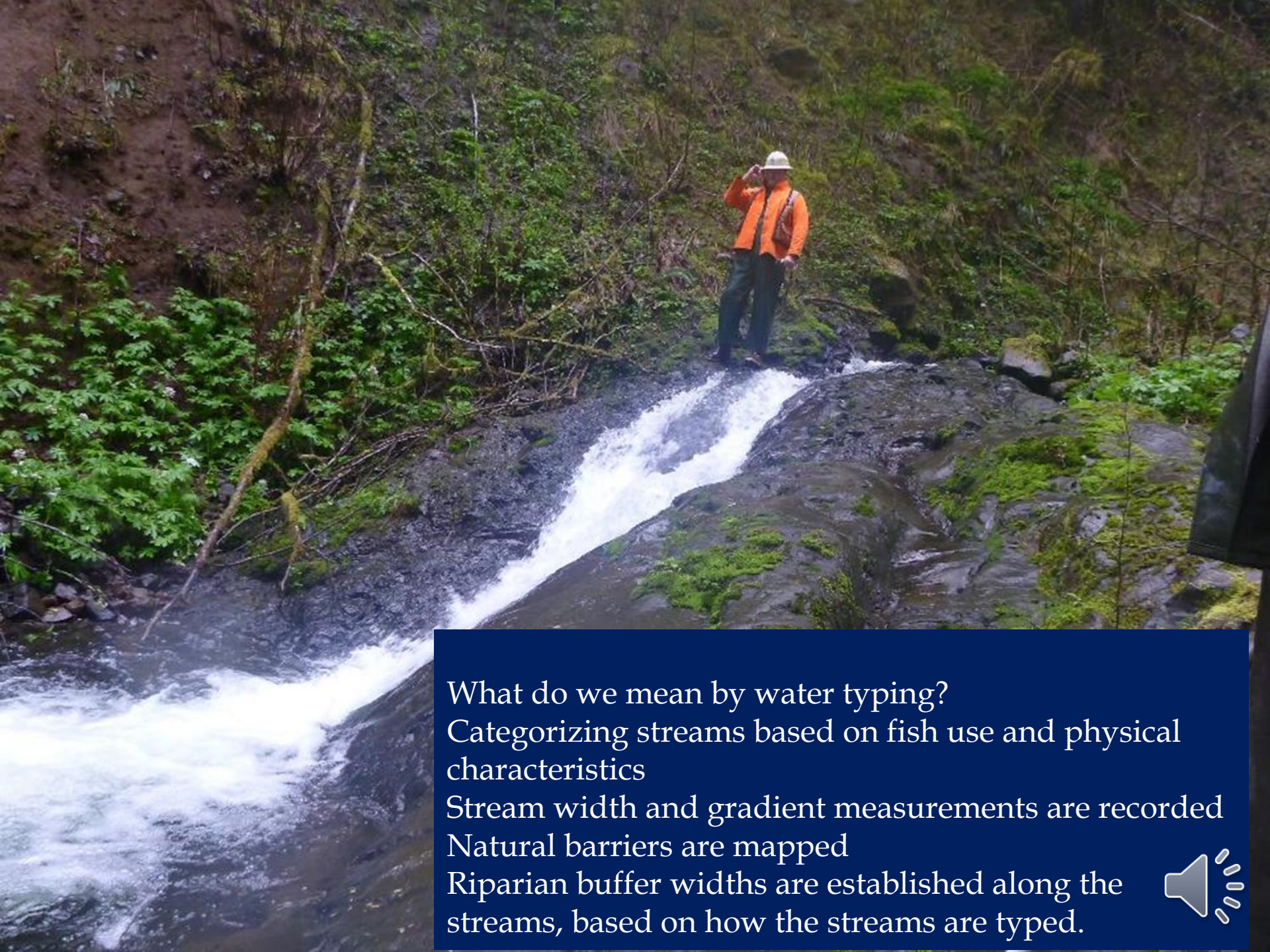
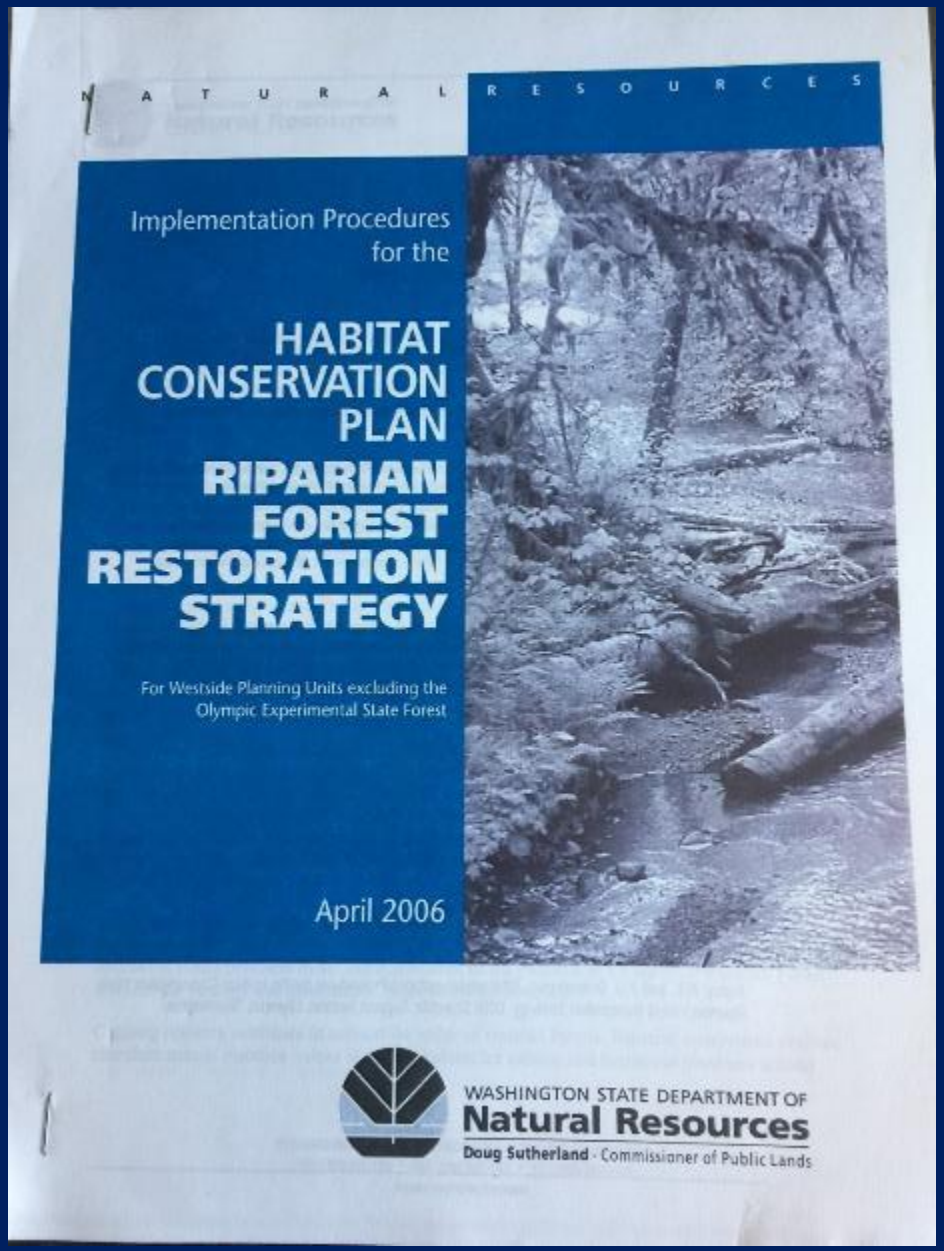
WATER TYPING ON DNR'S STATE LANDS



What do we mean by water typing?
Categorizing streams based on fish use and physical characteristics
Stream width and gradient measurements are recorded
Natural barriers are mapped
Riparian buffer widths are established along the streams, based on how the streams are typed.

RFRS Stream Typing



Riparian Forest Restoration Strategy

Basis for determining RMZ management.

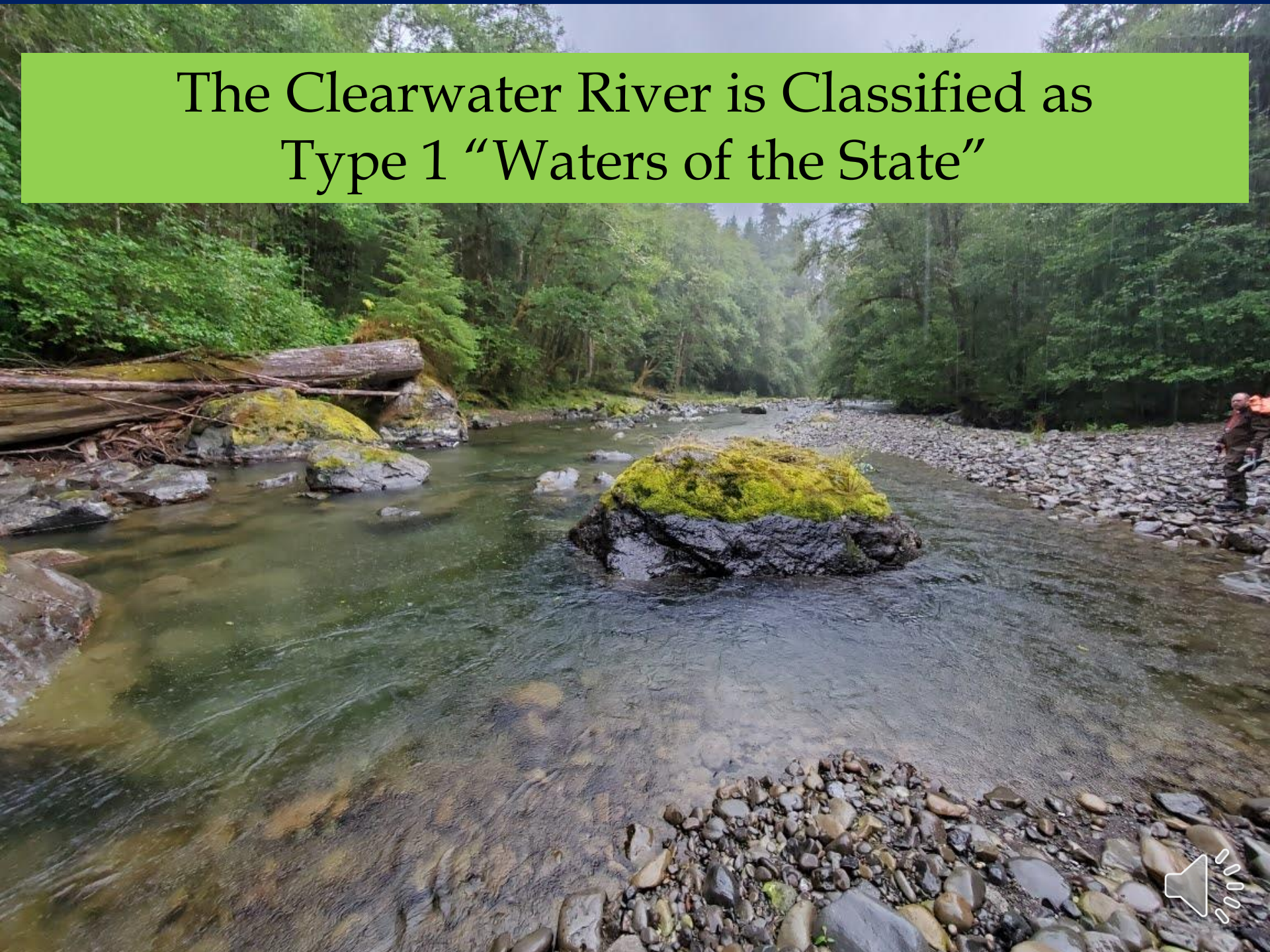
Riparian Forest Restoration **Strategy** | WA - DNR

Saving Wetlands for another day

- State Lands Foresters and engineers initiate most water typing
- Field tools include a clinometer, tape measure, and GPS device.
- Foresters submit water type modification forms to Forest Practices for approval.

Type 1 Waters

- Means all waters inventoried as “shorelines of the state” and “shorelines of statewide significance”
- Department of Ecology regulates shorelines for the Shoreline Management Act
- https://apps.leg.wa.gov/wac/default.aspx?cite=222-16-031


The Clearwater River is Classified as
Type 1 “Waters of the State”

Type 2 Waters

- Not classified as type 1 waters; have a high fish or human use and
- Stream segments having a defined channel of 20′ or greater between the ordinary high water marks (OHWM)
- and
- Gradient of less than 4%

The South Fork Skokomish River is a Type 2 Water

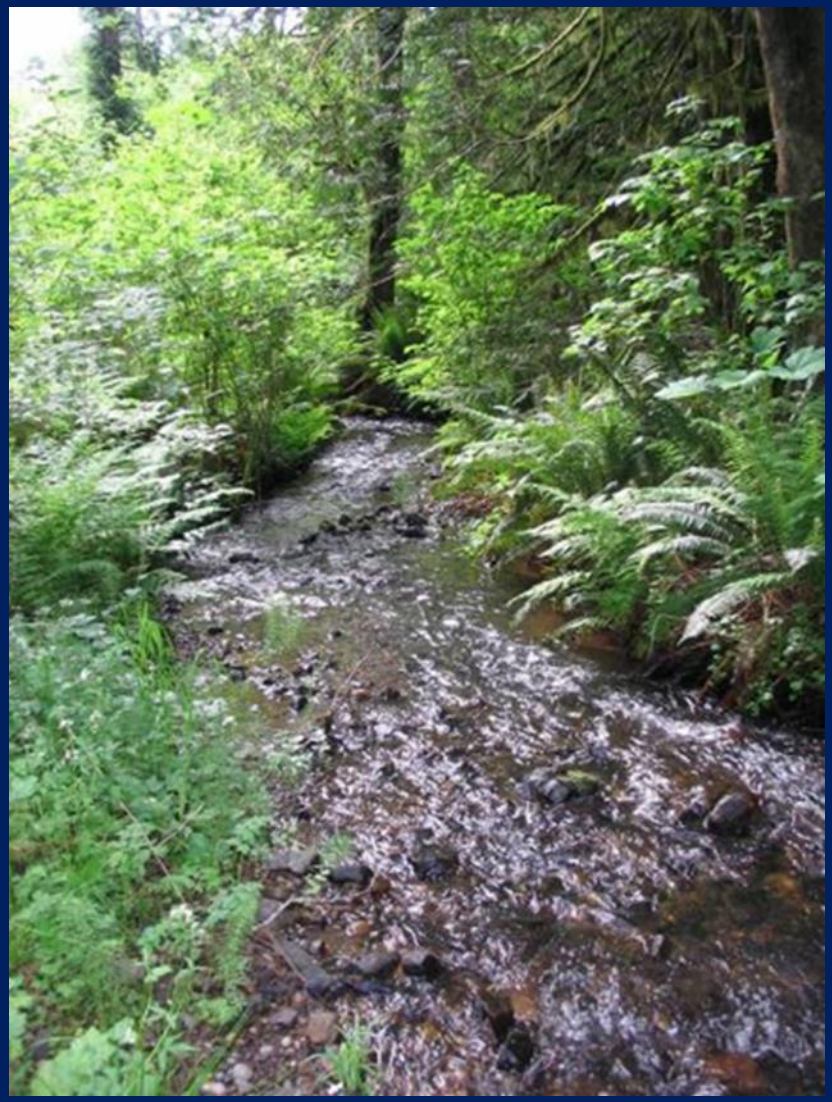
Type 2 Waters Continued

- Ponds or impoundments greater than 1 acre
- Salmonid off-channel habitat e.g. oxbow lakes connected to a river's main channel.

Type 3 Waters

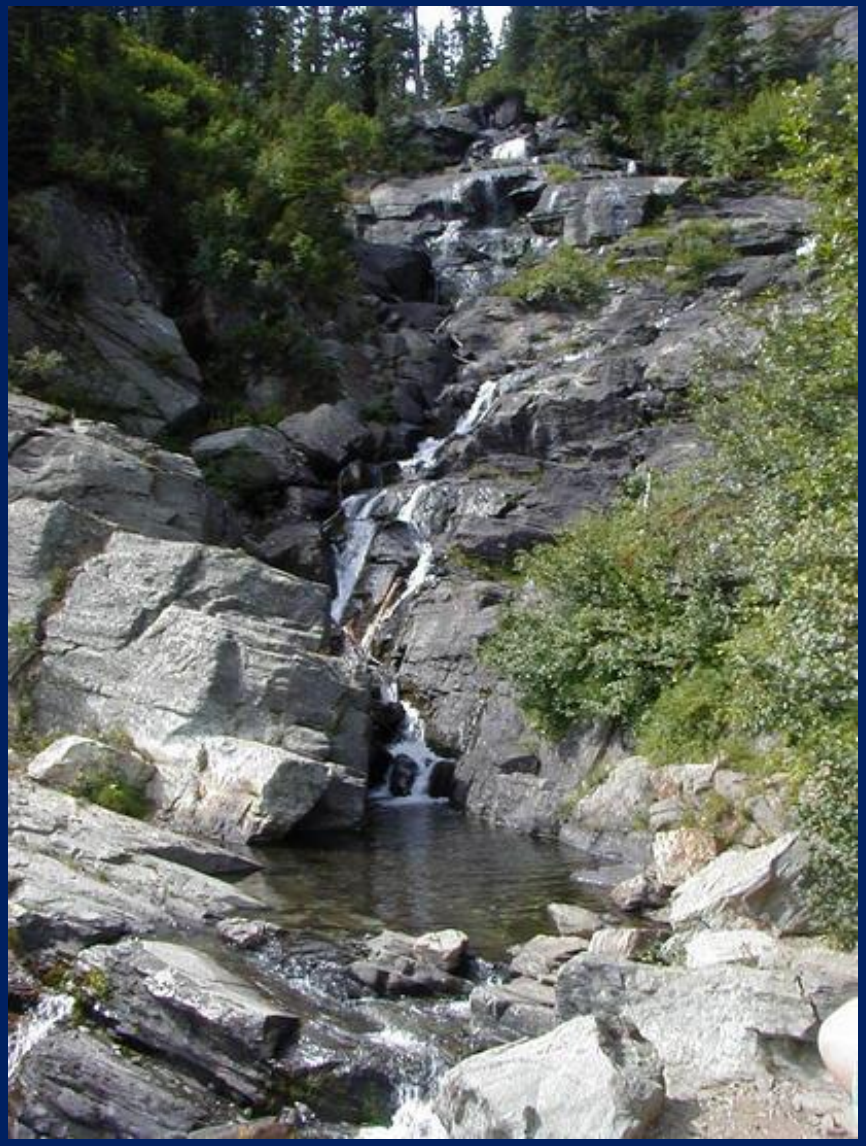
- Not a Type 1 or 2 Water and
- Are known to be used by anadromous or resident fish, including non-game fish such as lampreys, minnows and sculpins.

Type 3 Waters Continued



- Stream segments having a defined channel of 2′ or greater, measured from “Ordinary High to Ordinary High”
- a gradient of 20% or less if its contributing basin size is 50 acres or more…
- …or having a gradient of 16% or less if the contributing basin is less than 50 acres.
- Ponds or impoundments greater than 0.5 acre.

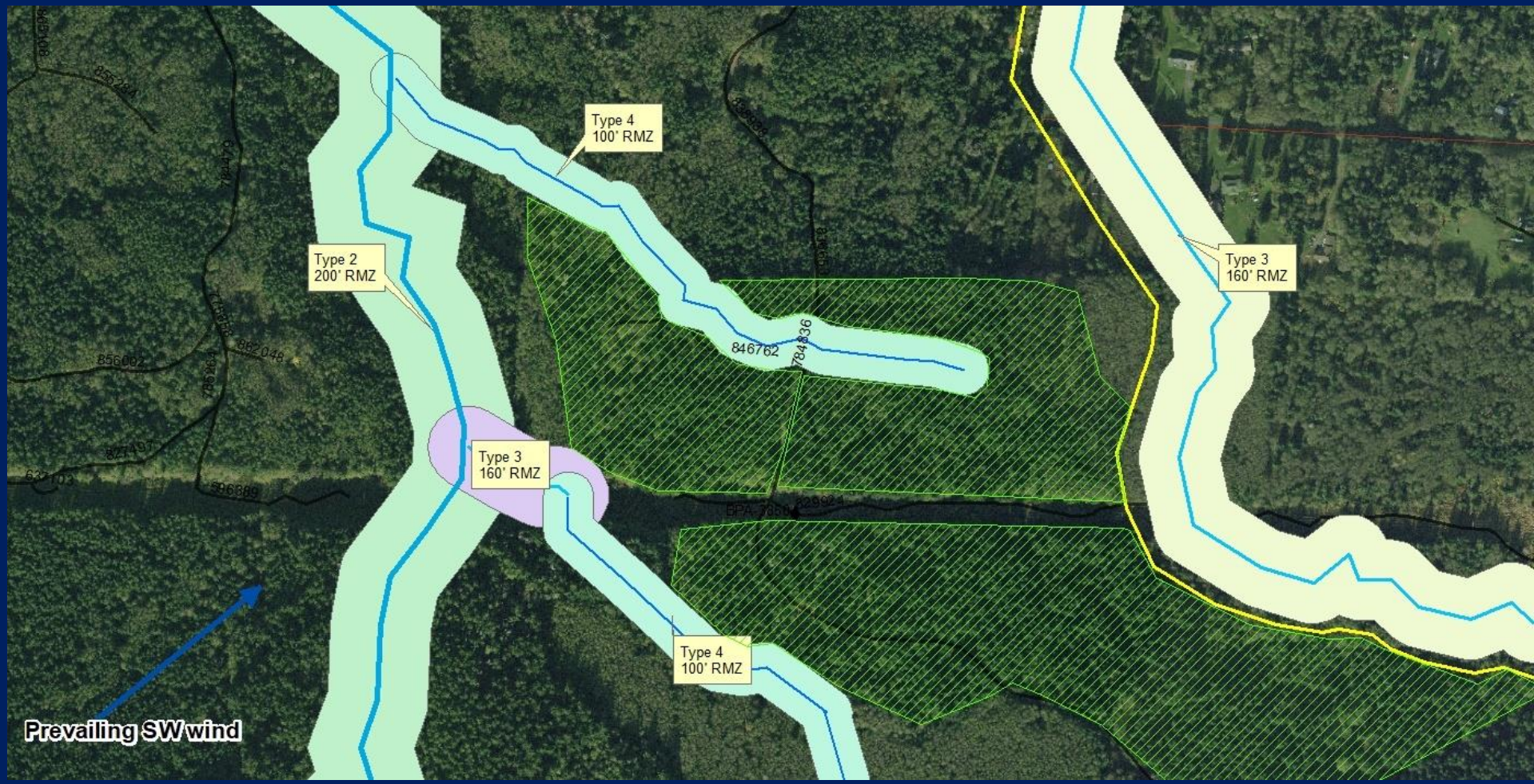
Type 4 Waters



- Stream segments having a defined channel of 2′ or greater from OHWM to OHWM and
- Gradient 16-20% or higher depending on basin size.
- OR Lower-gradient streams above natural barriers where fish absence has been proven.

Type 5 Waters

- Not a Type 1-4 water.
- Channel averages less than 2’ wide.
- Includes streams with or without well-defined channels


Type 4
100' RMZ
Type 2
200' RMZ
Type 3
160' RMZ
Type 3
160' RMZ
Type 4
100' RMZ
Prevailing SW wind

Ordinary High-Water Mark

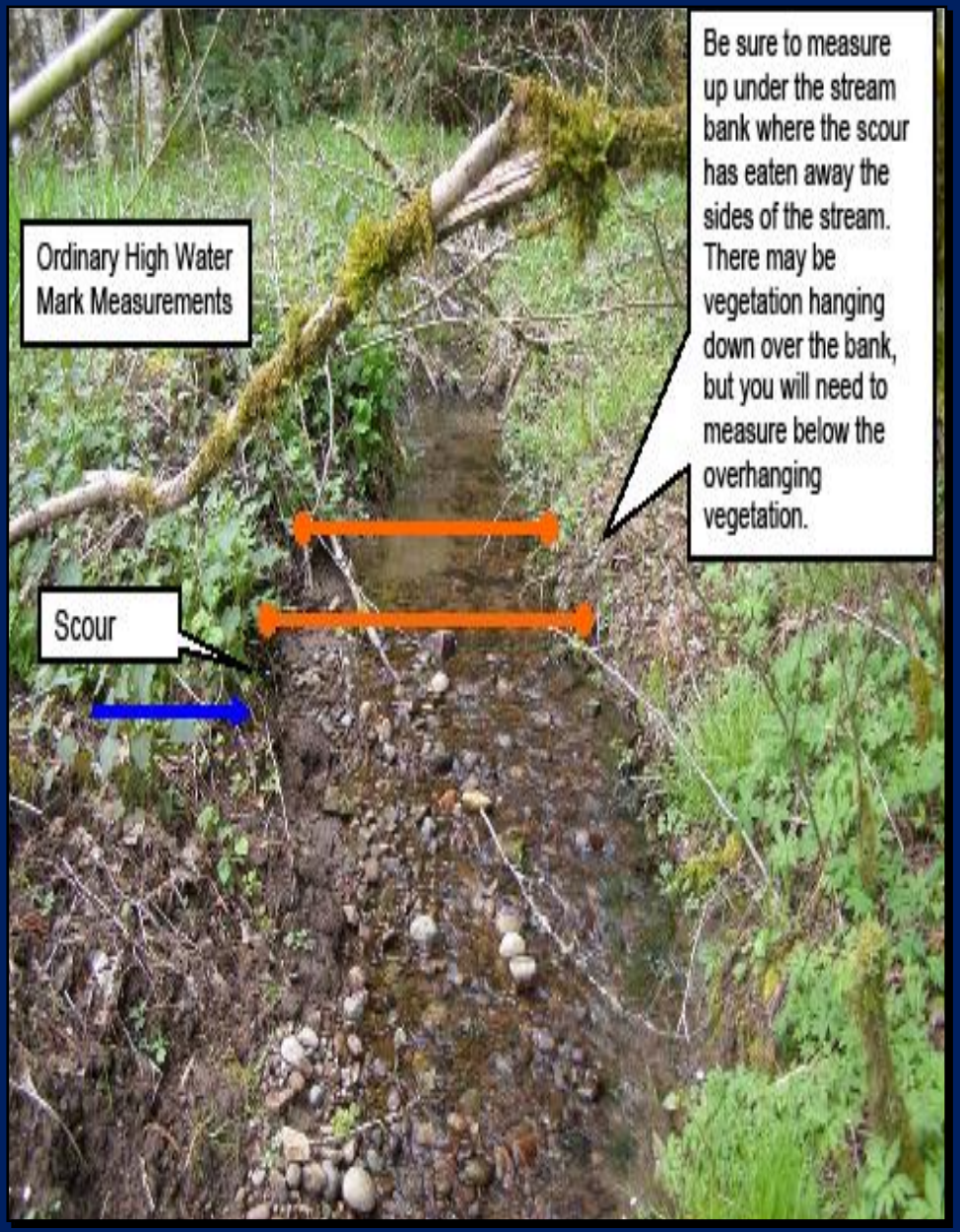
- The ordinary high water mark is found by examining the beds and banks of streams and rivers, and determining where the presence and movement of water in ordinary years occurs.

- The consistent and seasonal action of water will create a difference in soil appearance and vegetation (or absence of vegetation) between the water course and the upland.

Ordinary High Water Mark

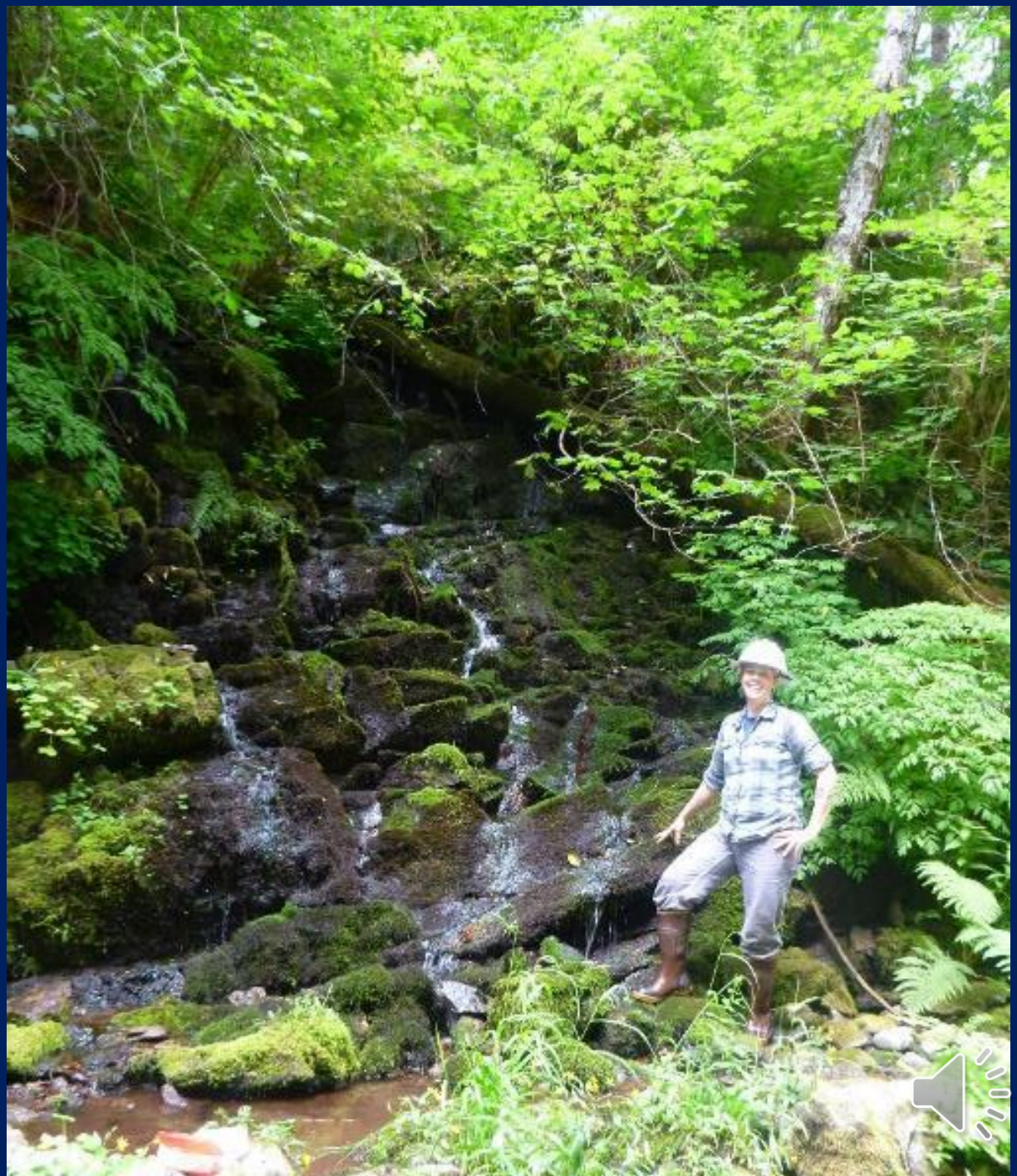
Defined Channel

A stream channel is defined by a sharp incision into the substrate where water and sediment are transported in concentrated flows and vegetation and organic detritus is generally absent.


Ordinary High Water Mark Measurements
Be sure to measure up under the stream bank where the scour has eaten away the sides of the stream. There may be vegetation hanging down over the bank, but you will need to measure below the overhanging vegetation.
Scour

Width and gradient stream measurements are taken at 50 foot intervals.

Example of a natural barrier



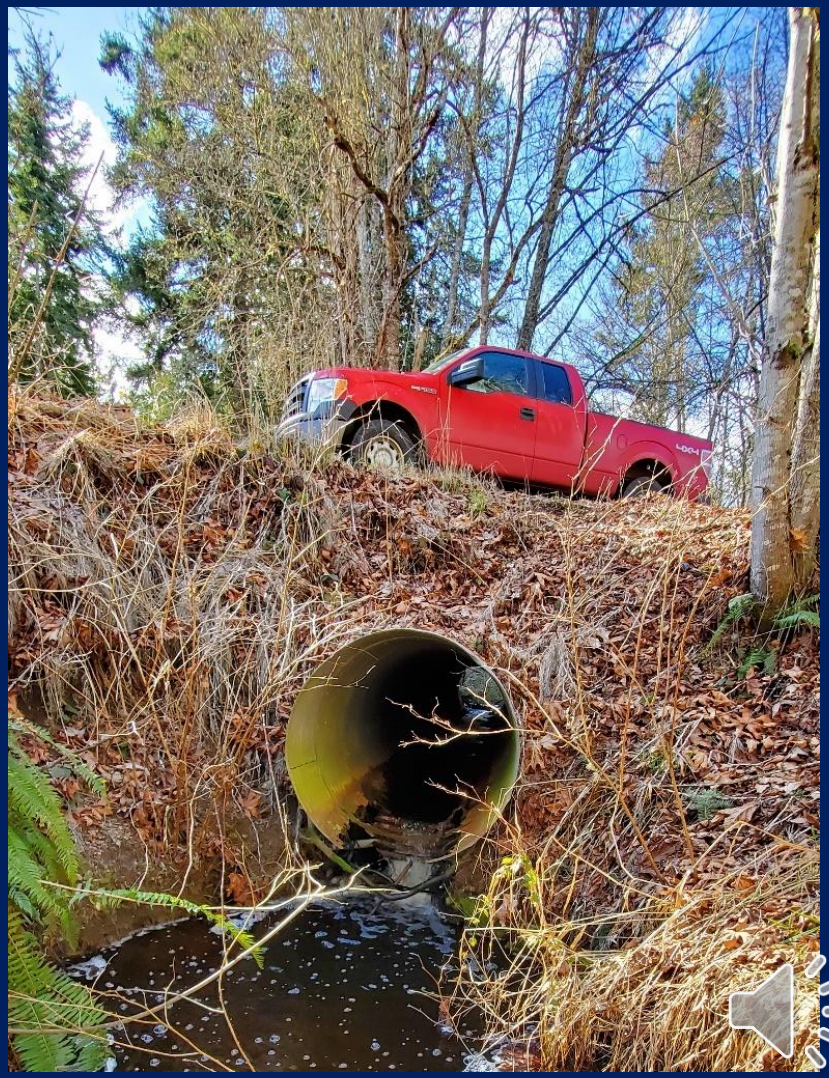
What is a barrier?

Natural barriers consisting of waterfalls greater than twelve feet in vertical height or long, steep cascades without fish resting areas generally block upstream migration of anadromous fish.

Such features and other potential natural barriers present likely sites from which to begin fish use surveys. Resident fish often exist upstream of such blockages so the presence of a natural barrier on its own is not proof of fish absence.

What is NOT a barrier suitable for electrofishing upstream

- A man-made barrier
- An underground stream
- Woody debris, log jam or beaver dam



Protocol Electrofishing Surveys

- Surveyors must be qualified and trained

- March 01 – July 15
- WDFW, NMFS, and USFWS permits

- Tribal consultation
- Forest Practices notification

- Lamprey, sculpin, Olympic mud minnows, and other native, non-game fish equate to fish presence.

100 foot drop = barrier to fish passage...

….but there still might be fish up here!

Tailed frog tadpoles