

# **SALMONID HABITAT LIMITING FACTORS**

## **ANADROMOUS AND RESIDENT SALMONID DISTRIBUTION**

### **WATER RESOURCE INVENTORY AREAS 3 AND 4 SKAGIT AND SAMISH RIVER WATERSHEDS**

**WASHINGTON STATE  
CONSERVATION COMMISSION**

**JUNE, 2001**

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## ACKNOWLEDGEMENTS

The Skagit and Samish River salmonid distribution maps could not have been developed without generous contributions of time and effort by the individuals who participated in the mapping workshops and review sessions held from February-May, 2001.

Participants included:

Brett Barkdull	Washington Department of Fish and Wildlife, LaConner
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In addition to the mapping workshop participants, the following individuals provided information from previous salmonid mapping or surveying efforts:

Karen Chang	Mt. Baker-Snoqualmie National Forest, Darrington Ranger District
Dale Hopkins	Okanogan National Forest, Methow Valley Ranger District
Lori Kyle	Skagit Conservation District
Jennifer Molesworth	Okanogan National Forest, Methow Valley Ranger District
Kathi Peacock	Duke Engineering & Services, Inc.
Alison Studley	Skagit Fisheries Enhancement Group

Special thanks go to Ron McFarlane, Northwest Indian Fisheries Commission, for preparation of the GIS coverages and maps included in this report. Thanks also go to John Kerwin and Ed Manary, Washington State Conservation Commission and Peter McBride, Northwest Indian Fisheries Commission, for their assistance during the mapping workshops and review sessions.

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## **BACKGROUND**

Section 10 of Engrossed Substitute House Bill 2496 (Salmon Recovery Act of 1998), directed the Washington State Conservation Commission (WCC), in consultation with local governments and treaty tribes to invite private, federal, state, tribal, and local government personnel with appropriate expertise to convene as a Technical Advisory Group (TAG). The purpose of the TAG is to identify habitat limiting factors that effect the natural production of salmonids. One important task in identifying these habitat limiting factors is to map salmonid distribution. This is the only section of the Habitat Limiting Factors Analysis for Water Resource Inventory Areas (WRIAs) 3 and 4 that is included in this report. The participants listed in the Acknowledgements section make up the TAG referred to in this report.

## **SALMONID DISTRIBUTION**

The geographic area covered by this mapping effort includes all of WRIA 3 (Lower Skagit/Samish), WRIA 4 (Upper Skagit) and the Colony Creek system in WRIA 1 (Nooksack). Salmonid distribution is based primarily on input of TAG participants, with additional consideration of other sources, and reflects knowledge current as of May 2001.

### **Definitions**

Known distribution: includes habitat where the presence of salmonids has been documented by published sources, survey notes, biologist observations, or TAG knowledge. This includes habitat used by any life stage for any length of time, including intermittent streams that may only contain water during peak flows when they provide off-channel refuge habitat.

Presumed distribution: includes habitat for which there are no documented records or sightings of known salmonid use, but which is downstream of any known fish passage barrier and otherwise conforms to species-specific habitat criteria.

Potential/Historic distribution: includes habitat upstream of human-caused fish passage barriers and downstream of natural fish passage barriers which otherwise conforms to species-specific habitat criteria. Note that while potential distribution is included, this information is not complete and should not be used to rank the merit of projects on one stream over another.

Artificial distribution: includes habitat with known presence of salmonids that are supported by an active fish passage operation (such as a trap and haul facility) or a structure providing passage around a dam or natural barrier.

### **Mapping Methods and Assumptions**

The known, presumed, potential and/or artificial upper extent points were mapped for the following salmonids: chinook, chum, coho, pink, kokanee and sockeye salmon, native char (Dolly Varden/bulltrout) and cutthroat, rainbow and steelhead trout. Distributions for these species are shown on Maps 1-8 and 10-17.

Distribution maps for the anadromous species were created by extending distribution from the upper extent points mapped by the TAG participants downstream to salt water. Distributions for resident and anadromous forms of cutthroat trout and native char were created by extending distribution from the upper extent points downstream to salt water. Except where known overlap was mapped during the workshops, the downstream extents for resident rainbow trout were mapped at the upper extent points for steelhead. The shaded anadromous zone area on the maps represents an attempt to define where both resident and anadromous forms of cutthroat trout, native char and steelhead/rainbow trout may be found. The TAG

participants defined the downstream extents for kokanee. Additional point observations for cutthroat, rainbow, sockeye and kokanee are included with the distribution maps. No distribution lines were extended downstream from these points which primarily represent known observations in lakes as well as where known overlap in rainbow and steelhead distribution was mapped during the workshops. These methods are summarized in Table 1.

**Table 1. Summary of Mapping Methods**

Species	Distribution extended downstream to salt water from defined upper extent points	Downstream extent defined by anadromous species extent or TAG participants	Additional distribution shown as point location only
Chinook	X		
Chum	X		
Coho	X		
Cutthroat (resident and anadromous forms)	X		X
Kokanee		X	X
Native char (resident and anadromous forms)	X		
Pink	X		
Rainbow		X	X
Sockeye	X		X
Steelhead	X		
Other			X

The map lines representing salmonid distribution are only a depiction and are not an attempt to capture all habitat used by salmonids. All points representing upper extents of distribution should be considered approximate. All accessible floodplain habitat should be considered to have the same species distribution as the mainstem. Additionally, shaded areas in the Lower Skagit/Samish maps (Maps 1-8) represent an attempt to capture presumed and potential distributions of anadromous salmonids in the Lower Skagit floodplain and delta. Due to the transitory nature of habitat in these areas, this shading method was used instead of identifying each individual channel and wetland. The currently connected shaded area represents the area where anadromous salmonids are currently present in channels and wetlands at some time during the year. The historically connected shaded area represents the area where anadromous salmonids historically used channels and wetlands. Anadromous salmonids would again use these habitats at some time during the year if access was restored.

Although it was not a focus of the salmonid distribution mapping workshops, TAG participants incidentally mapped observations of additional fish species including: arctic grayling, bluegill, brown bullhead, brown trout, crappie, eastern brook trout, golden trout, largemouth bass, largescale suckers, northern pike, northern pikeminnow, peamouth chub, pumpkinseed, salish suckers, smallmouth bass and yellow perch. Maps of the observation points for these species are included in this report (Maps 9 and 18). A few observations of unidentified salmonids were also mapped during the workshops. Since it was not possible to attribute these observations to a single species distribution, they are also included on Maps 9 and 18.