

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: Okanogan (17020006)

Watershed Upper (1702000601)
(HUC5): Okanogan River

Limiting Factor:

Channel Stability
Chemicals
Flow
Food
Habitat Diversity
Harassment
Key Habitat Quantity
Obstructions
Oxygen
Pathogens
Predation
Sediment Load
Water Temperature

Watershed Okanogan (1702000602)
(HUC5): River-
Bonaparte
Creek

Limiting Factor:

Channel Stability
Chemicals
Flow
Food
Habitat Diversity
Harassment
Key Habitat Quantity
Obstructions
Predation
Sediment Load
Water Temperature

Limiting Factors identified during Subbasin Planning by Watershed

Watershed Salmon Creek (1702000603)
(HUC5):

Limiting Factor:

Channel Stability

Chemicals

Flow

Habitat Diversity

Key Habitat Quantity

Obstructions

Oxygen

Sediment Load

Water Temperature

Watershed Okanogan (1702000604)
(HUC5): River-Omak
Creek

Limiting Factor:

Channel Stability

Chemicals

Flow

Food

Habitat Diversity

Harassment

Key Habitat Quantity

Obstructions

Oxygen

Predation

Sediment Load

Water Temperature

Limiting Factors identified during Subbasin Planning by Watershed

Watershed Lower (1702000605)
(HUC5): Okanogan River

Limiting Factor:

Channel Stability

Chemicals

Competition (Hatchery)

Flow

Habitat Diversity

Harassment

Key Habitat Quantity

Obstructions

Oxygen

Predation

Sediment Load

Water Temperature