

Decade at Abernathy: Lessons Learned

Eli Asher, Cowlitz Indian Tribe

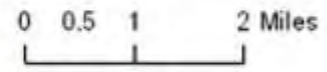
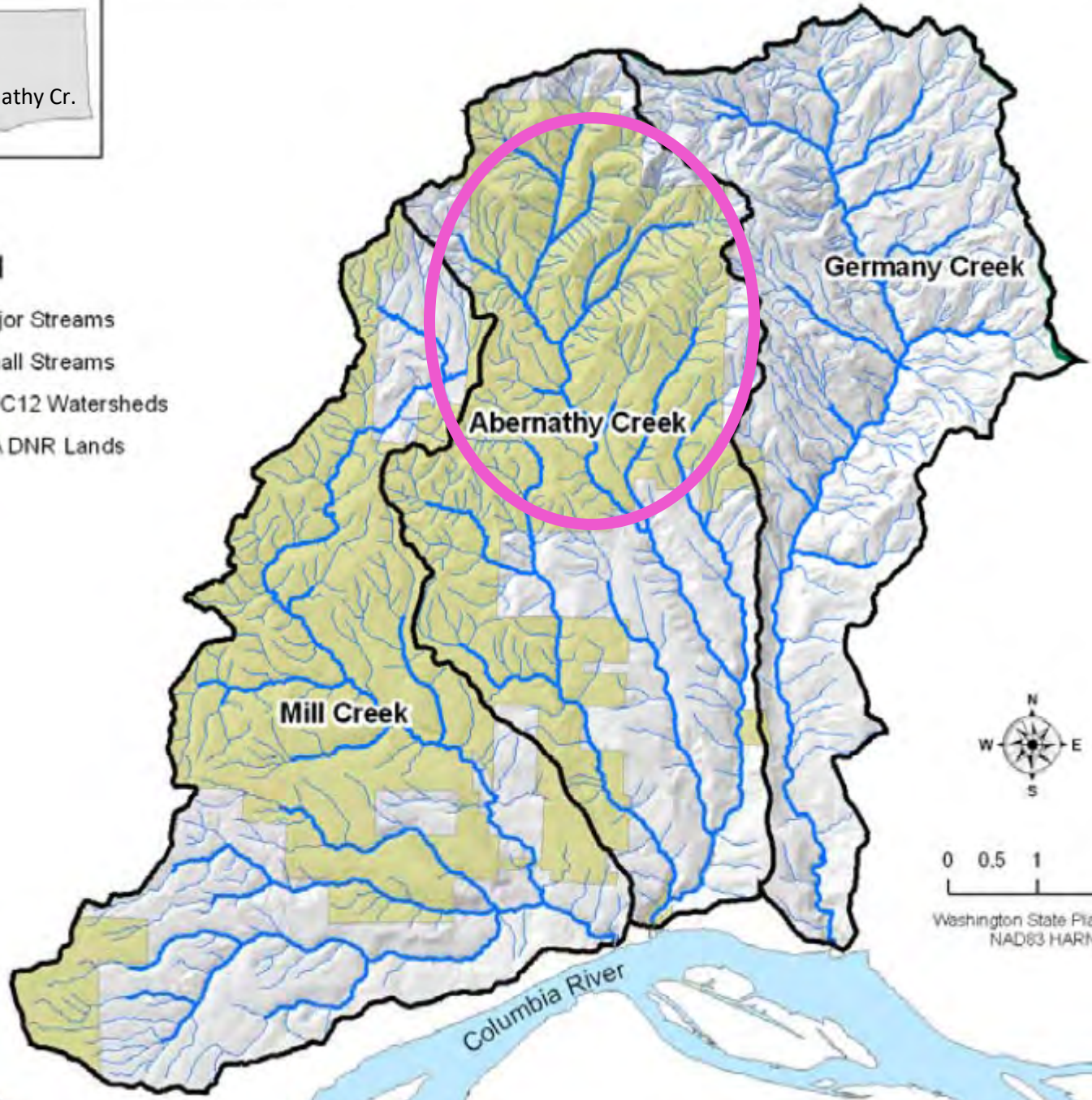
Bill Norris, P.E., Ecosystem Restoration Services





Legend

- Major Streams
- Small Streams
- ▭ HUC12 Watersheds
- ▭ WA DNR Lands



Washington State Plan South
NAD83 HARN

"Crooked streams are a menace to life..."

August, 1935

AMERICAN FORESTS

385

How DYNAMITE *streamlines streams*



Straightening of Pequest River in New Jersey by CCC workers stopped its yearly floods. Location of new channel is seen at right. Note temporary dam at left to provide volume of water for scouring blasted channel.

Explosion of dynamite charge by propagation excavates new channel.

Immediately after explosion, water is entering new channel, whose banks will be smoothed and "stream-lined" by the speedier flow of water.



CROOKED STREAMS are a menace to life and crops in the areas bordering on their banks. The twisting and turning of the channel retards the flow and reduces the capacity of the stream to handle large volumes of water. Floods result. Crops are ruined. Lives are lost. Banks are undermined, causing cave-ins that steal valuable acreage.

In many instances straightening out a stream has doubled its capacity for disposing of run-off water.

DYNAMITE may be used most efficiently and economically in taking the kinks out of a crooked stream. The dynamite is loaded along the length of "cut-off" channel. When fired, the dirt and other debris is heaved high in the air and is scattered over the adjoining territory—leaving practically no spoil-banks. In addition to the material actually thrown out, much dirt is loosened and is later scoured out by the water which rushes swiftly through the straightened channel.

Du Pont Dynamite has straightened many thousands of miles of crooked streams. Du Pont engineers have worked for years to develop the best blasting methods for the cleaning out and straightening of streams. All their data is in a 48-page book, "Ditching with Dynamite." It is for your use. Write for it.

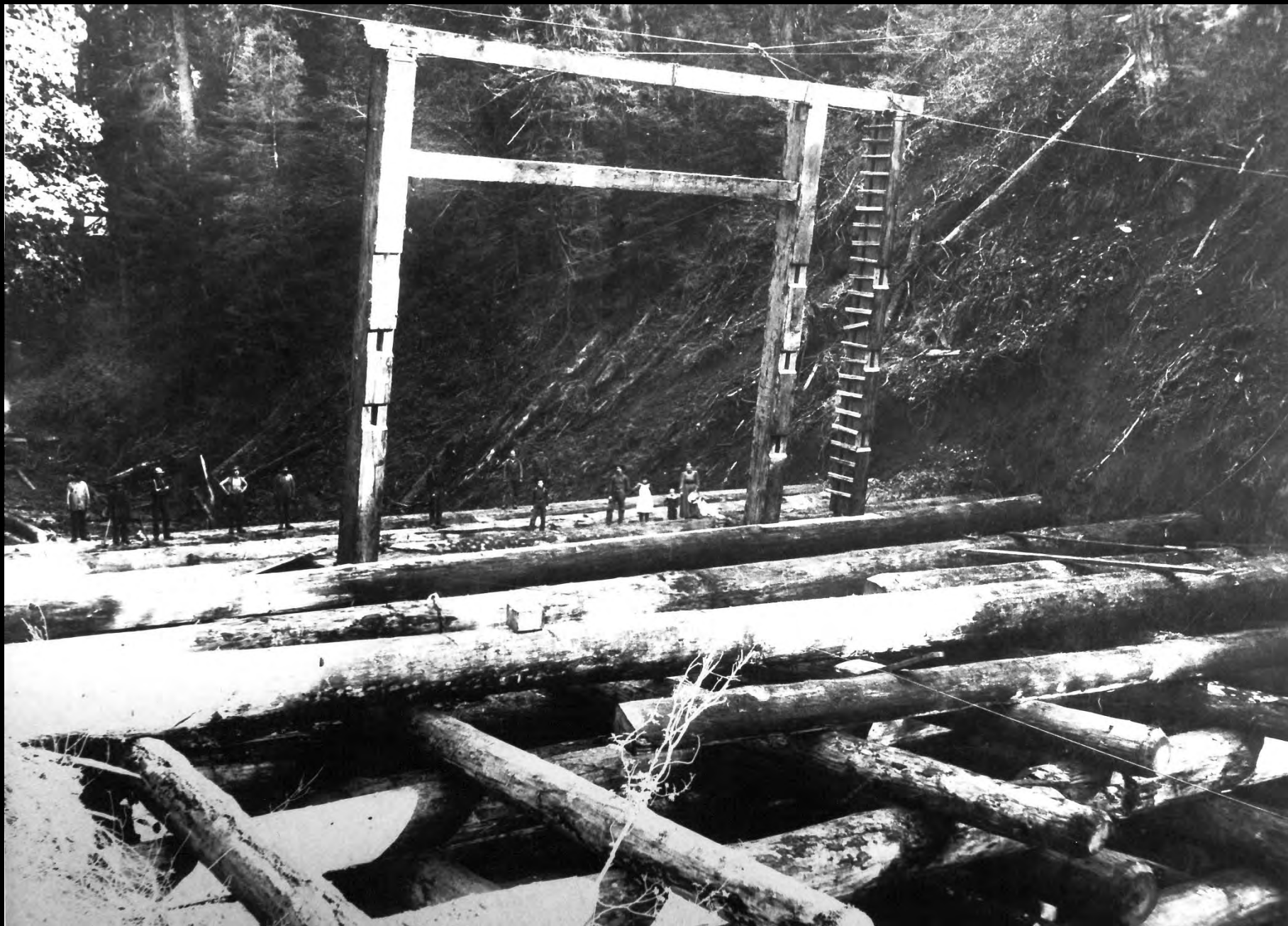
Dynamite can help you do other jobs, too. It can help you build highways, dams; fight soil erosion; work quarries. Du Pont has an explosive for every purpose.



E. I. du Pont de Nemours & Co. Inc.
Explosives Department







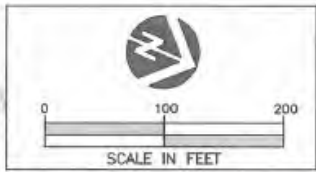


6/18/18
B.T.Co



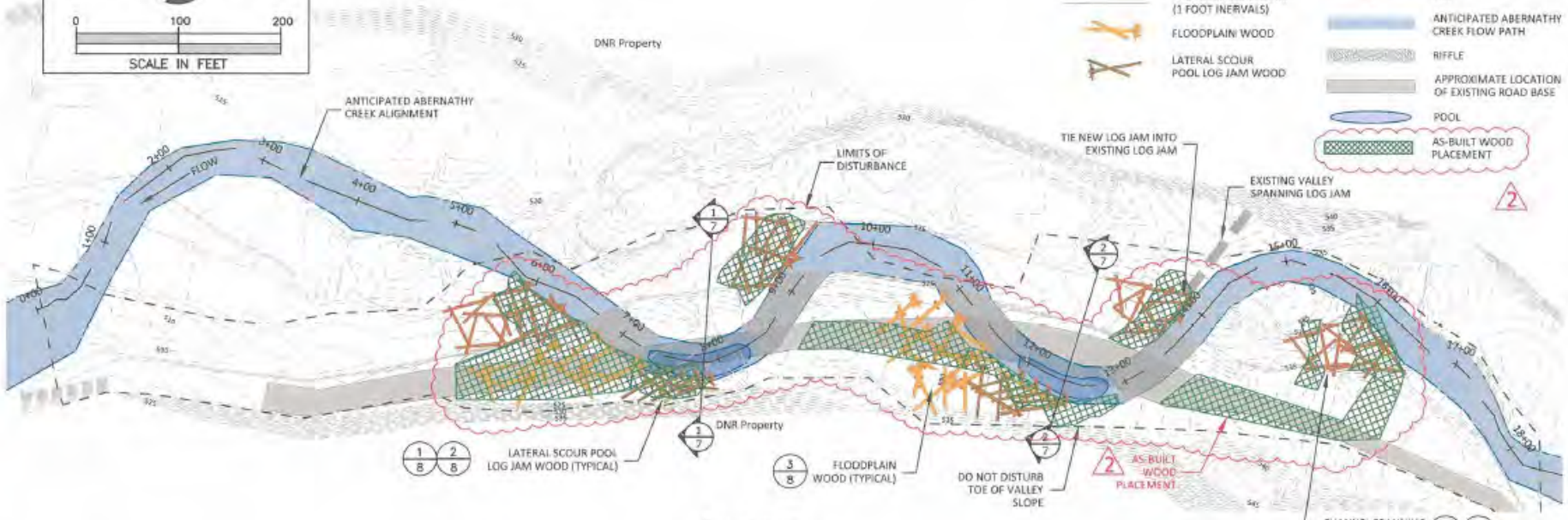




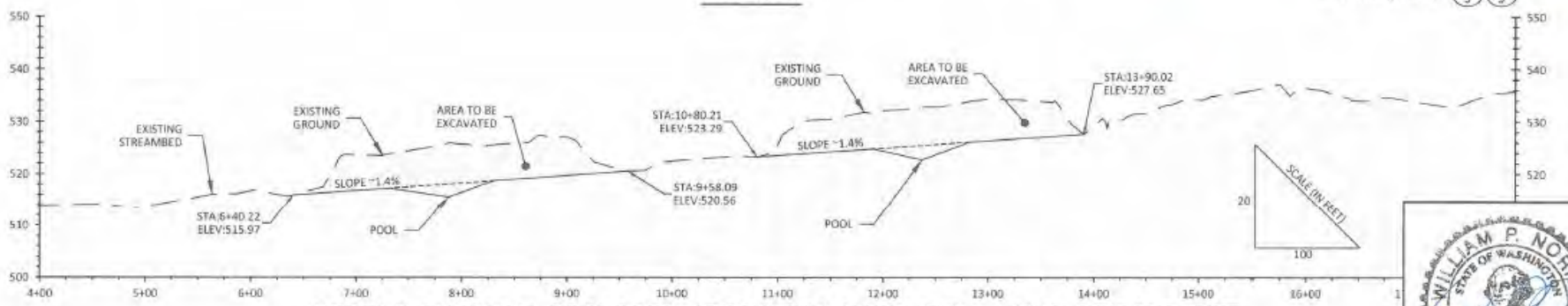


LEGEND:

- EXISTING CONTOURS (1 FOOT INTERVALS)
- PROPOSED CONTOURS (1 FOOT INTERVALS)
- FLOODPLAIN WOOD
- LATERAL SCOUR POOL LOG JAM WOOD
- CHANNEL SPANNING LOG JAM WOOD
- PILE
>
- ANTICIPATED ABERNATHY CREEK FLOW PATH
- RIFFLE
- APPROXIMATE LOCATION OF EXISTING ROAD BASE
- POOL
- AS-BUILT WOOD PLACEMENT



Plan View



PROFILE THROUGH PROPOSED ABERNATHY ALIGNMENT – TWO BRIDGES SITE

NO.	BY	DATE	REVISION DESCRIPTION

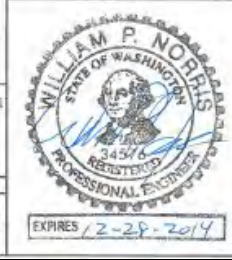
MWJ	BN, DS	BN
DRAWN	DESIGNED	CHECKED
BN	6/8/12	
APPROVED	DATE	PROJECT

Cowlitz Indian Tribe
Abernathy Creek, Two Bridges Site
Cowlitz County



Plan View and Profile
View of Proposed
Conditions

SHEET
8 of 13













Former channel

New Pool

New Riffle

New Bar

High Cost
Low Risk
High Stability
Modest habitat gain

Former channel

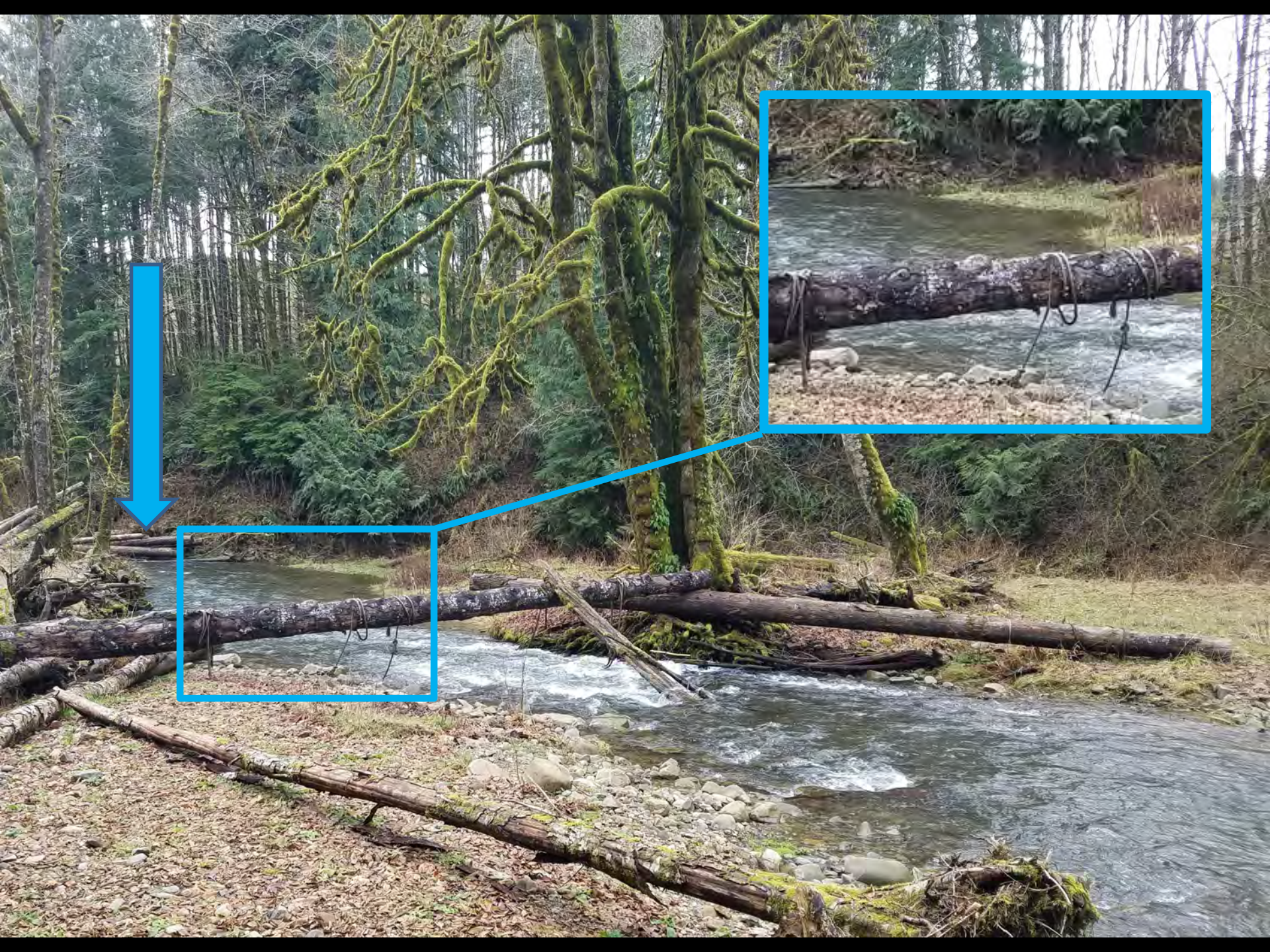
Floodplain channel















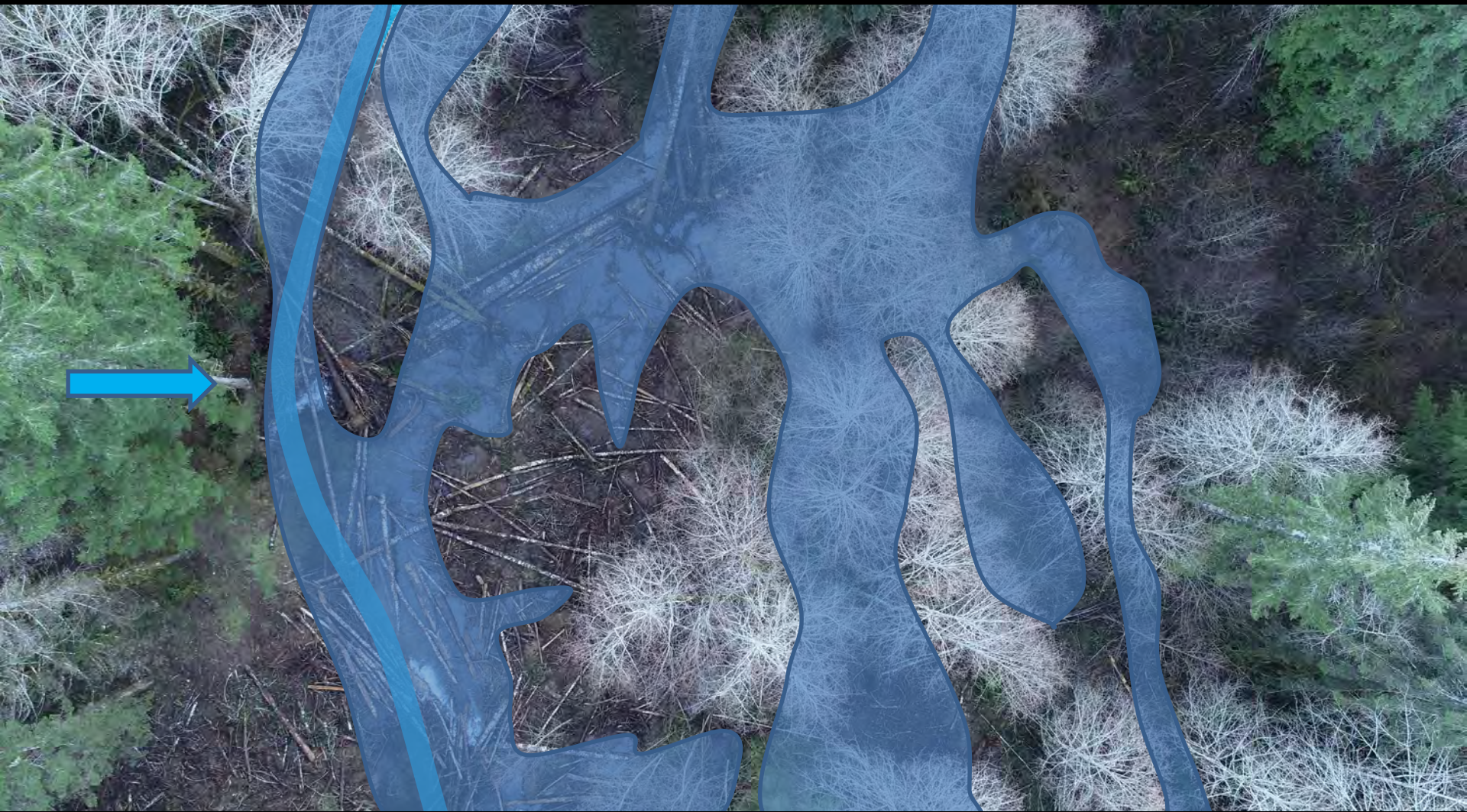
















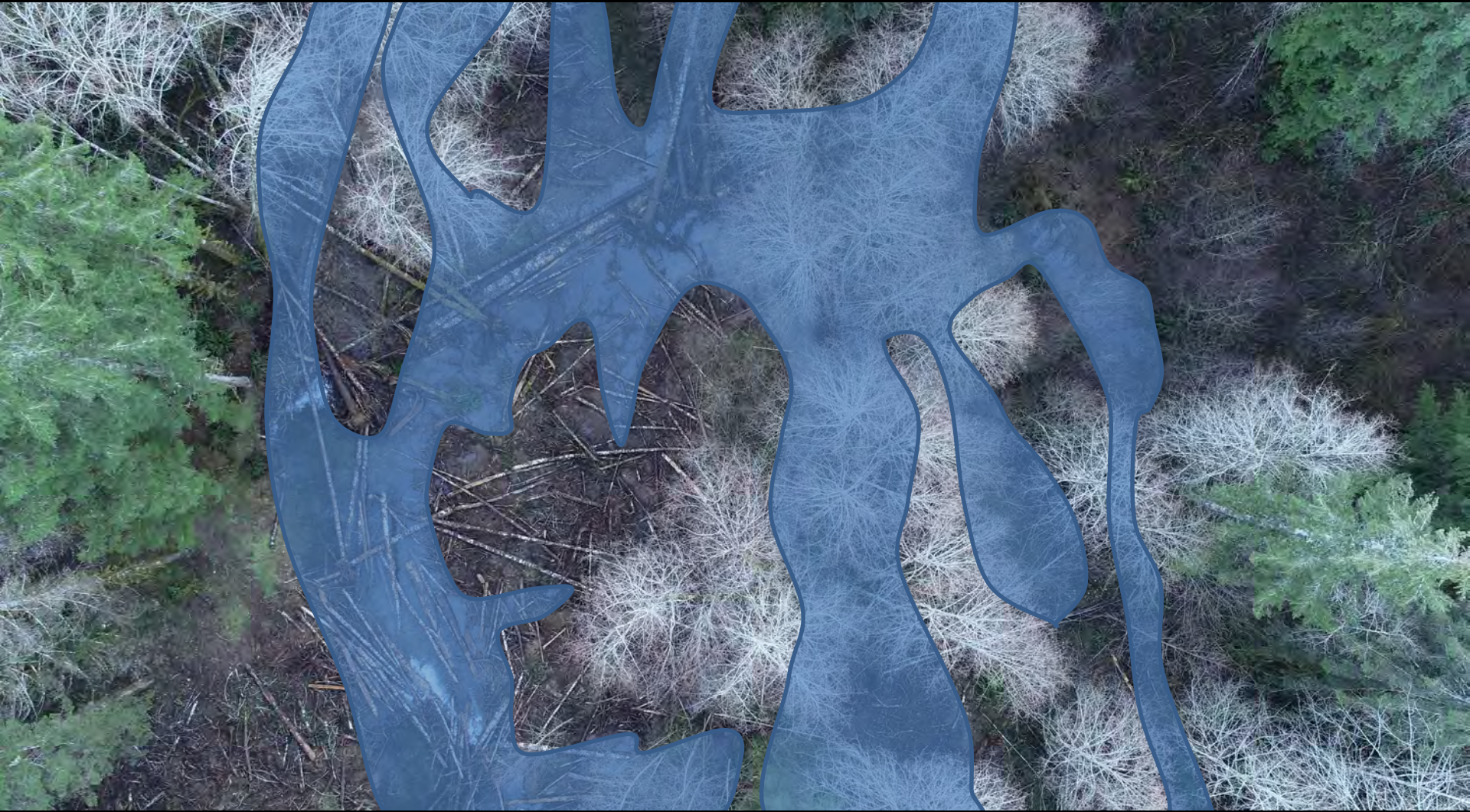




Restoration Metrics

- Pools created
- Structures built
- Logs placed
- SF of off-channel
- LF of stream
- LF levee removal
- Fish passage %
- Wetland acres
- Width of riparian
- LF of side channel

*Are we measuring success,
or just measuring?*







Materials are Key

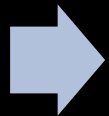
Proximity is Critical





Efficient, whole watershed approach

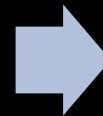
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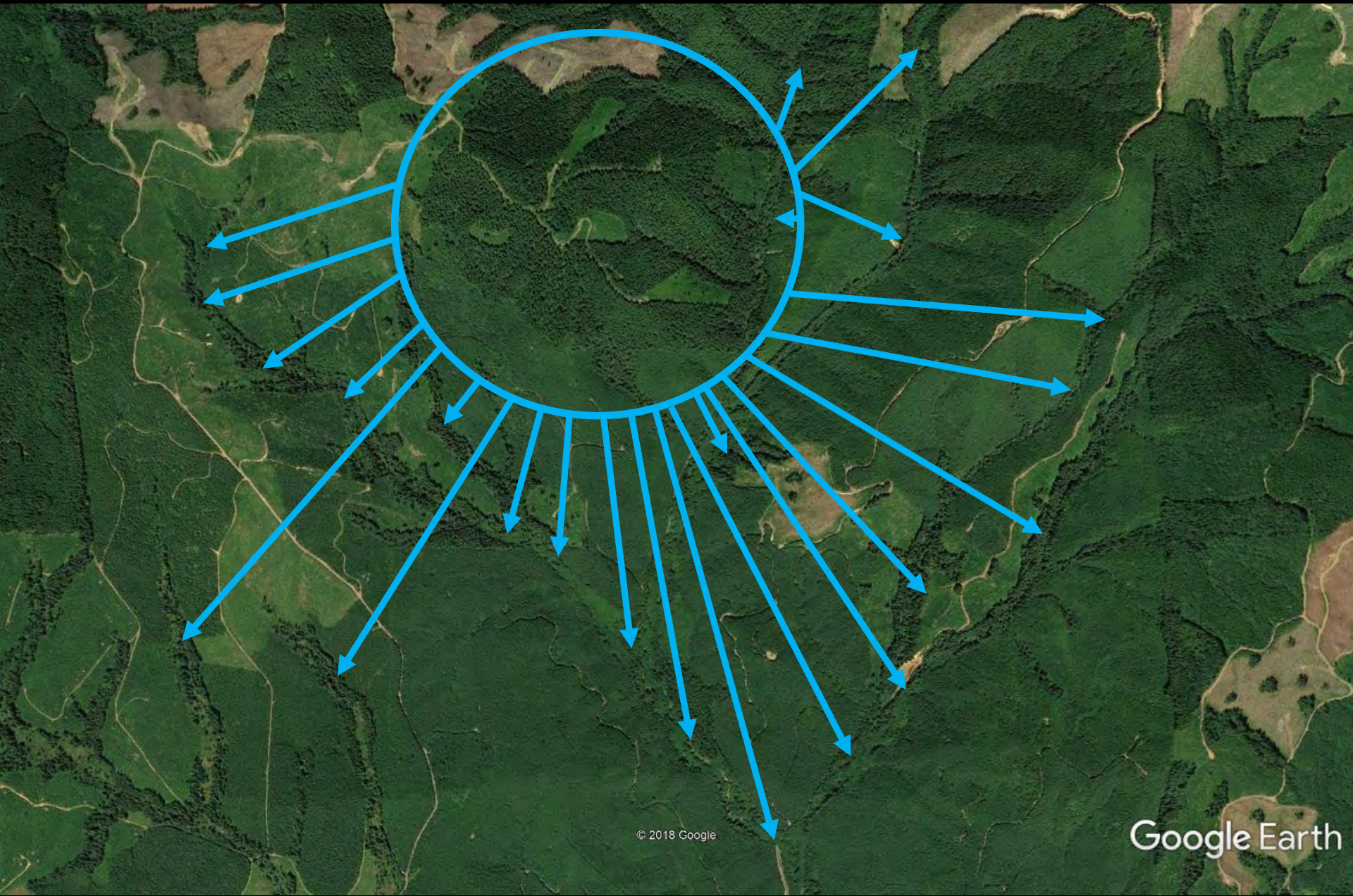
Spec



ID Sites



Design/Build













Many Hands Make Light Work



WASHINGTON STATE DEPARTMENT OF
Natural Resources



DEPARTMENT OF
ECOLOGY
State of Washington



Weyerhaeuser



ecotrust





If your life's work can be accomplished in your lifetime, you're not thinking big enough.

—Wes Jackson