

The Anadromous Fish Floor Project Spatial Analysis Workshop

Data Sources and AFF Alternatives

September 24, 2021

AFF Spatial Analysis – Watersheds/Data Sources

Watersheds

Skagit/Sauk Rivers

Sol Duc/Calawah/Bogachiel Rivers

Wynoochee/Humptulips Rivers

Mill Creek/Skookum Creeks

Kalama River

Stillman Creek

Data sets

Fish

Skagit Last Fish Analysis

Squaxin Island

Water Type Modification Forms (WTMF)

Statewide Integrated Fish Distribution (SWIFD)

Forest Service Olympics fish study

Barriers

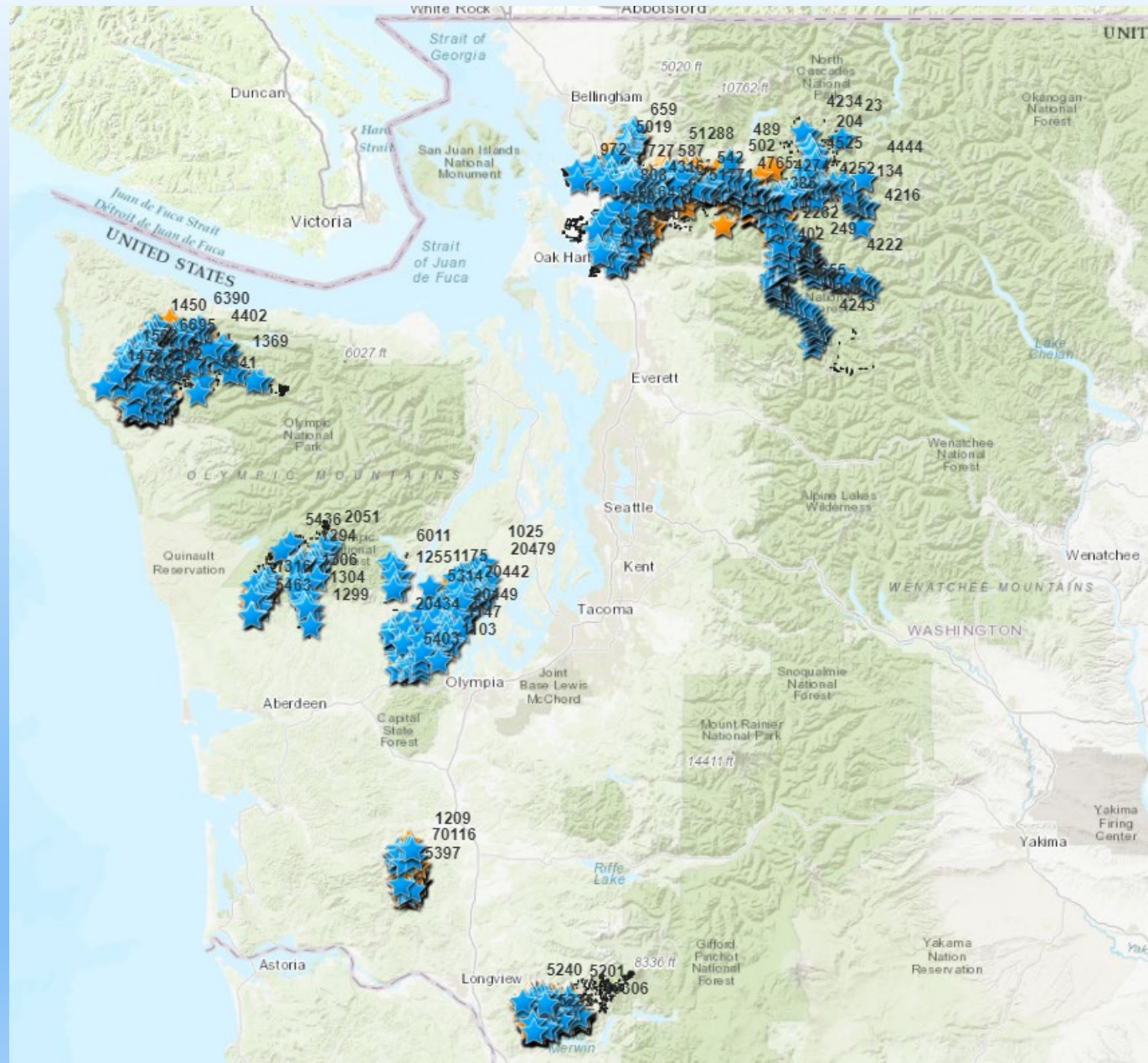
WDFW barrier dataset

Road Maintenance and Abandonment Plans

Model output

Stream reach gradients

Barriers (WDFW definition)



AFF Alternatives

Alternative A	Alternative C	Alternative D	Alternative E
<p>Tribal proposal Gradient threshold + permanent natural barrier</p>	<p>Gradient threshold + Potential Habitat Breaks</p>	<p>Landowner proposal SWIFD + Potential Habitat Breaks</p>	<p>Gradient threshold without barrier</p>
<p>Sustained 10% gradient or a permanent natural barrier, whichever comes first. These waters contain main stem stream segments and associated tributaries.</p>	<p>Sustained gradient of 5% [or 7% or 10%] or less, and include associated tributaries lacking a 5% gradient increase or permanent natural obstacle at the junction with the main stem.</p>	<p>Waters that are included in widely available GIS datasets of known and presumed anadromous use (such as SWIFD or StreamNet), and include associated tributaries lacking a 5% gradient increase or permanent natural obstacle at the junction with the main stem.</p>	<p>Waters extending to a sustained 5% or [7% or 10%] gradient. These waters contain main stem stream segments and associated tributaries.</p>

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Issues with compiled data and model accuracy

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Issues with compiled data and model

- F/N break points (WTMFs)
 1. Point being on the wrong location on the Webmap
 2. Not all F/N points represent the results of a protocol survey identifying the upper extent of anadromy – random sampling
 3. Species information not readily available – points are presumed resident
- Anadromy (SWIFD)
 1. SWIFD are not ‘highest’ anadromy points – just location where anadromy observed or presumed
 2. Excluded ‘gradient accessible’ SWIFD data
- Barrier definition
 1. WDFW criteria for barrier more appropriate to larger streams than headwaters streams largely included in this dataset.

Model Issues

Model accuracy – No field calibration

- Look ahead distance
 1. Bankfull width not measured
- Gradient estimates and barrier identification
 1. Canopy interception of lidar points over small streams preventing good resolution
 2. No way for model to differentiate deformable and permanent barriers