1707010113)
(HUC5):

Limiting Factor:

Riparian / Floodplain
Water Quantity – Flow
In-channel Characteristics
Sediment
Water Quality – Chemistry
Water Quality - Toxics
Watershed - Hydrology
Water Quality - Temperature
Ecologic – Community