



Where Land Meets Water

Heather Pritchard
Cowichan Watershed Board

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Overview:

- What is a riparian ecosystem?
- Why are they important?
- What is the Cowichan Watershed Board, with our partners, doing to help us understand current riparian health?

Two main themes:

- Connectedness
- Movement



Riparian ecosystem:

A transition zone...

...between aquatic and
terrestrial upland
ecosystems

Most important
AND
most vulnerable



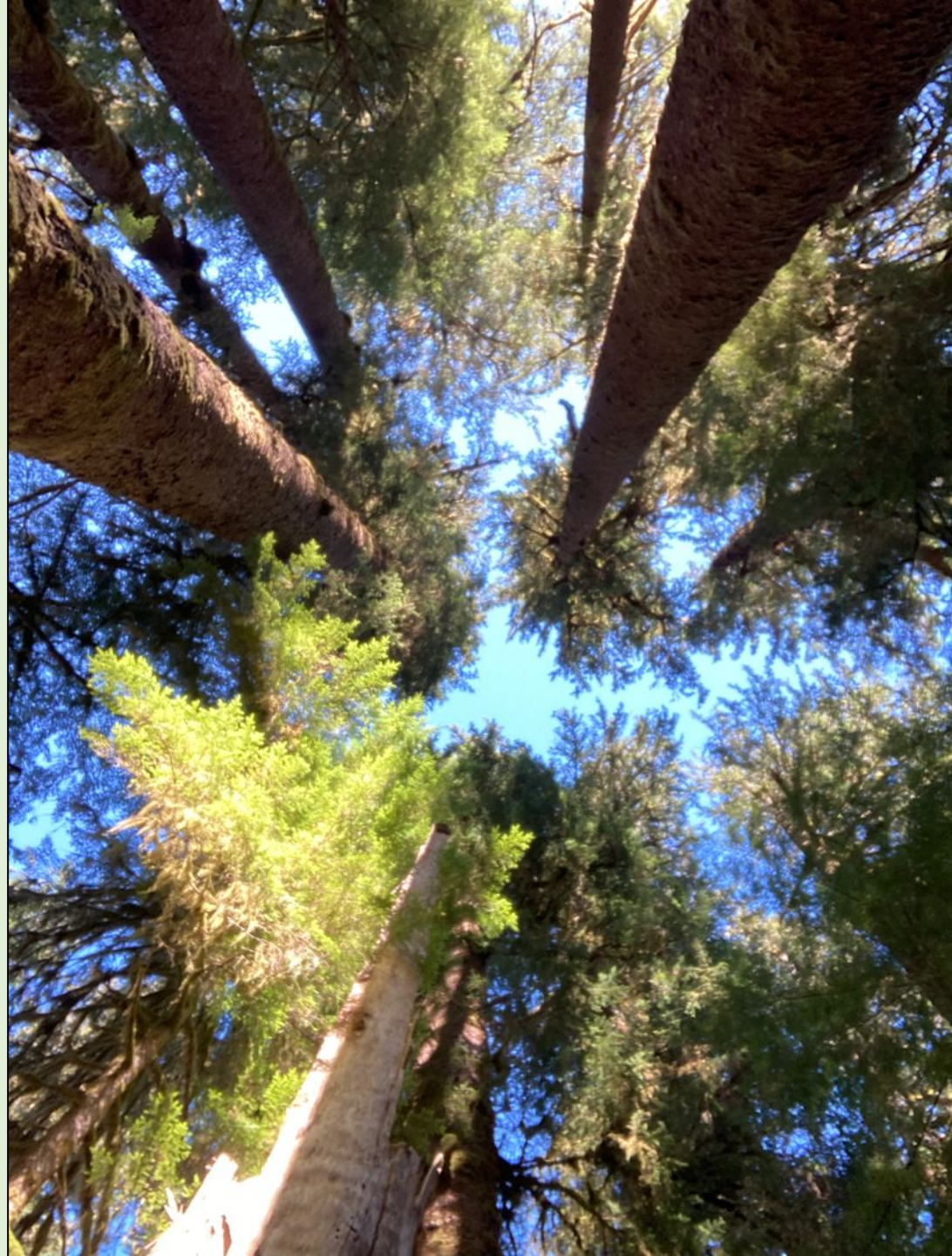
This includes:

- Big rivers
- Small creeks
- Lakes
- Wetlands
- Estuary
- Springs
- Etc...



And they are 3-dimensional

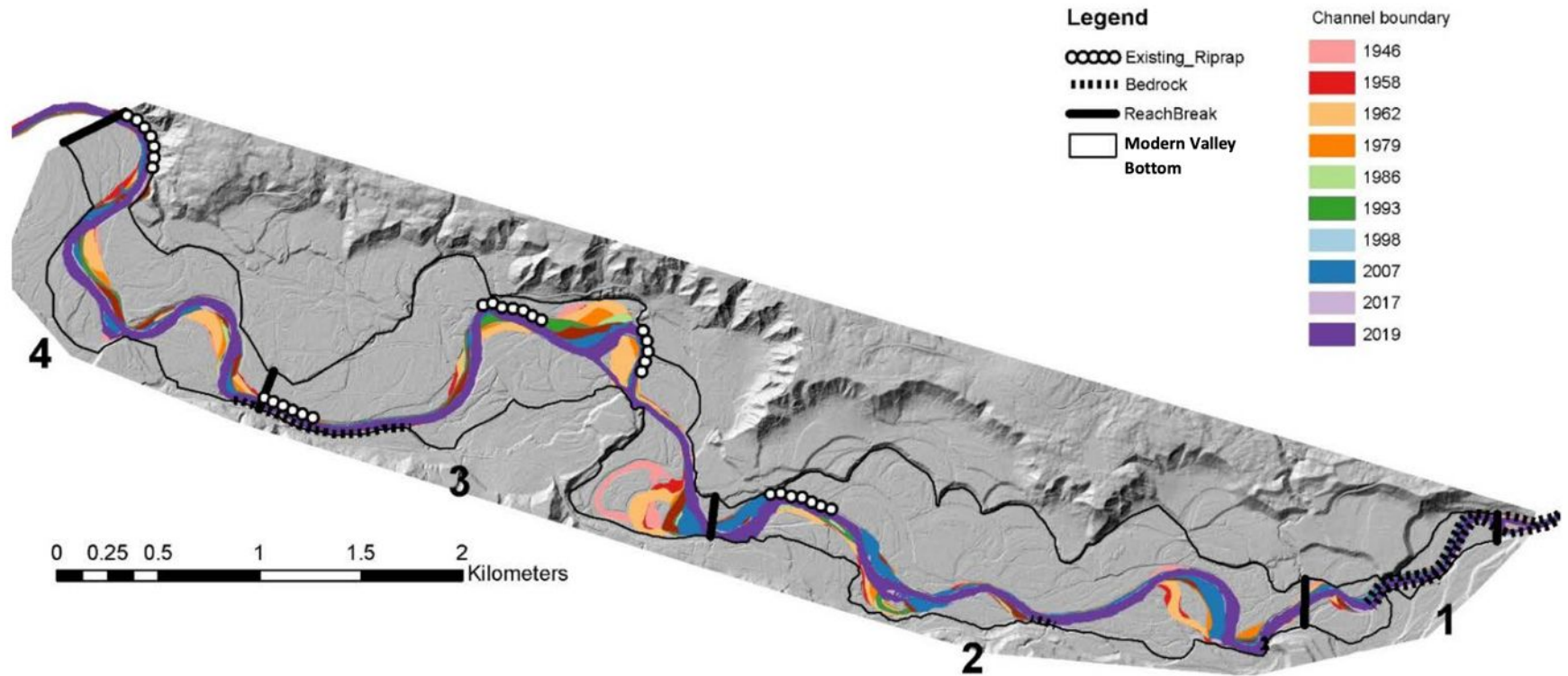
- Along the water
- Outward from the water
- Upward into the canopy



**They come in all shapes, forms,
sizes, and ages...**



They move as the river moves...





New shrubs

Older shrubs

Alder

Conifers

Cottonwood

A photograph of a dense forest, likely a riparian forest, featuring large, moss-covered tree trunks and a person standing in the distance. The forest floor is covered in green ferns and fallen branches. The text "Riparian forests may be stable old growth" is overlaid in the bottom left corner.

Riparian forests may be
stable old growth

Spiritual values

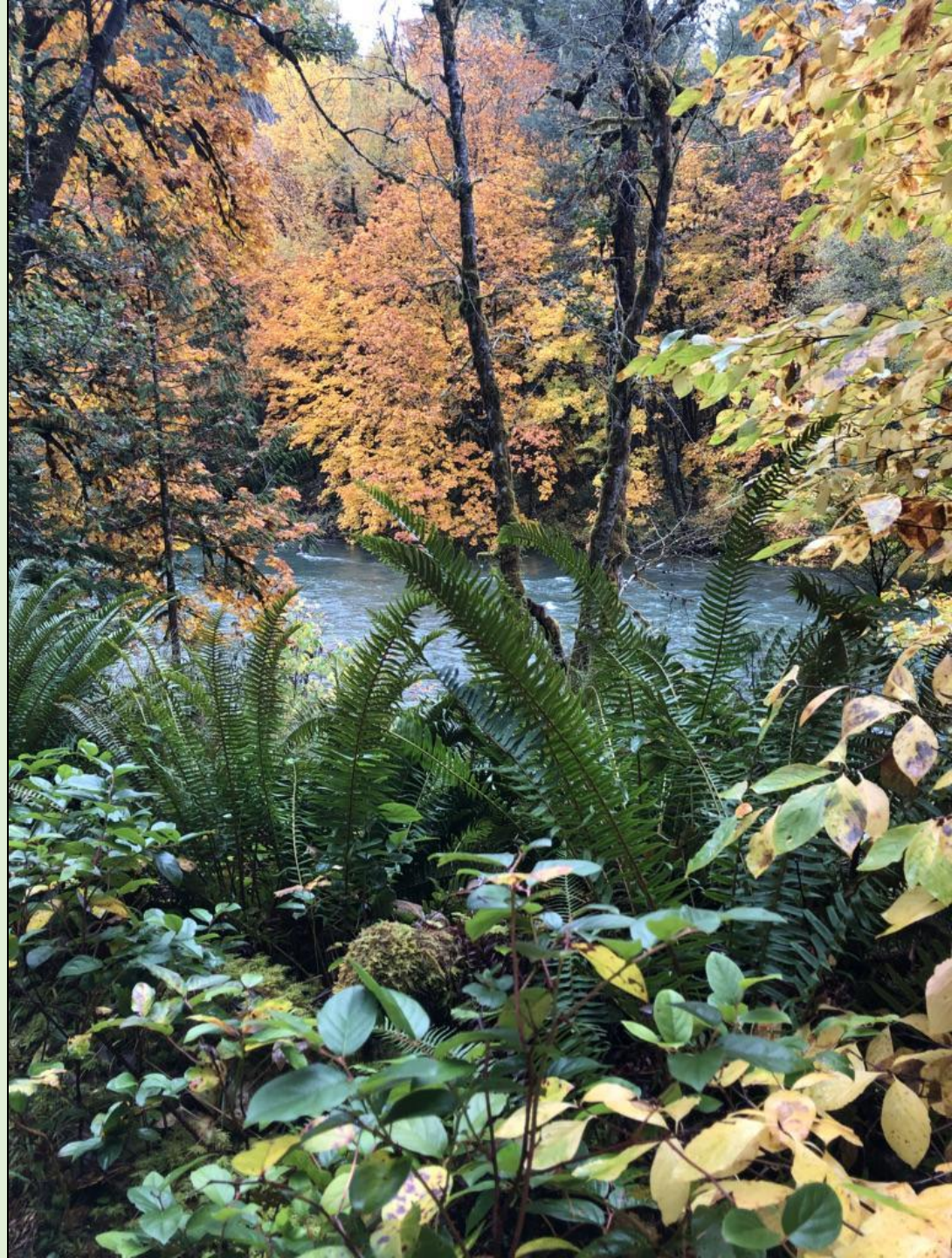


Cultural values



Keeps water clean

- Trap sediment
- Removes nitrogen and phosphorus



Reduce impacts from flooding

- Dissipate energy in winter storms
- Trap sediment

Stabilize river banks



Create healthy fish habitat



- Provide shade to cool the water
- Roots, shrubs, and large wood provide hiding cover
- Provide insects for food



Large wood

**Trees from riparian areas create
river complexity**



Wildlife habitat



Highest wildlife species diversity



Primary keystone species of riparian areas:

Cottonwood
and willow



Beaver



Salmon







Provide cool, moist microsites

Riparian areas can't solve all the problems...



What's an effective riparian width? It depends...

Riparian Function	Range
Bank stabilization	9 – 30 m
Sediment control	9 – 100 m
Reduce flood risk	Entire floodplain
Filter Nitrogen and Phosphorus	5 – 70 m
Stream temperature	10 – 70 m

Clean
water

Riparian widths

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Stream temperature	10 – 70 m
Litter inputs	3 – 100 m
Invertebrate inputs	30 – 100 m
Large Wood Deposits	15-50 m

Healthy
fish

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Mammals	5 – 500+ m
Birds	20 – 500 m
Amphibians and reptiles	120 – 290 m
Microclimate	45 – 100 m

Healthy
wildlife

Healthy
everything!

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Cultural values	???
Spiritual values	???

Very different than riparian widths in legislation...

TARGET: We want to protect and restore functioning of streamside, lakefront, wetland, and estuary riparian habitats.

INDICATORS (interim):

- Area estimates of protected riparian habitats along Cowichan River, Cowichan Lake, and Koksilah River are available.
- Area estimates of successfully restored riparian areas along Cowichan River, Cowichan Lake, and Koksilah River are available.

Twinned Watersheds Project:

Riparian Vegetation Assessment in the
Chemainus and Koksilah Watersheds



Prepared for:
Cowichan Watershed Board
Duncan, BC

Prepared by:
Heather Pritchard, RPF
Christoph Steeger, RPBio
Kennen Consulting
Duncan, BC

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Partners:

Farmland Advantage Program

Khowutsun Forest Services



Kelvin Creek Pilot Project

Goal: To test and refine definitions in order to assess indicators

1. Define protected riparian habitats, successfully restored riparian areas, and geographic extent of a riparian assessment area.

Why Kelvin Creek?

- Important fish stream
- Restoration projects underway

Where are we at:

- Have funding
- Secured a GIS tech
- Now we're waiting for Lidar data...



Huy tseep q'u

