

Skagit Fish and Watershed Overview

Mike Olis SRSC



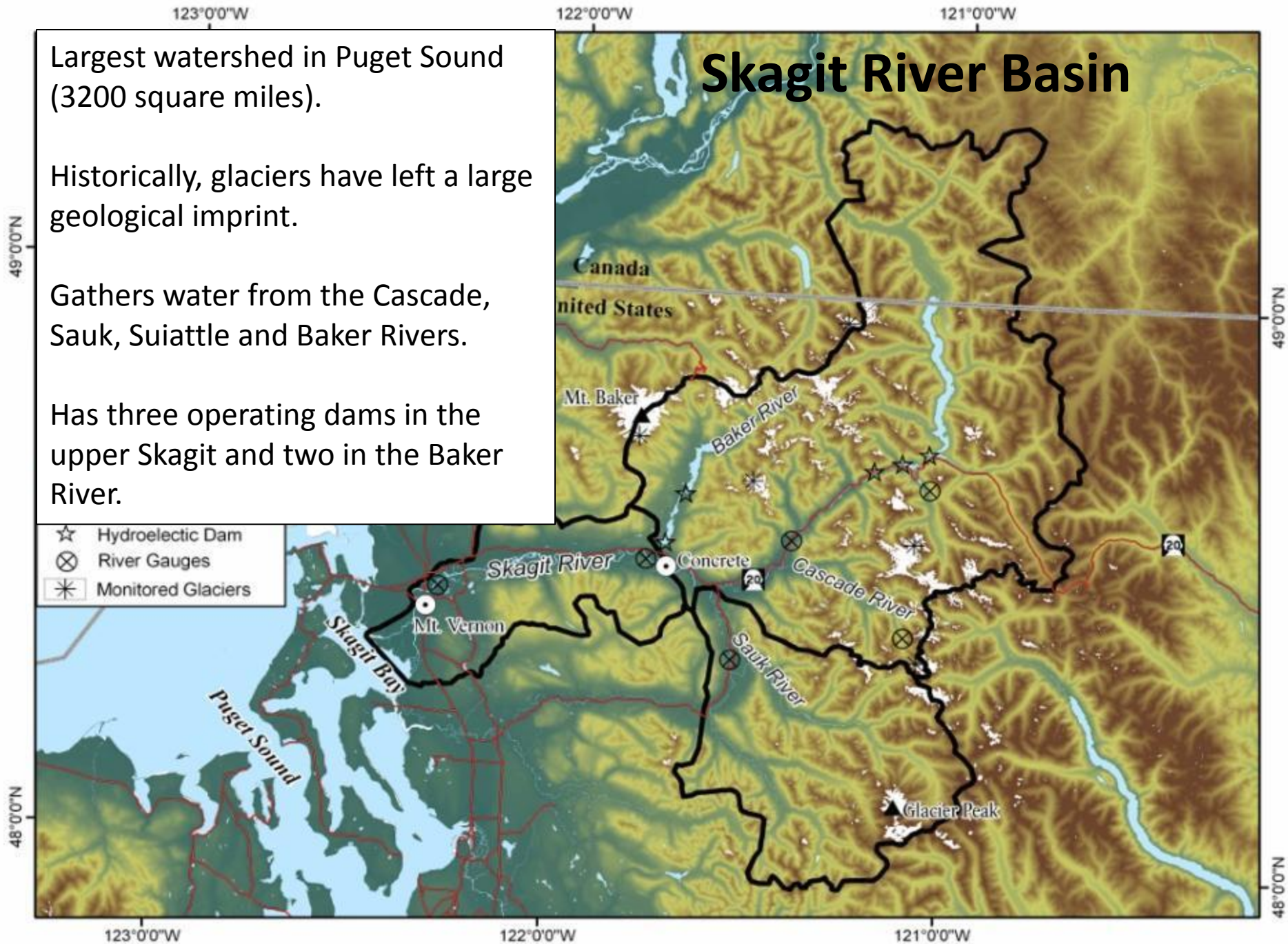
Largest watershed in Puget Sound
(3200 square miles).

Historically, glaciers have left a large
geological imprint.

Gathers water from the Cascade,
Sauk, Suiattle and Baker Rivers.

Has three operating dams in the
upper Skagit and two in the Baker
River.

Skagit River Basin



Only river in Puget Sound that is home to all 5 species of wild pacific salmon, steelhead and cutthroat trout.

Puget Sound chinook and steelhead are listed as threatened under the Endangered Species Act.



Factors Affecting Salmon Populations

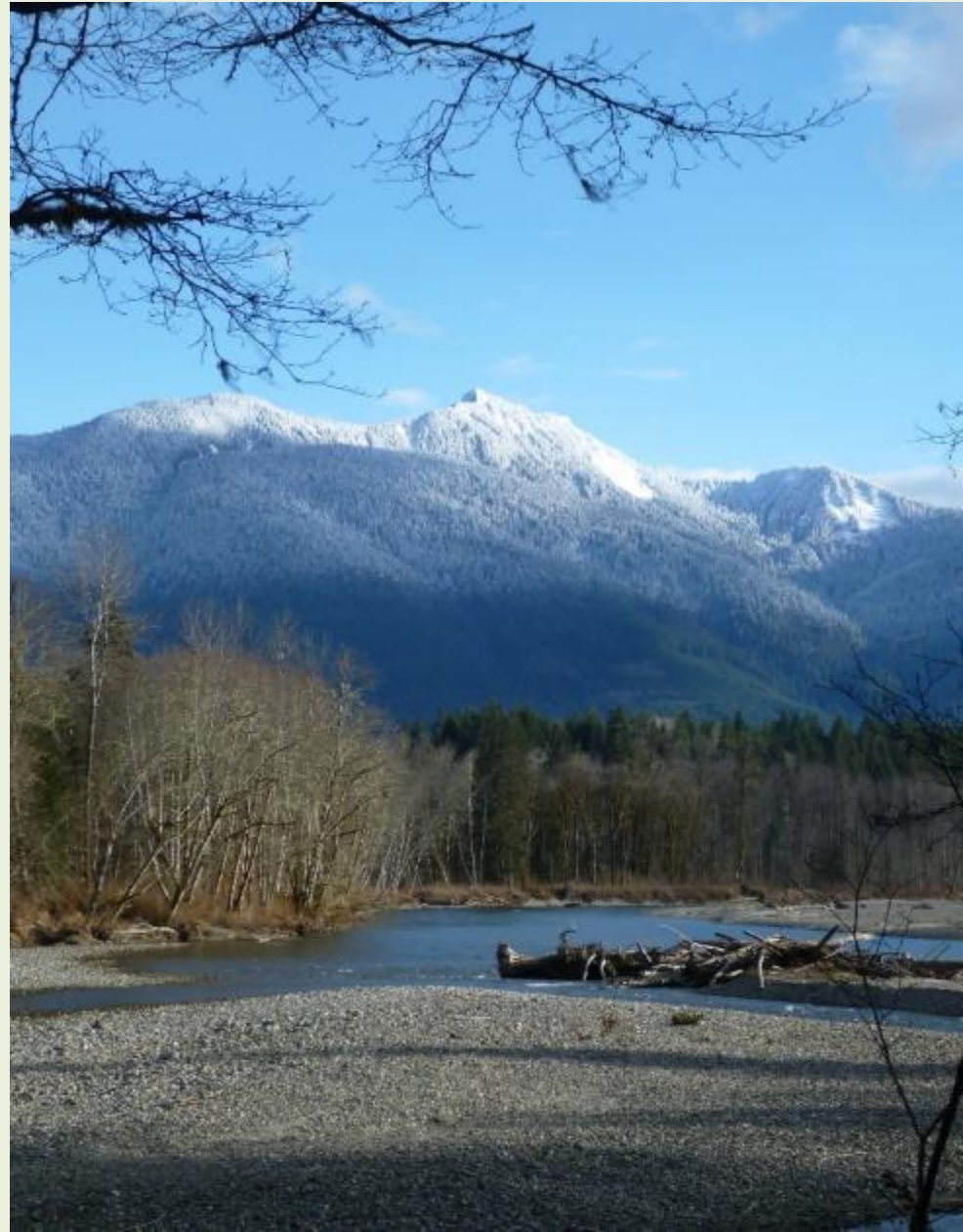
Hydro-electric dams

Harvest

Hatcheries

Habitat condition

Ocean survival



Recent Skagit salmon and steelhead spawner numbers



Jessica Newly

Chinook: fair
Coho: good
Sockeye: good

Steelhead: fair
Chum: poor
Pink: good

Land Use in the Skagit



Land Use Impacts on Fish and Fish Habitat



Increased sediment delivery

Reduction in wood recruitment to streams

Fish blocking structures on roads

Destabilization of stream banks

Elevated stream temperatures



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Forest Practice Rules are in place to minimize these impacts





Water Typing

Stream Classifications:

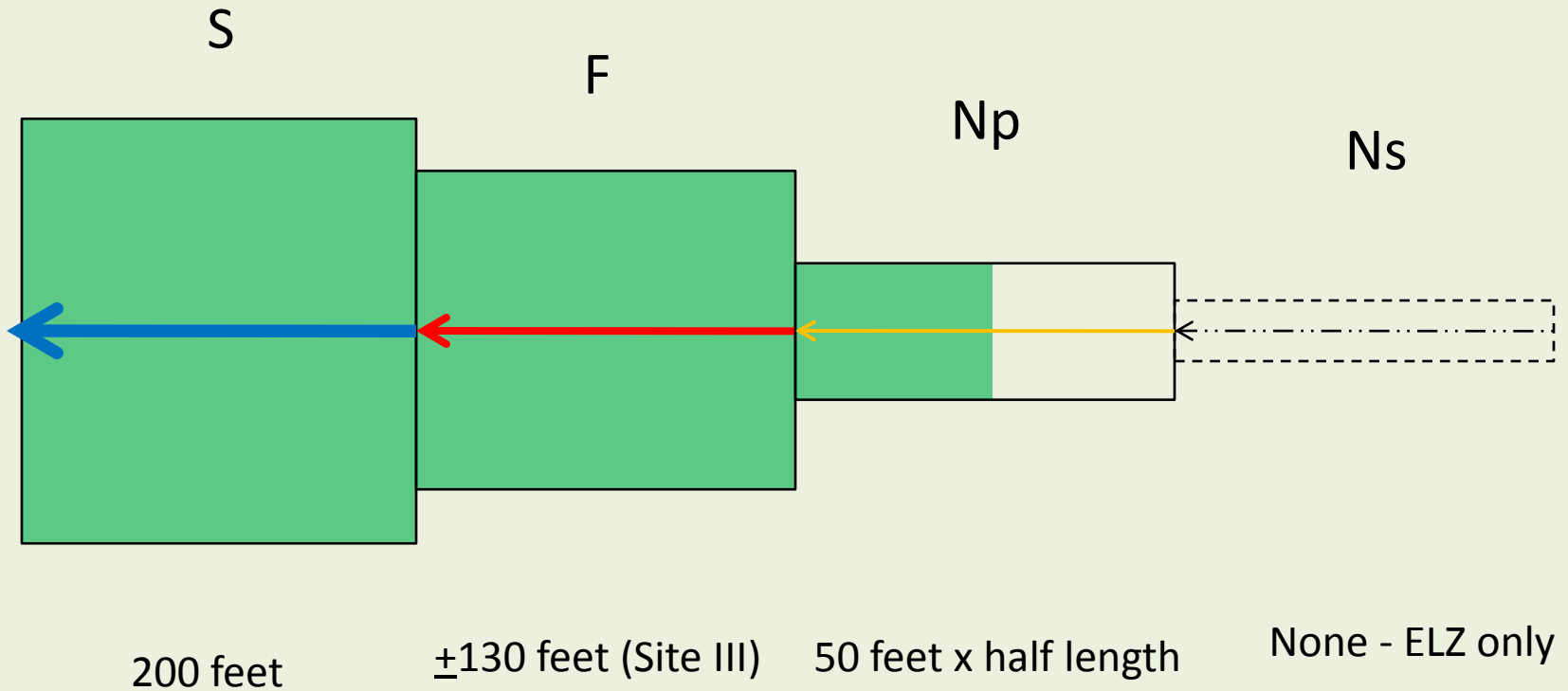
Type S – Shorelines of the State

Type F – Fish bearing water

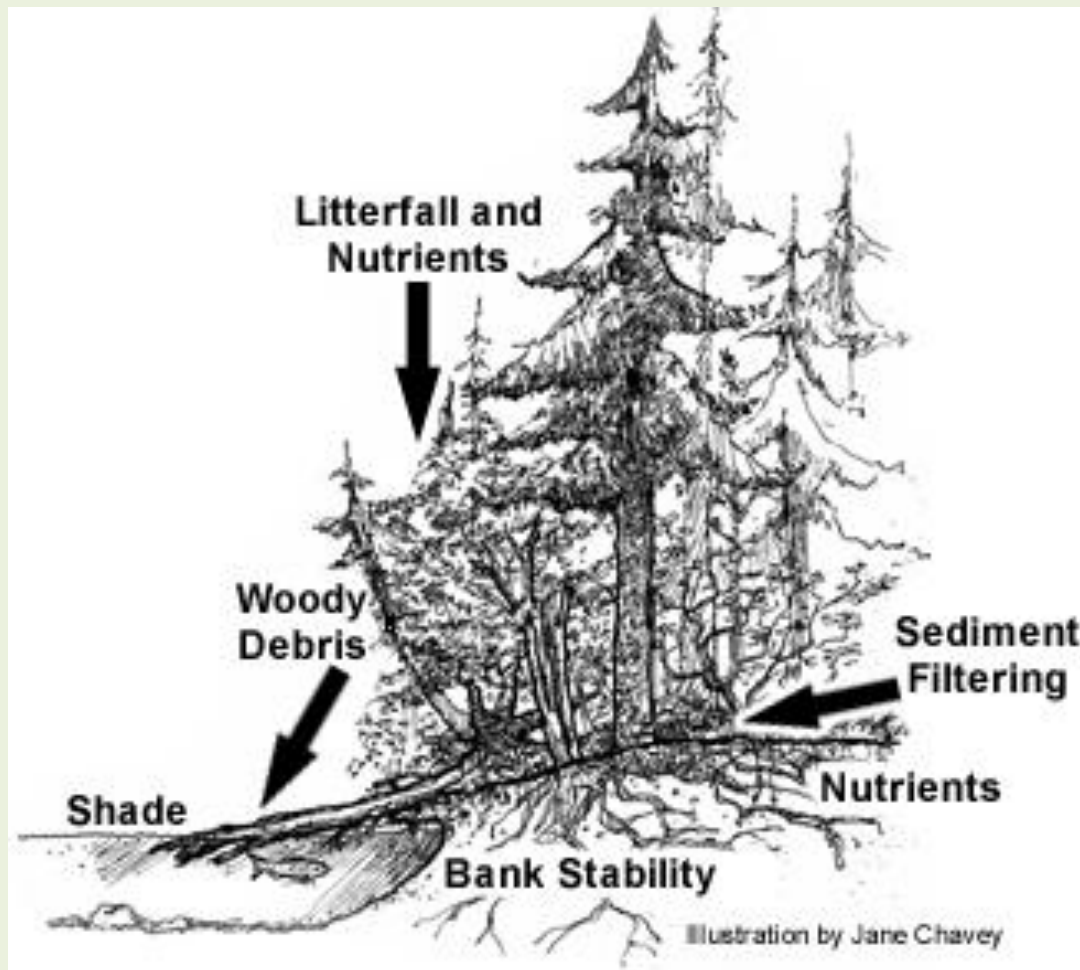
Type NP – Non fish bearing and year round flow

Type NS – Non fish bearing and seasonal flow

Buffer widths



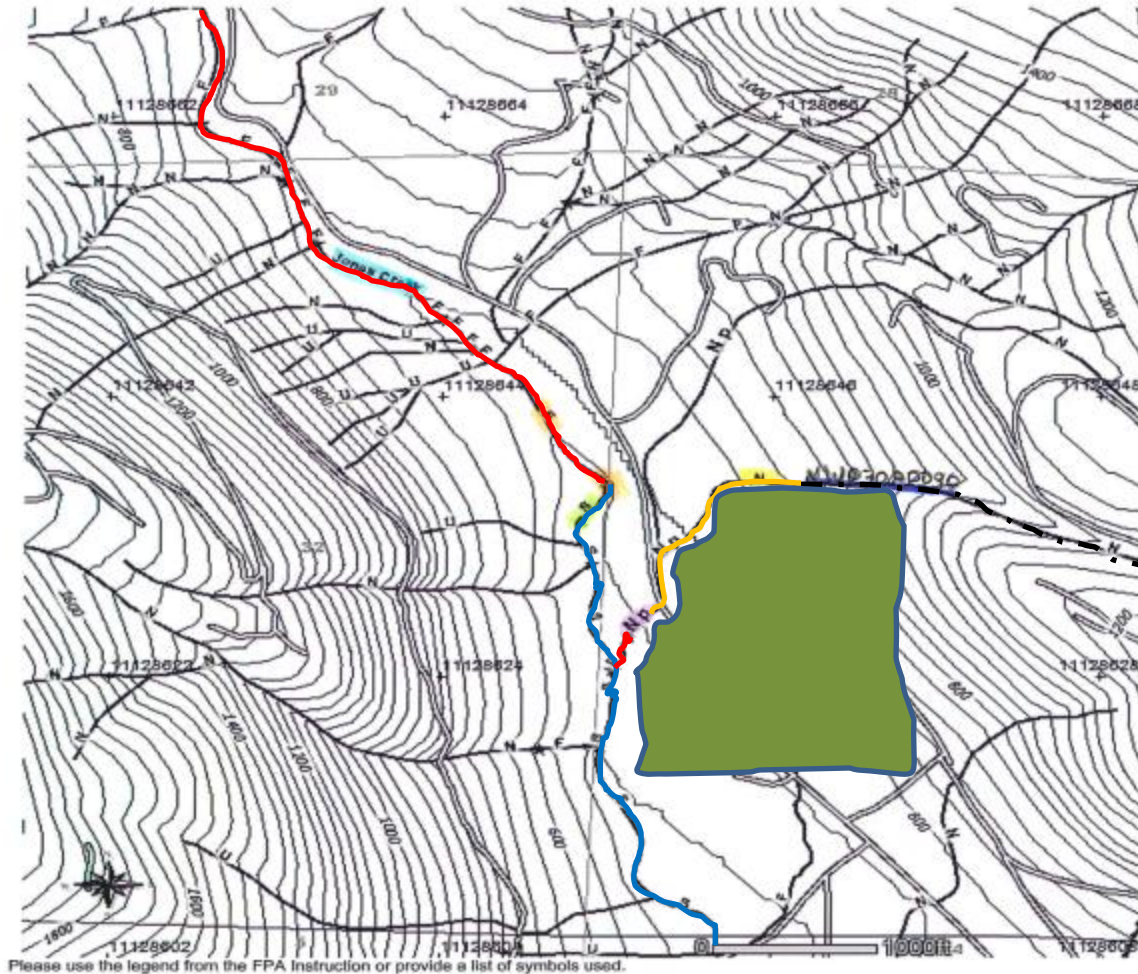
Riparian Functions



FOREST PRACTICE ACTIVITY MAP

TOWNSHIP 36 NORTH HALF 0, RANGE 6 EAST (W.M.) HALF 0, SECTION 32

Application #: _____



Please use the legend from the FPA Instruction or provide a list of symbols used.

10/13/2014 10:56:33 AM
NAD 83
Contour Interval: 40 Feet

WDNR Water Typing Map (website)



Water Typing Challenges

Mismapped streams

Mistyped streams

Unmapped and un-typed streams

Seasonal streams



Is the stream fish bearing
or non-fish bearing?

Is there access for fish?

Is it over 2 ft wide and less than 20%?

Protocol electro-fish surveys



Fish Use in Small Streams And Wetlands



Off Channel Habitat Types

Small streams

Wetlands

Springs

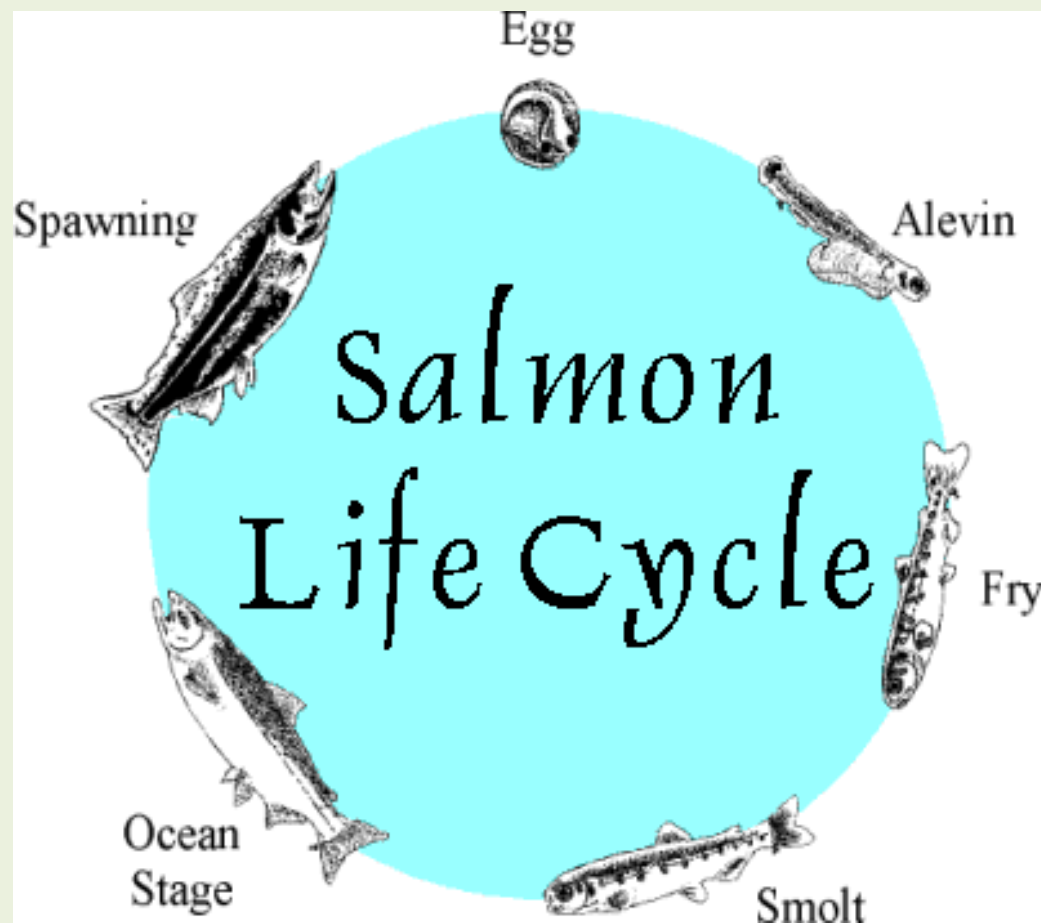
Seasonal streams



Coho



Cutthroat









Summer months

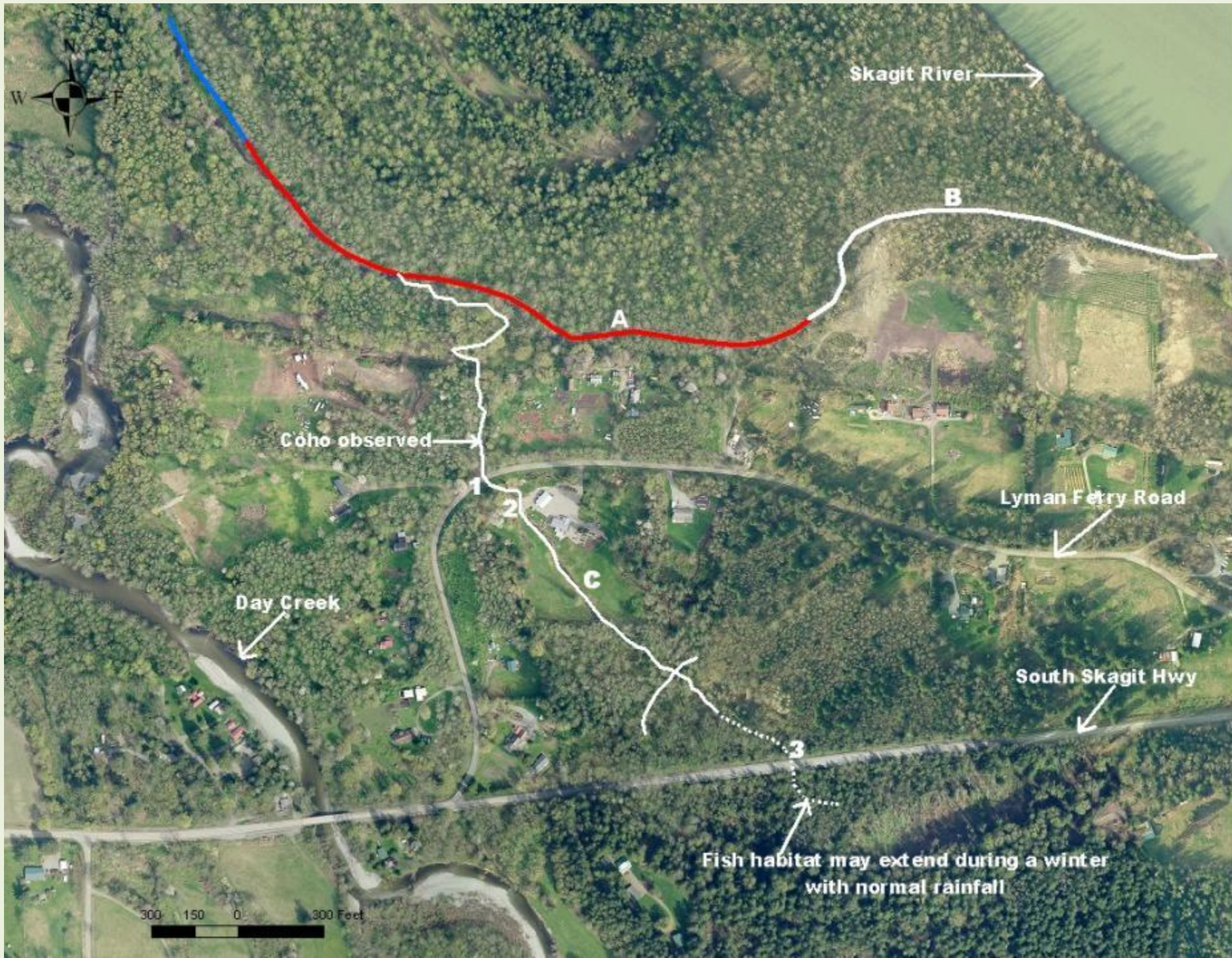
Winter, Spring



Juvenile Salmonid Freshwater Habitat Requirements



- Low velocities as found in off-channel habitats and tributaries
- Abundant habitat cover including cobbles, boulders, wood, and vegetation
- Cool water temperatures
- Abundant invertebrate food supply



Fish blocking culvert





Family Forest Fish Passage Program

5

Get advice and financial assistance to help restore fish populations by removing fish passage barriers on your forestland. This program pays 75 percent to 100 percent of the cost to replace a fish barrier with a fully passable structure.

Outfall drop may create a passage barrier for both adult and juvenile fish

BARRIER

Proper fish passage structures should maintain natural streambed materials and gradient through the culvert

NON-BARRIER



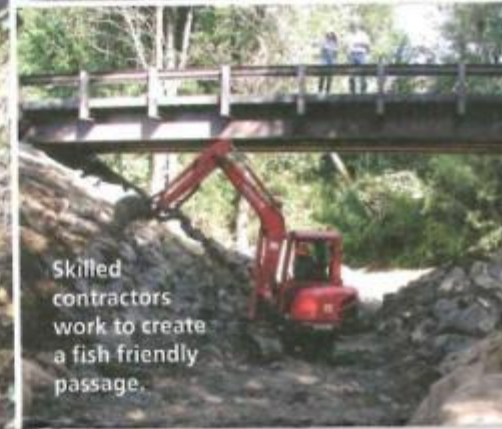
DNR staff work with local sponsors to replace undersized culverts with fish passable structures.



BEFORE



AFTER



Skilled contractors work to create a fish friendly passage.



Thanks!