

Lower Columbia IMW

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Take Home Message

If you:

Target **LIMITING FACTORS** in
density dependent populations,
AND

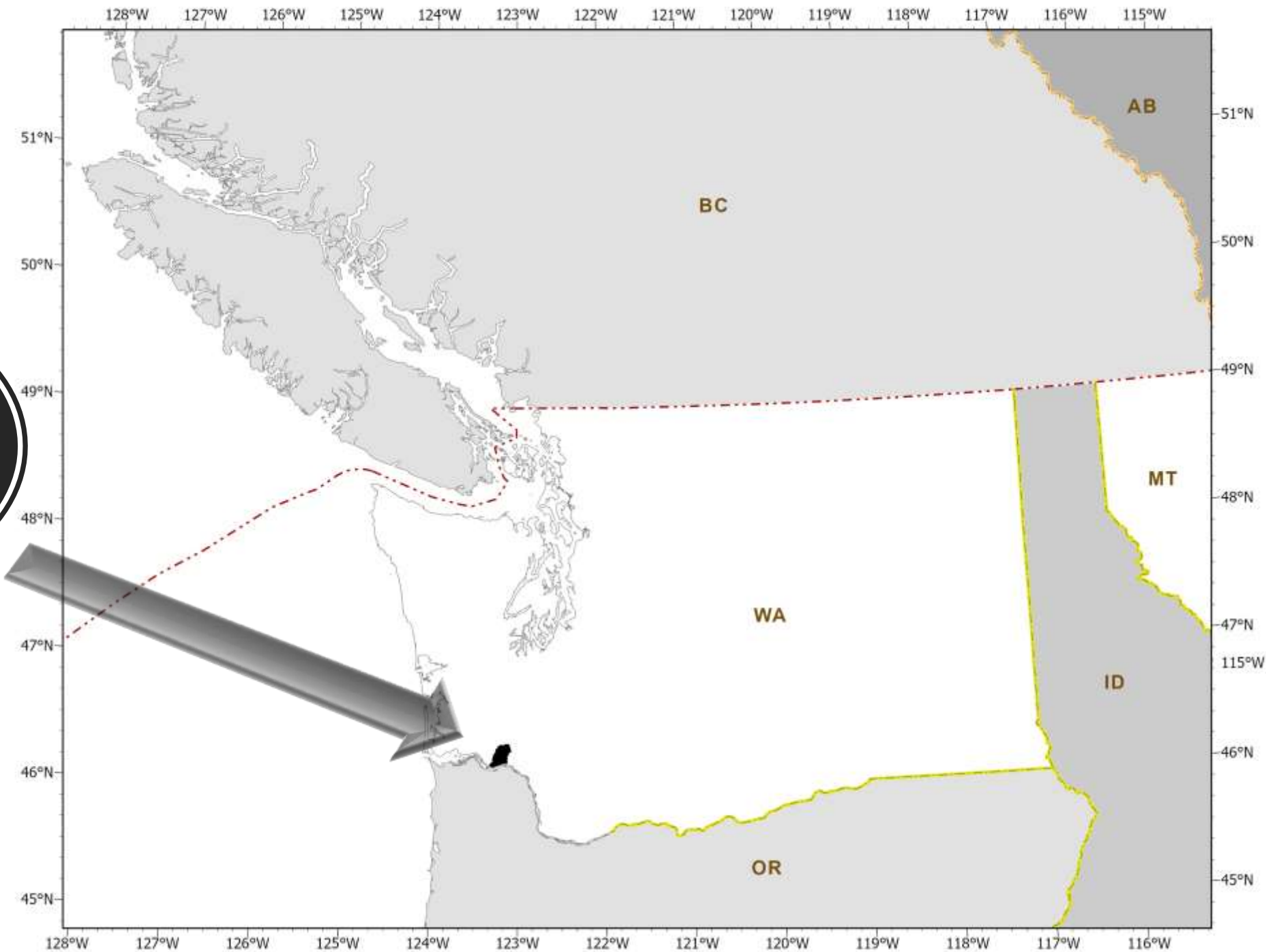
Implement spatially **EXTENSIVE**,
and **INTENSIVE** projects, THEN

You've given your project the best
chance at **HELPing SALMON...**

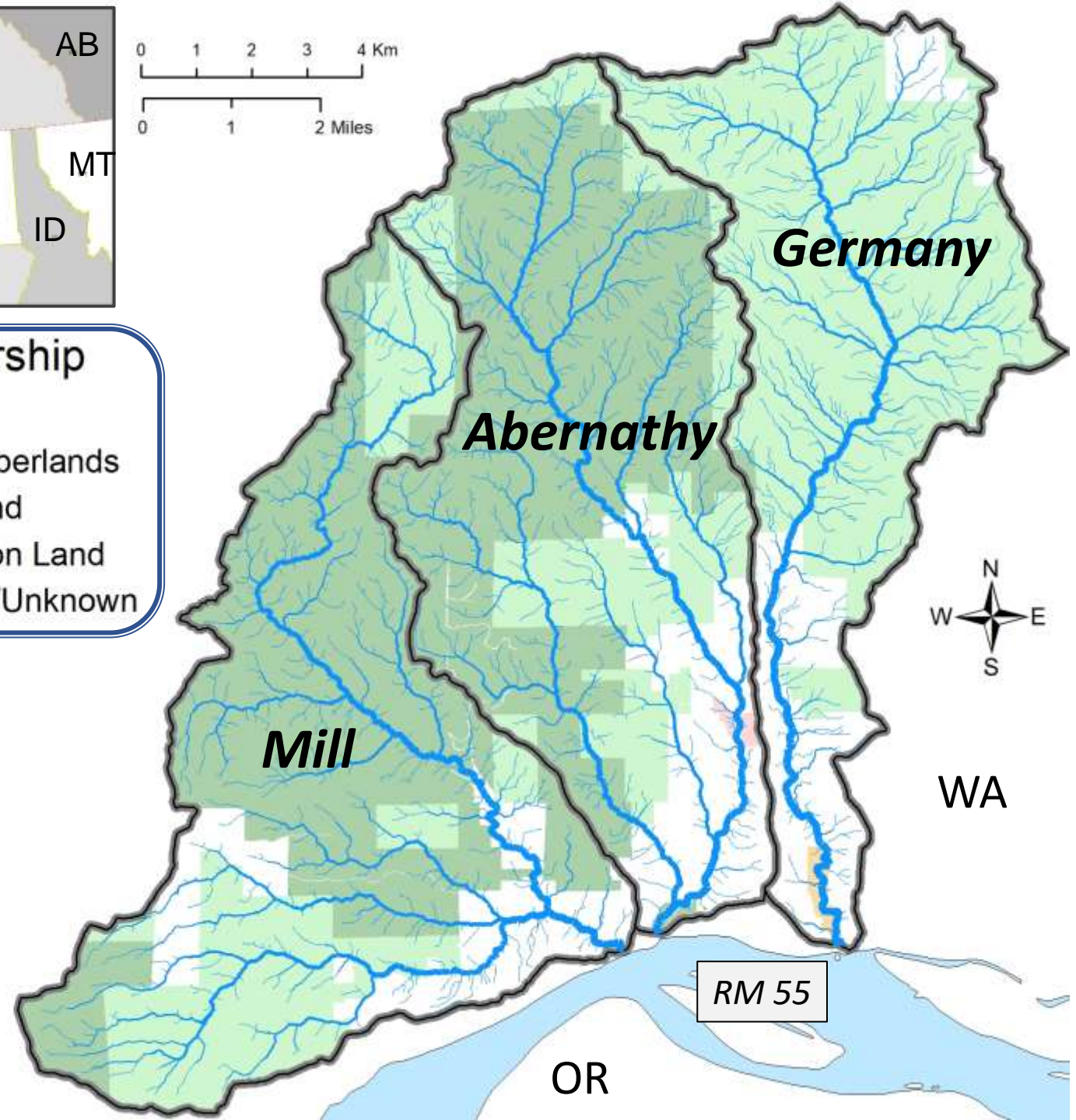
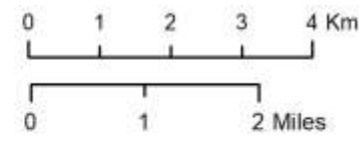
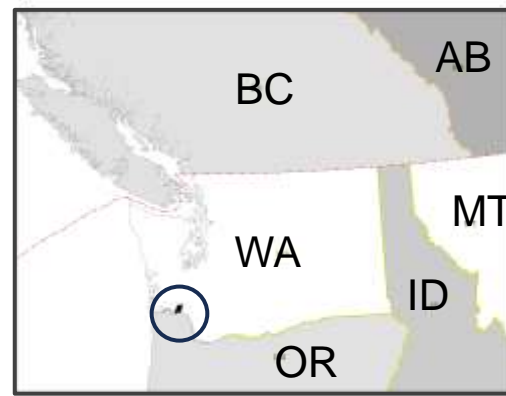
BUT it takes **TIME**.



Where are we?



Lower
Columbia –
IMW
Complex



*Columbia River
Estuary*

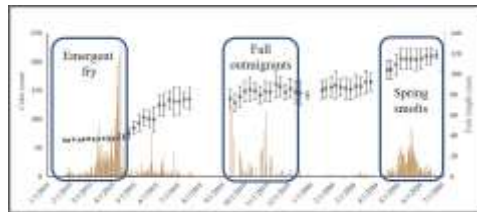
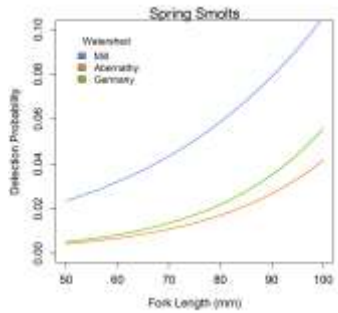
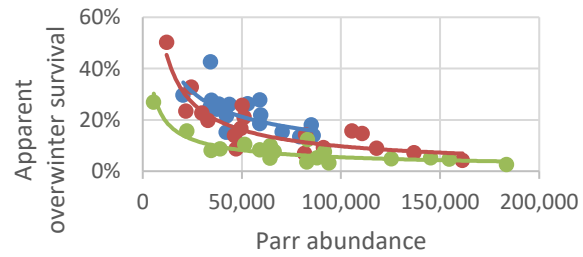
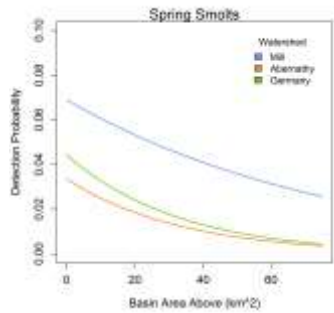


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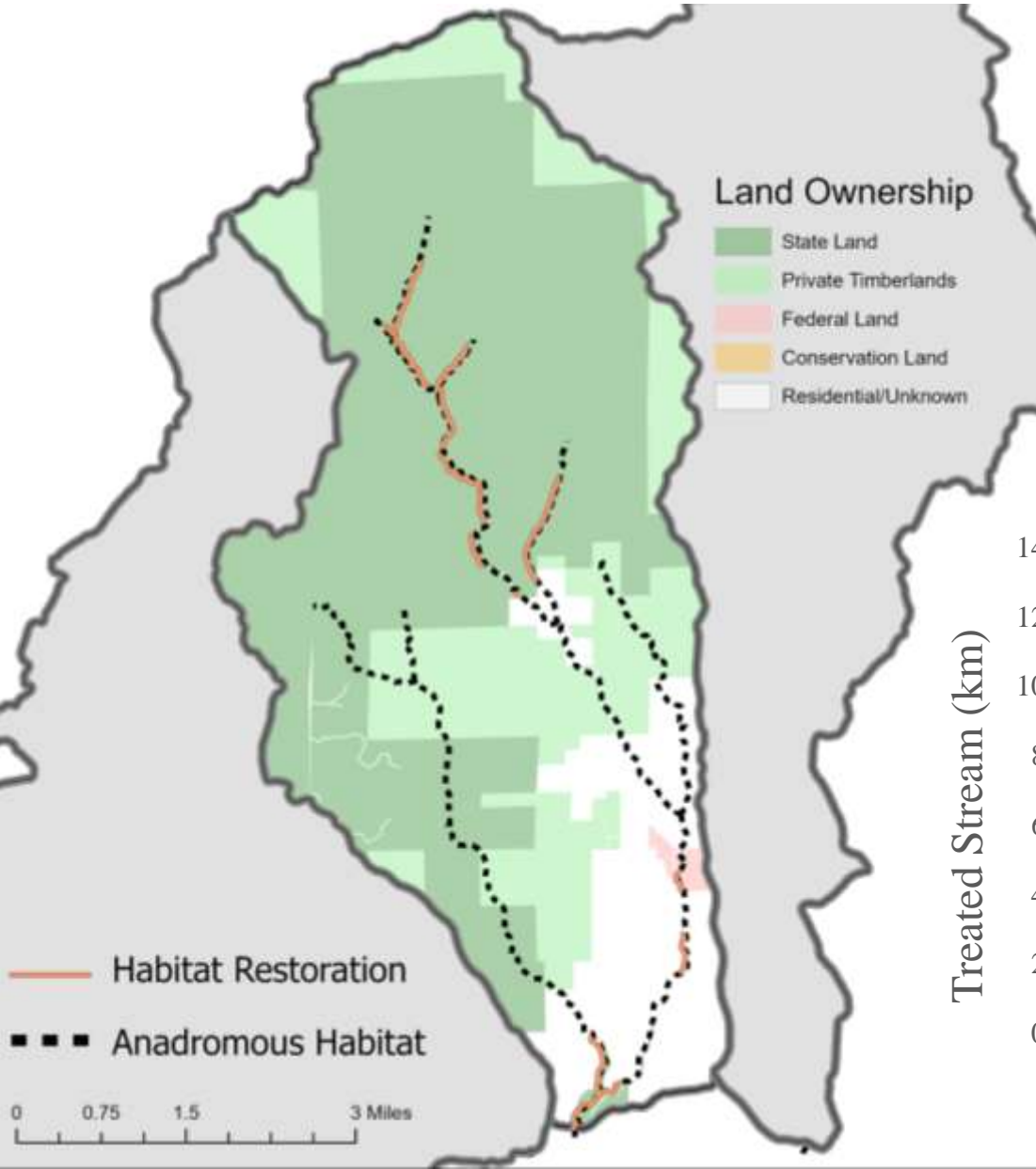


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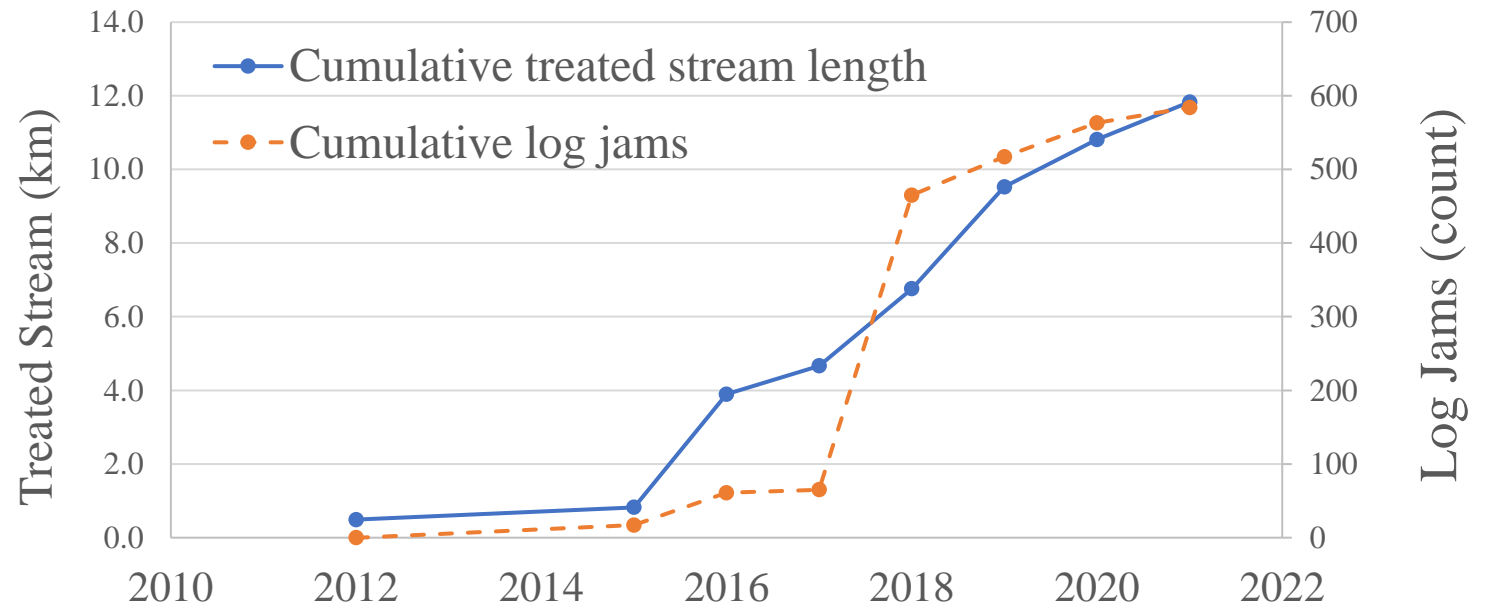
20 years of fish monitoring data suggests habitat is limiting population productivity



Substantial restoration in Abernathy Creek, 2012-2021



33% of accessible habitat treated (12km of 36km)
13 completed projects, **Primarily wood additions**
1.7 miles of improved fish passage
37 acres riparian habitat restored
0.8 miles of new off/side channel habitat



IMW Results: Wood Placement that Works

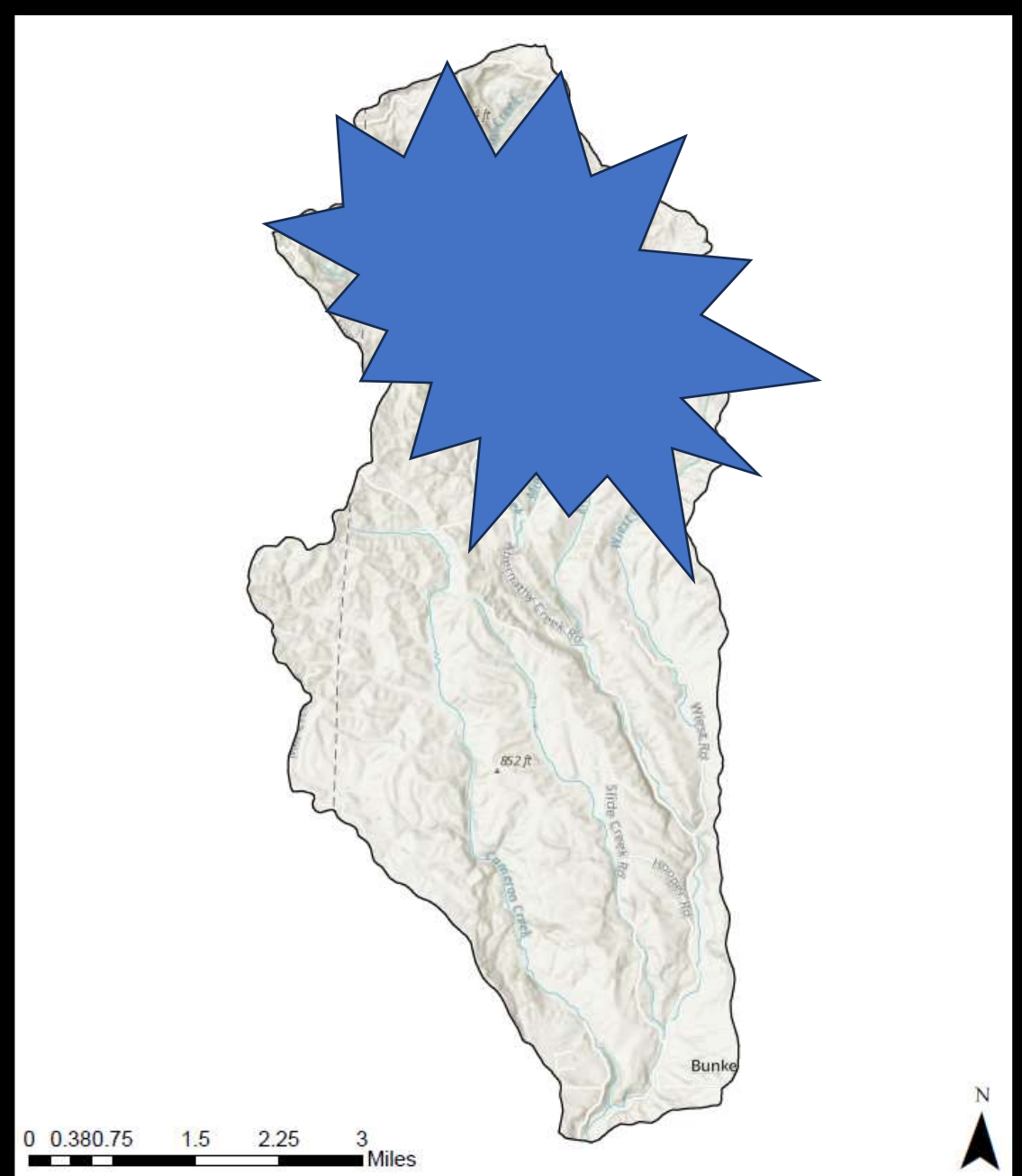
- Must address limiting factors.
- Must be extensive.
- Must be intensive (*and/or repeated*).

Extensive Treatments

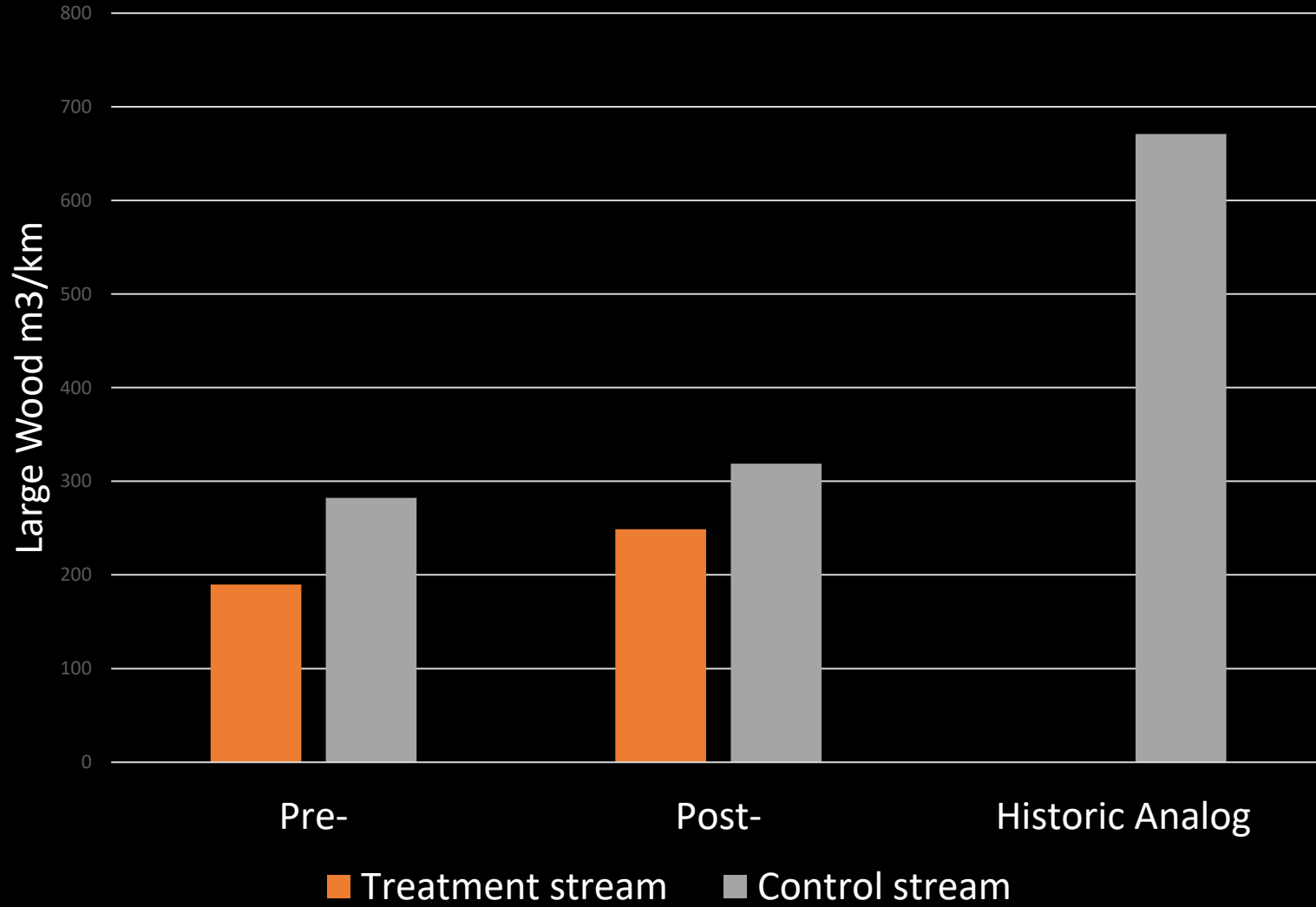
Asotin: 39% of study area
(~4.7 structures/100m)

Lower Columbia: 30-35% of
anadromous stream miles

Pudding Creek: 80% of
watershed treated, 12.1km
(n=438 pieces)



pudding Creek Wood Figures



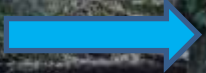
Data from Okun, 2021



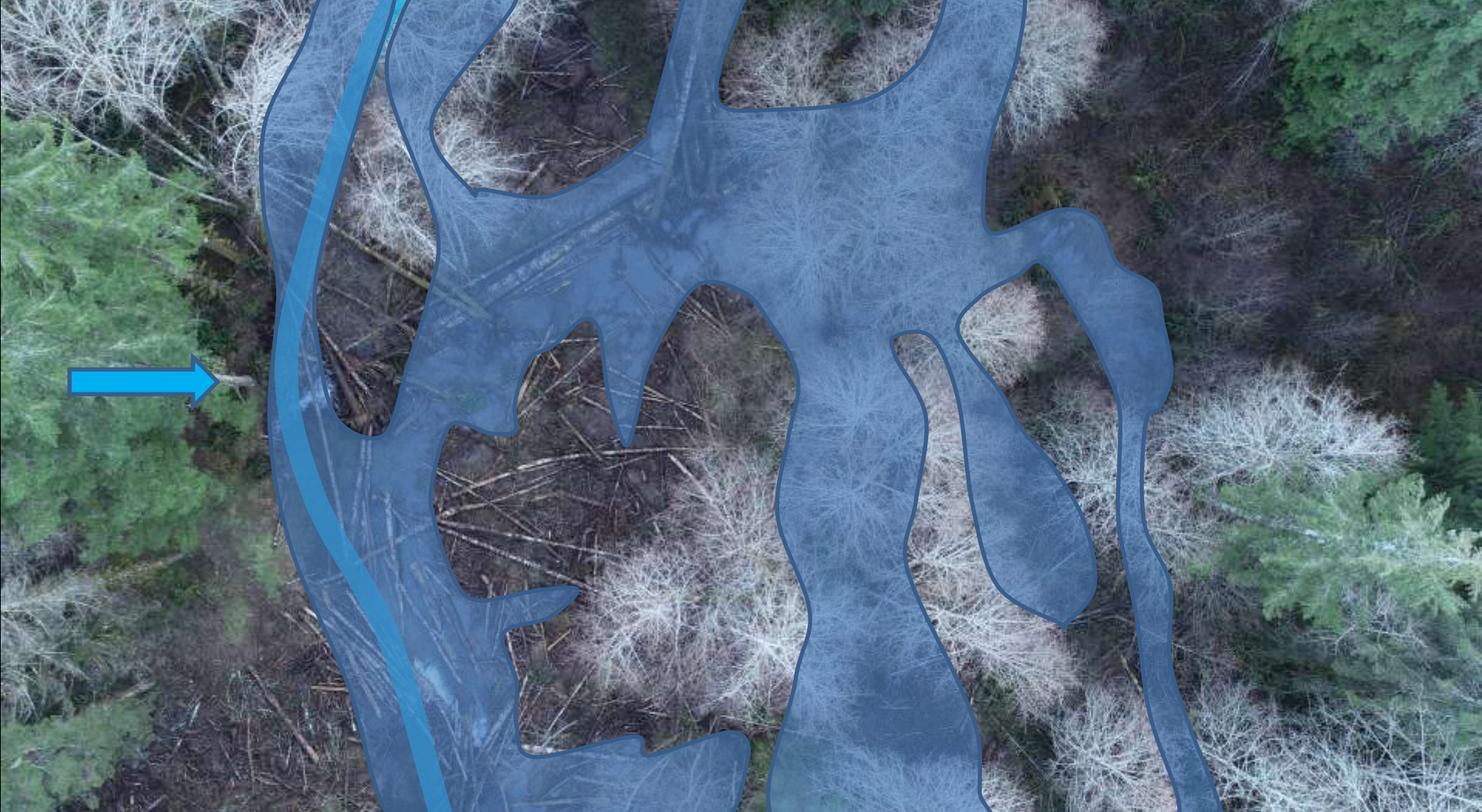


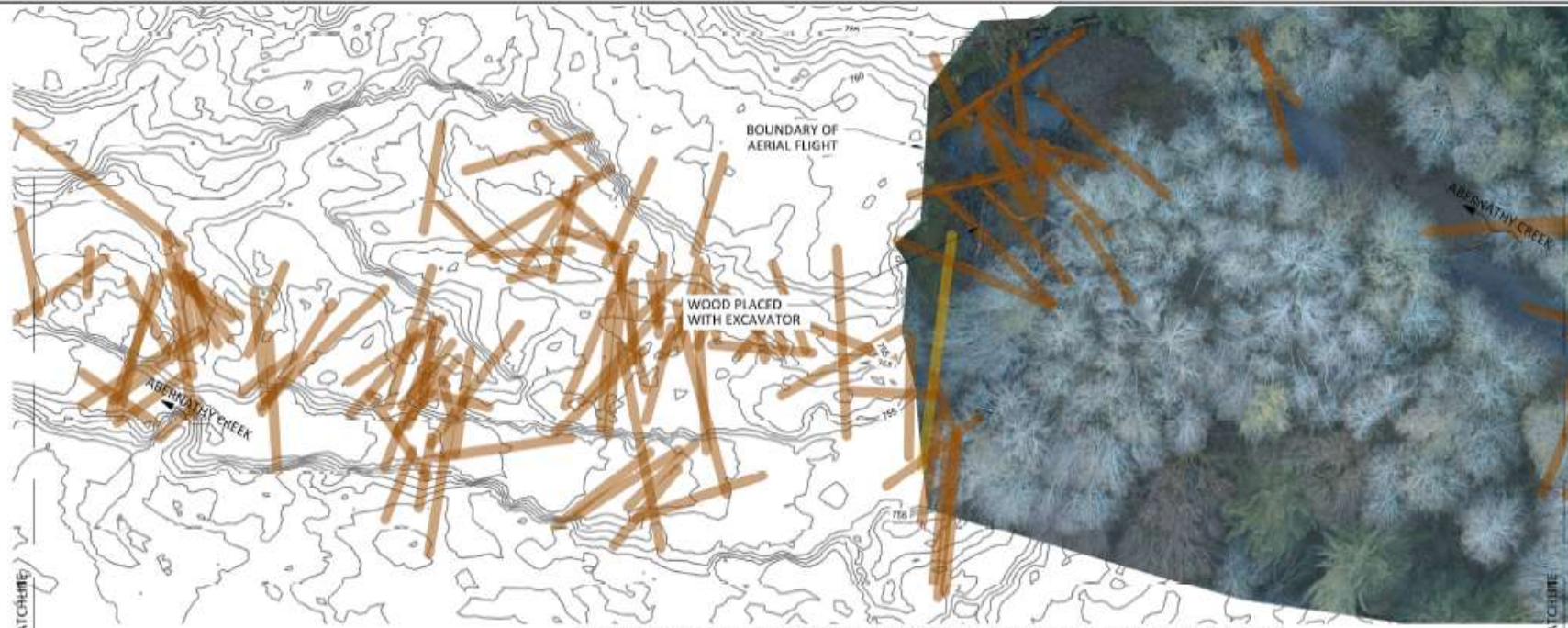




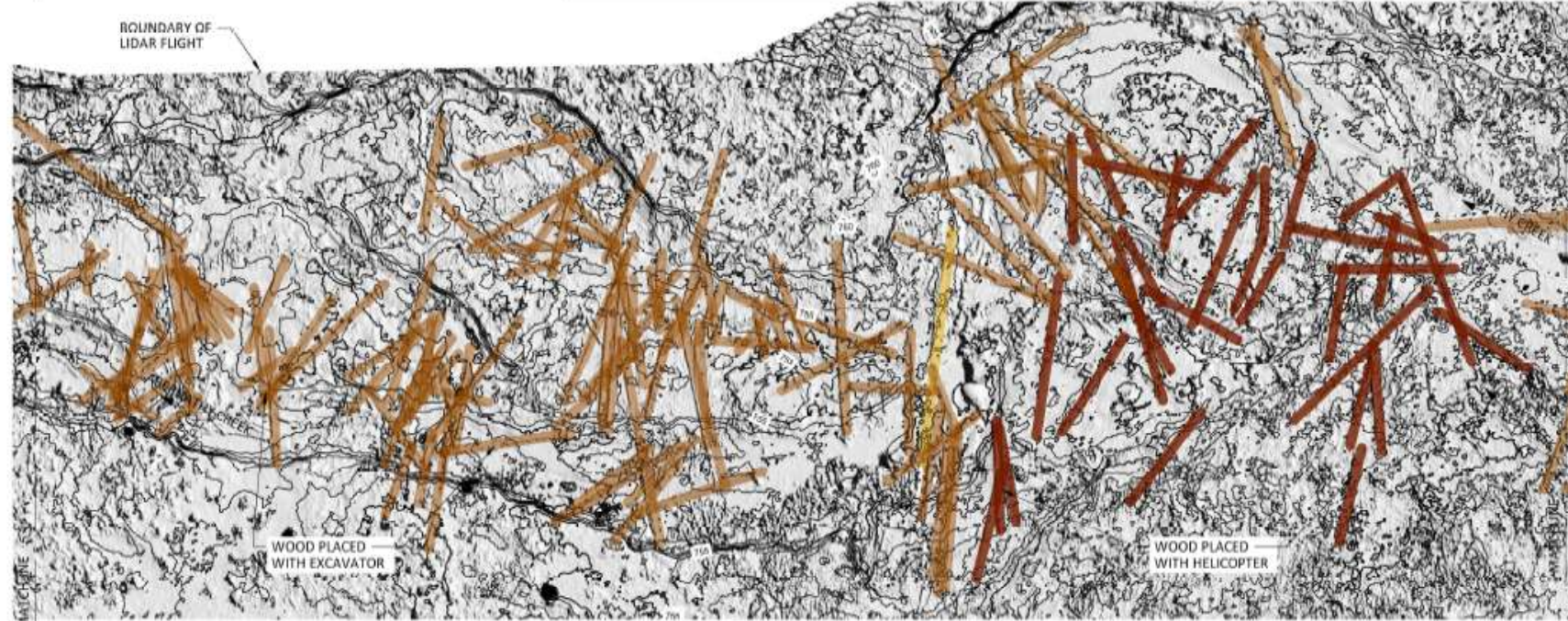




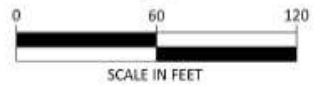




PLAN VIEW PRE HELICOPTER WOOD PLACEMENT: ABERNATHY CREEK



PLAN VIEW POST HELICOPTER WOOD PLACEMENT: ABERNATHY CREEK



LEGEND

-  PRE CONSTRUCTION LIDAR (SOUTH WEST STATE LANDS, 2017 - 1 FT INTERVAL)
-  POST CONSTRUCTION LIDAR (PARR EXCELLENCE, 2020 - 1 FT INTERVAL)
-  EXISTING WOOD
-  WOOD PLACED WITH EXCAVATOR
-  WOOD PLACED WITH HELICOPTER

NOTE:
 AERIAL PHOTO WAS TAKEN IN DECEMBER 2018 AND JANUARY 2019.
 LIDAR SURFACE WAS FLOWN IN SPRING 2020



REV	DESCRIPTION	BY	DATE
2			
1			
STATUS: FINAL FOR REVIEW			

PARR
 excellence
 302 W. Steuben St, #6
 Everett, WA 98201

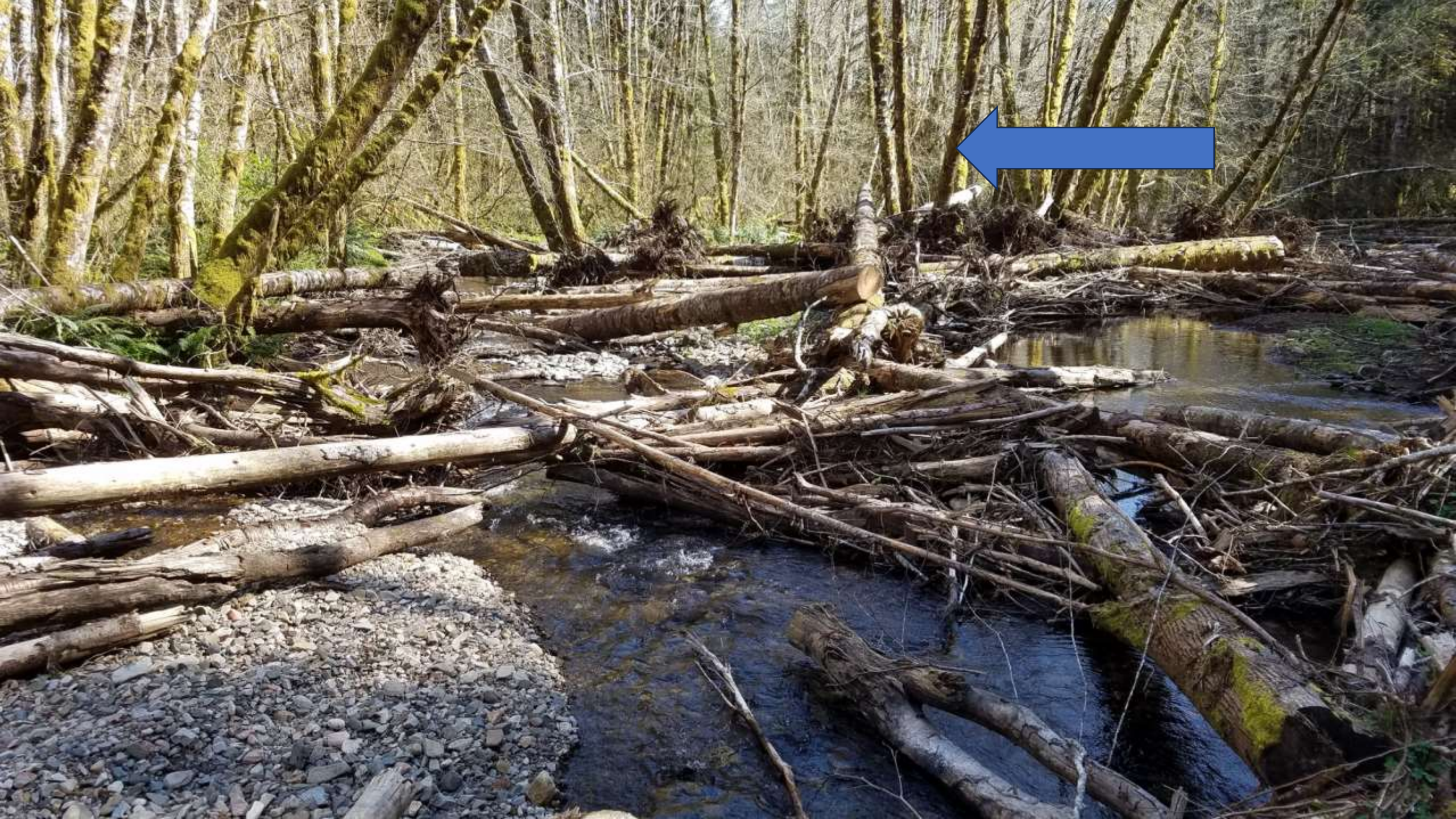
CLIENT: COWLITZ INDIAN TRIBE
 1055 9th AVE, SLIPE B
 LONGVIEW, WA, 98632

SITE: ABERNATHY HEADWATERS HABITAT ENHANCEMENT PROJECT
 TITLE: PRE & POST HELICOPTER WOOD PLACEMENT - ABERNATHY CREEK

SCALE:	DATE:	DRAWN:	CHECKED:
	JUNE 2020	RP	BN
PROJ. NO:	DRAWING NO:	Total Sheets:	
-	5	19	







IMW Results: Wood Placement that Works

- Must address limiting factors.
- Must be extensive.
- Must be intensive (*and/or repeated*).



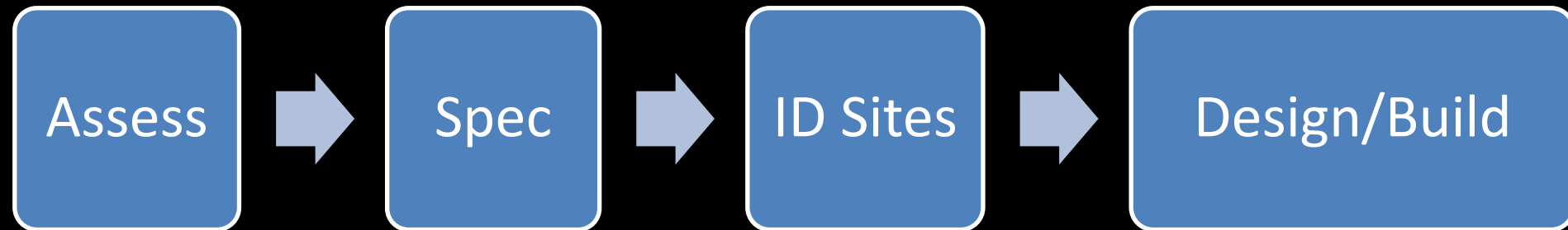
Materials are Key

Proximity is Critical

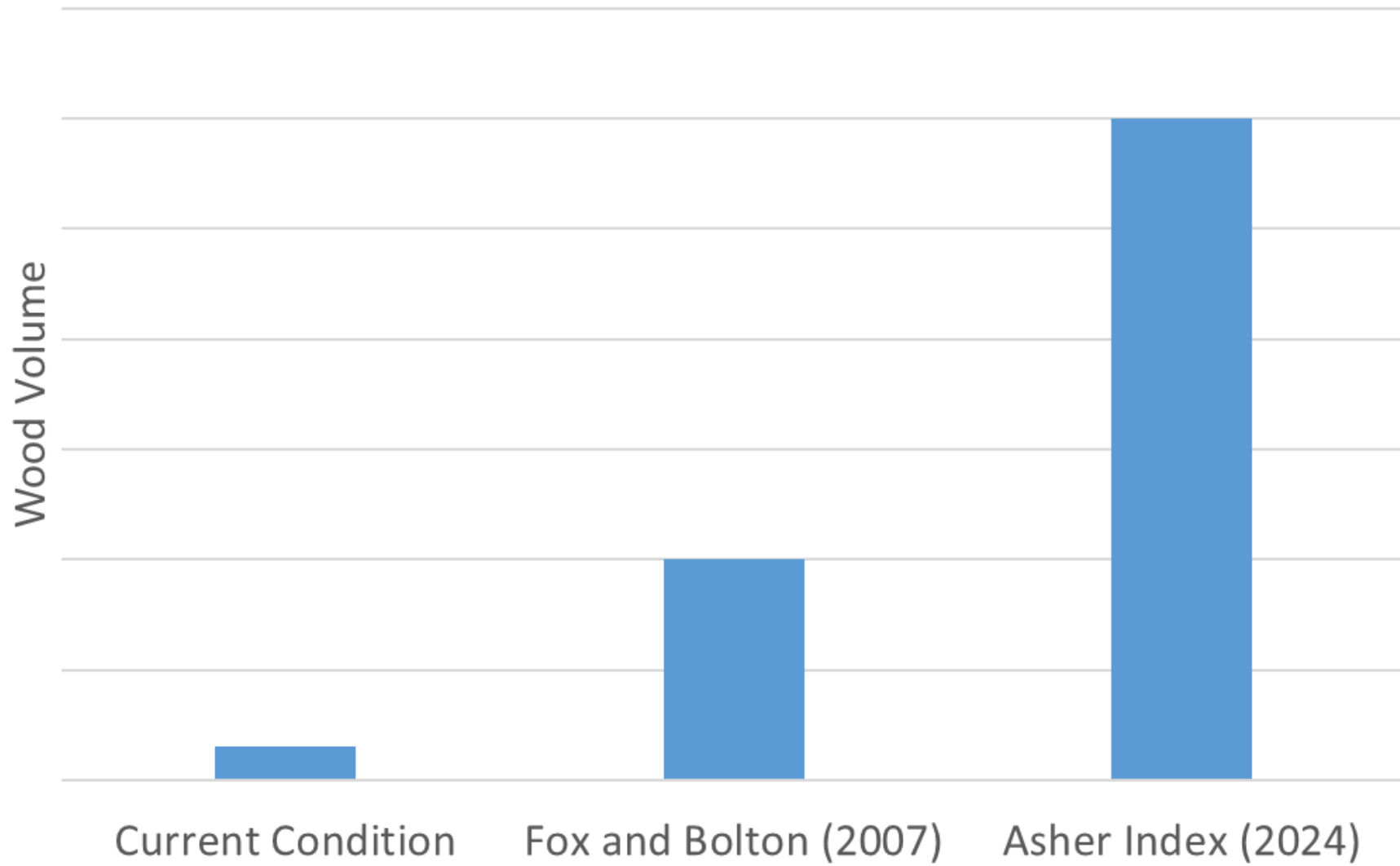


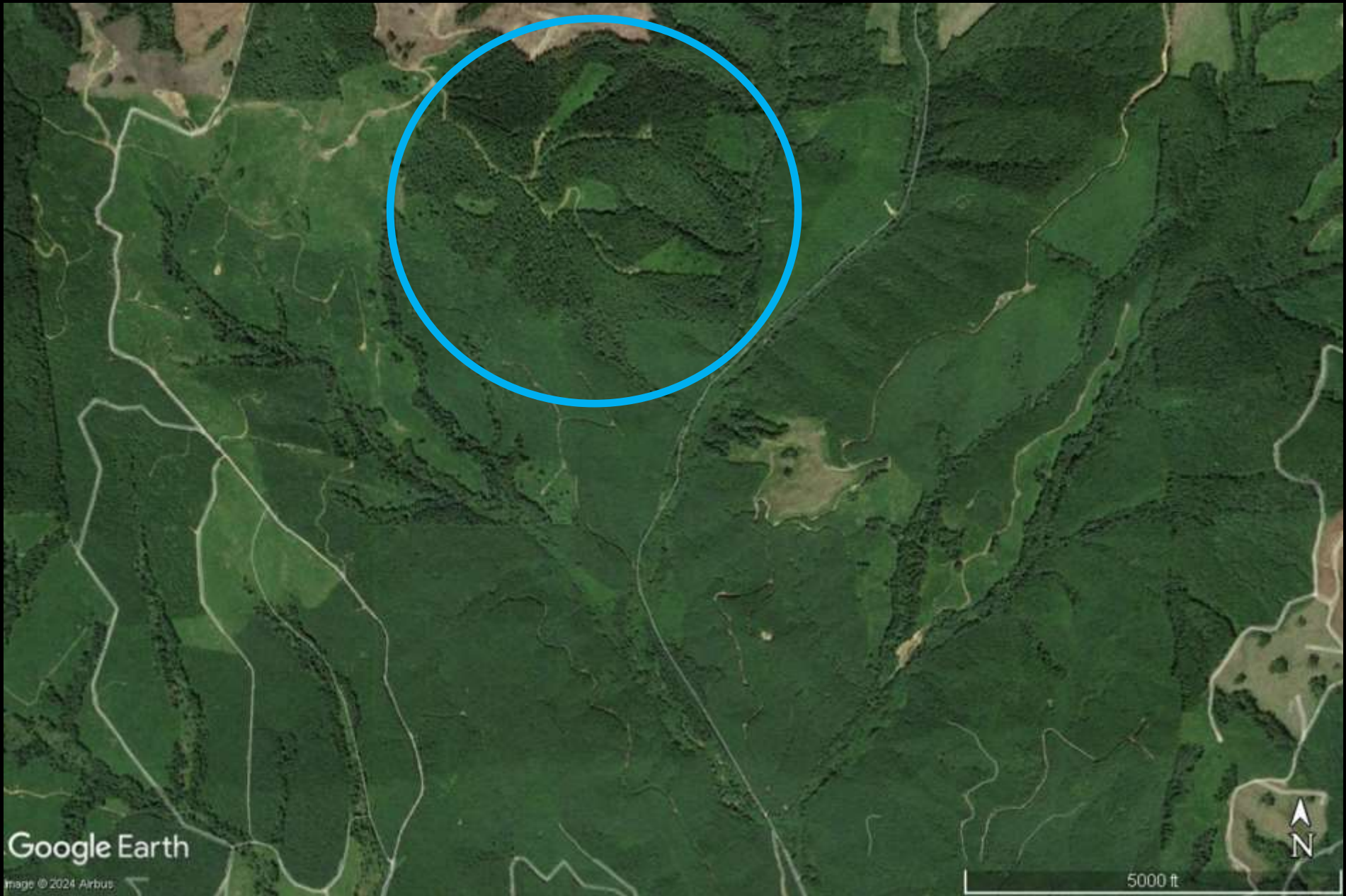


Efficient, whole watershed approach



How Much Wood is Enough?



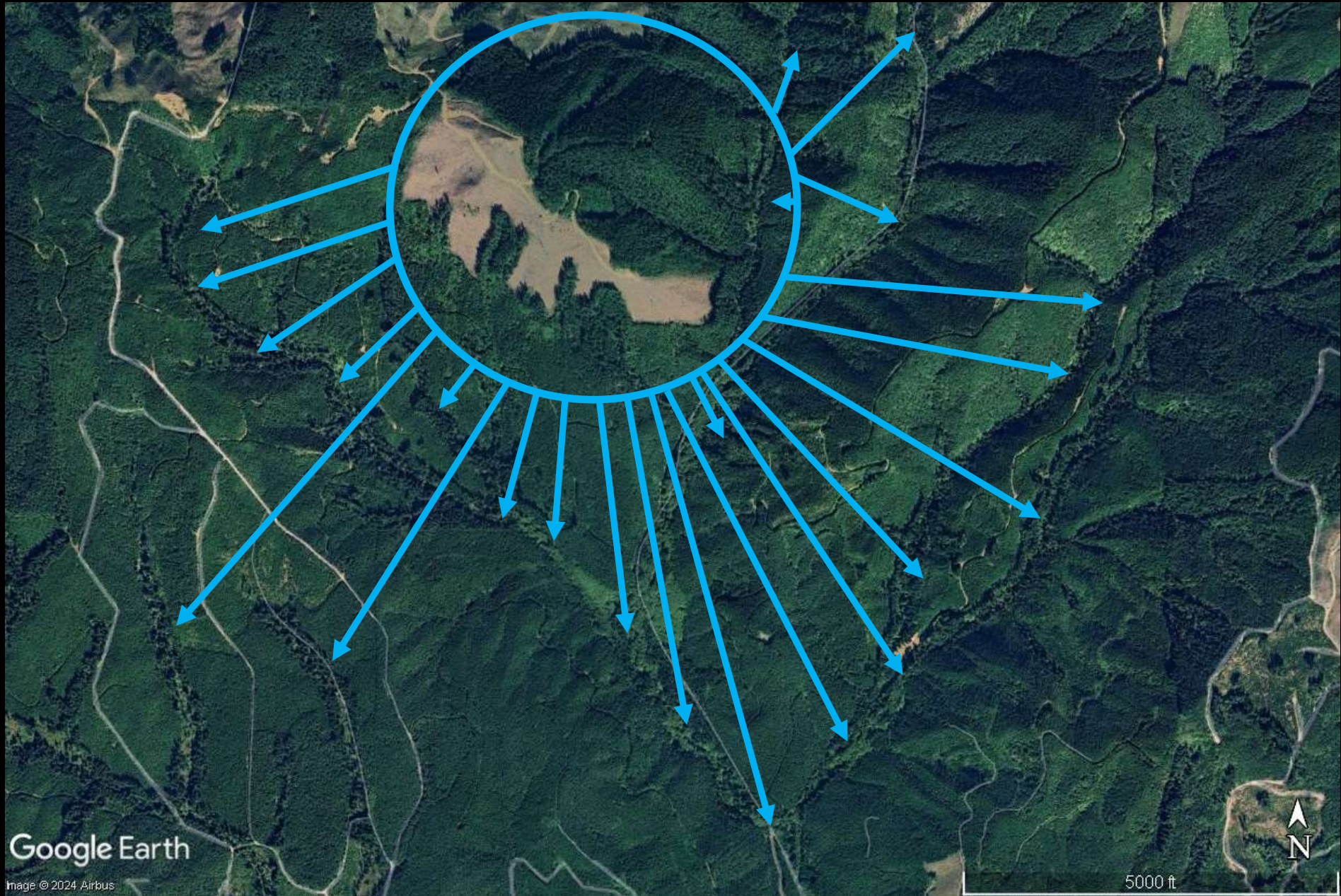


Google Earth

Image © 2024 Airbus

5000 ft





Google Earth

Image © 2024 Airbus

5000 ft

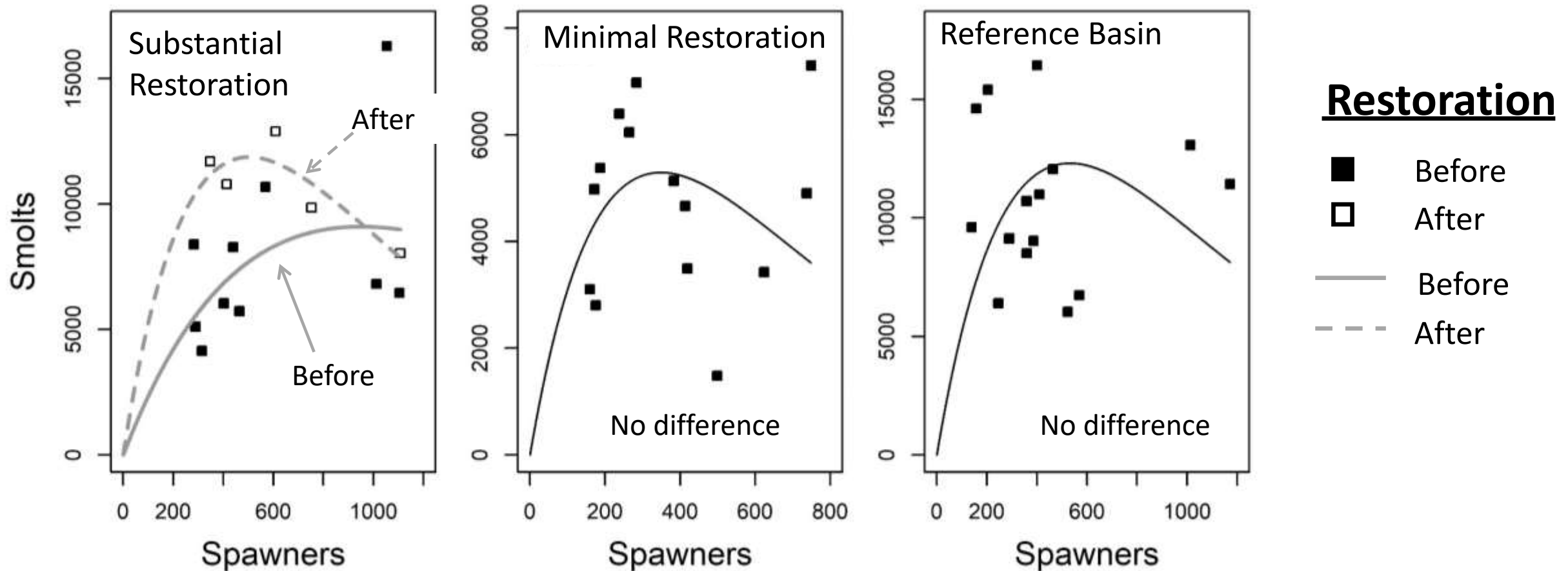






Have fish responded to
the restoration?

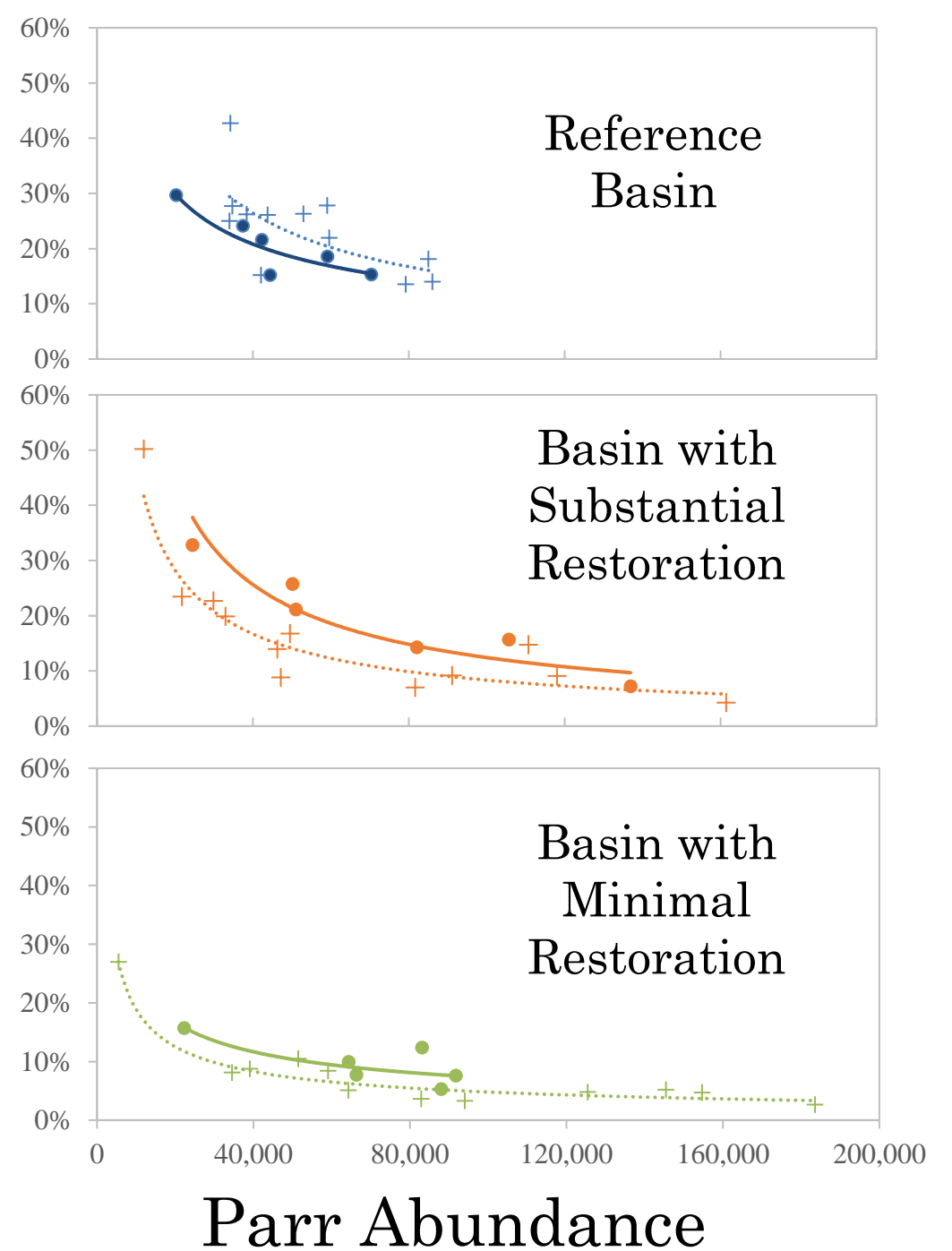
Coho rearing capacity and maximum smolt output has increased following restoration efforts.



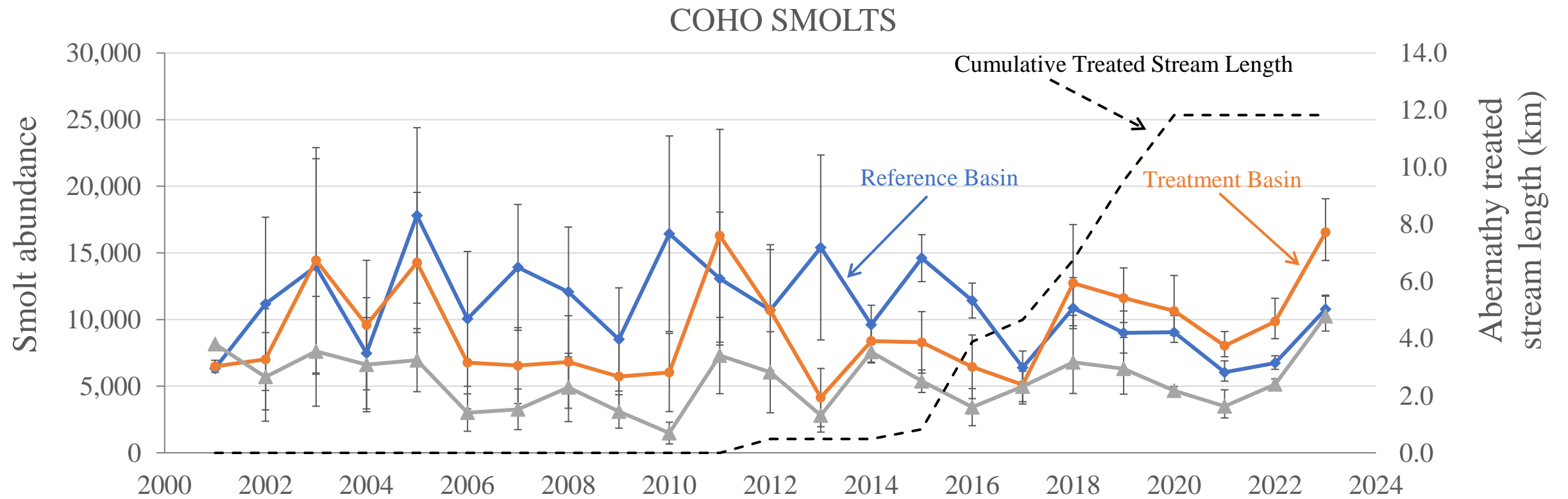
Trends indicate better parr-to-smolt survival following wood additions



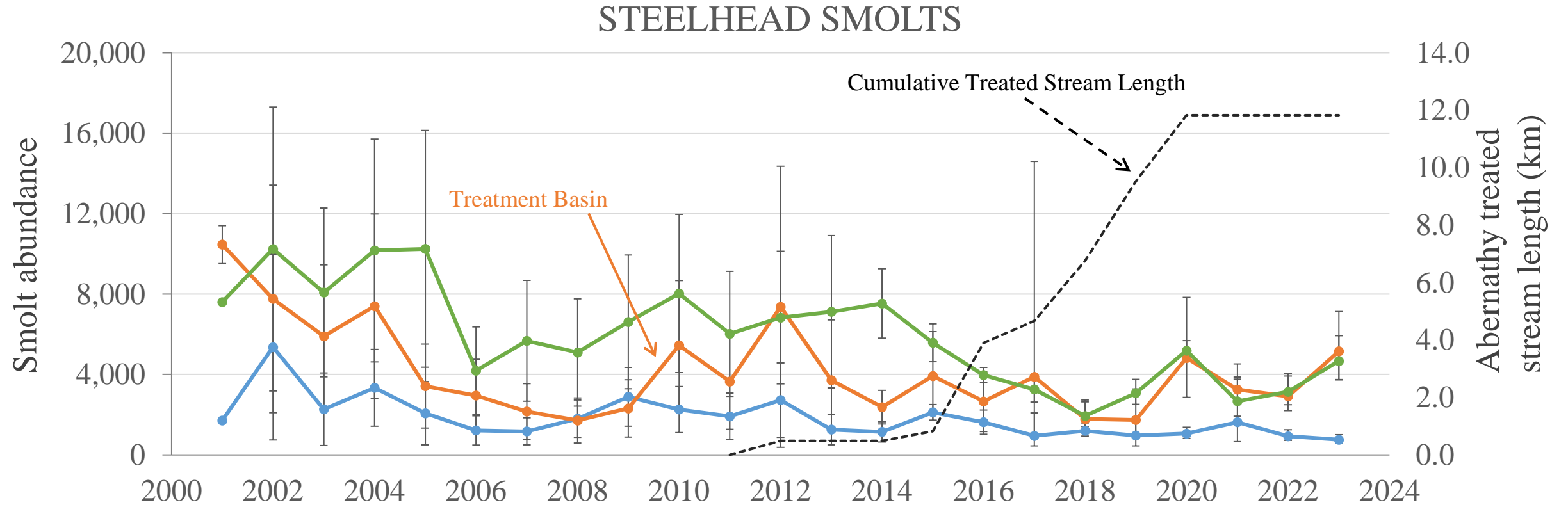
Parr-to-Smolt Survival



Following wood additions,
coho smolt abundance is showing positive response



Abernathy steelhead smolt abundance is up compared to other basins



How is this information is
being used for salmon
recovery in the Lower
Columbia region?

How is this information being used for salmon recovery in the Lower Columbia region?

The regional entity overseeing restoration project funding will prioritize extensive and intensive restoration projects.

Regional restoration practitioners plan to emphasize increasing rearing habitat capacity as a recovery strategy for coho salmon

Take Home Message

If you:

Target **LIMITING FACTORS** in density dependent populations, AND

Implement spatially **EXTENSIVE**, and **INTENSIVE** projects, THEN

You've given your project the best chance at **HELPing SALMON...**

BUT it takes **TIME**.





QUESTIONS