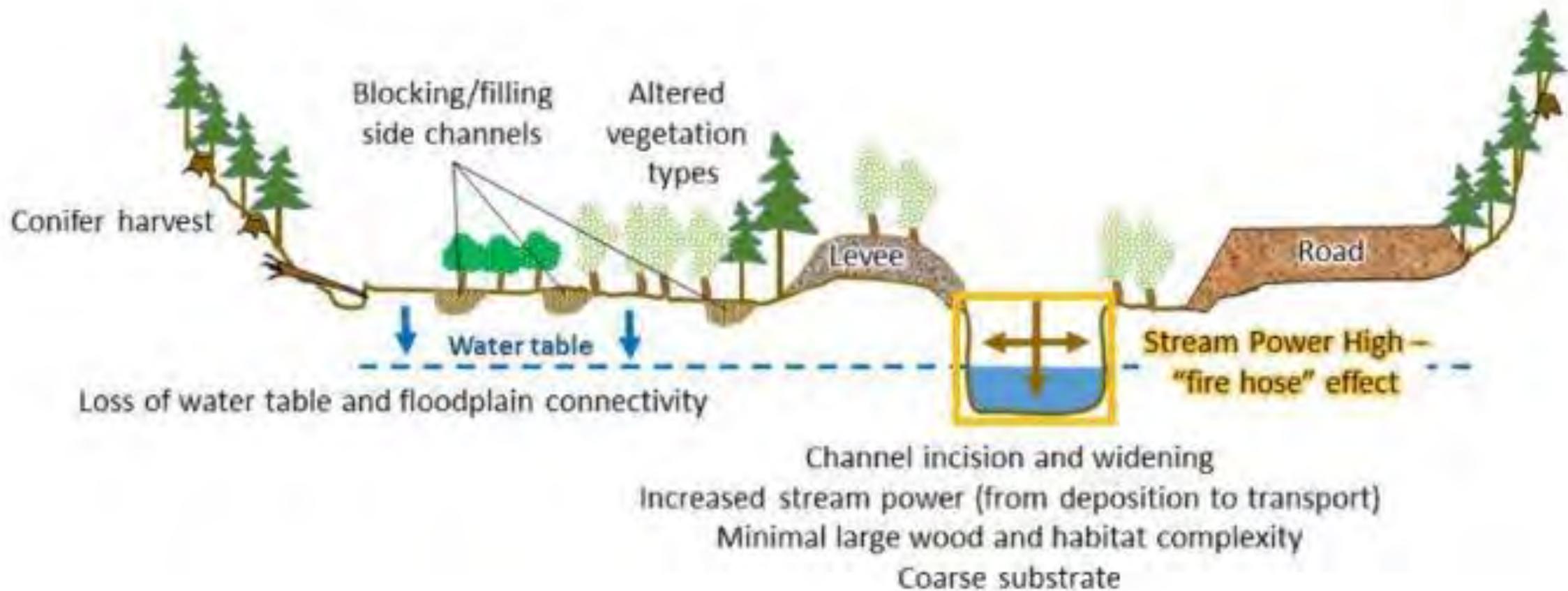


Wood Fiesta: The Yakima Basin Helicopter Aquatic Restoration Effort

Shannon Adams, Wilbur Barrick, Ashton Bunce, Kelly Clayton, Ryan DeKnikker, Tom Elliott,
John Marvin, Scott Nicolai, Connor Parrish, Rebecca Wassell

YAKIMA BASIN FLOOD REHABILITATION







11/16/2017







AGGRESSIVE HABITAT DESTRUCTION



YAKIMA BASIN FLOOD REHABILITATION



AGGRESSIVE HABITAT RESTORATION







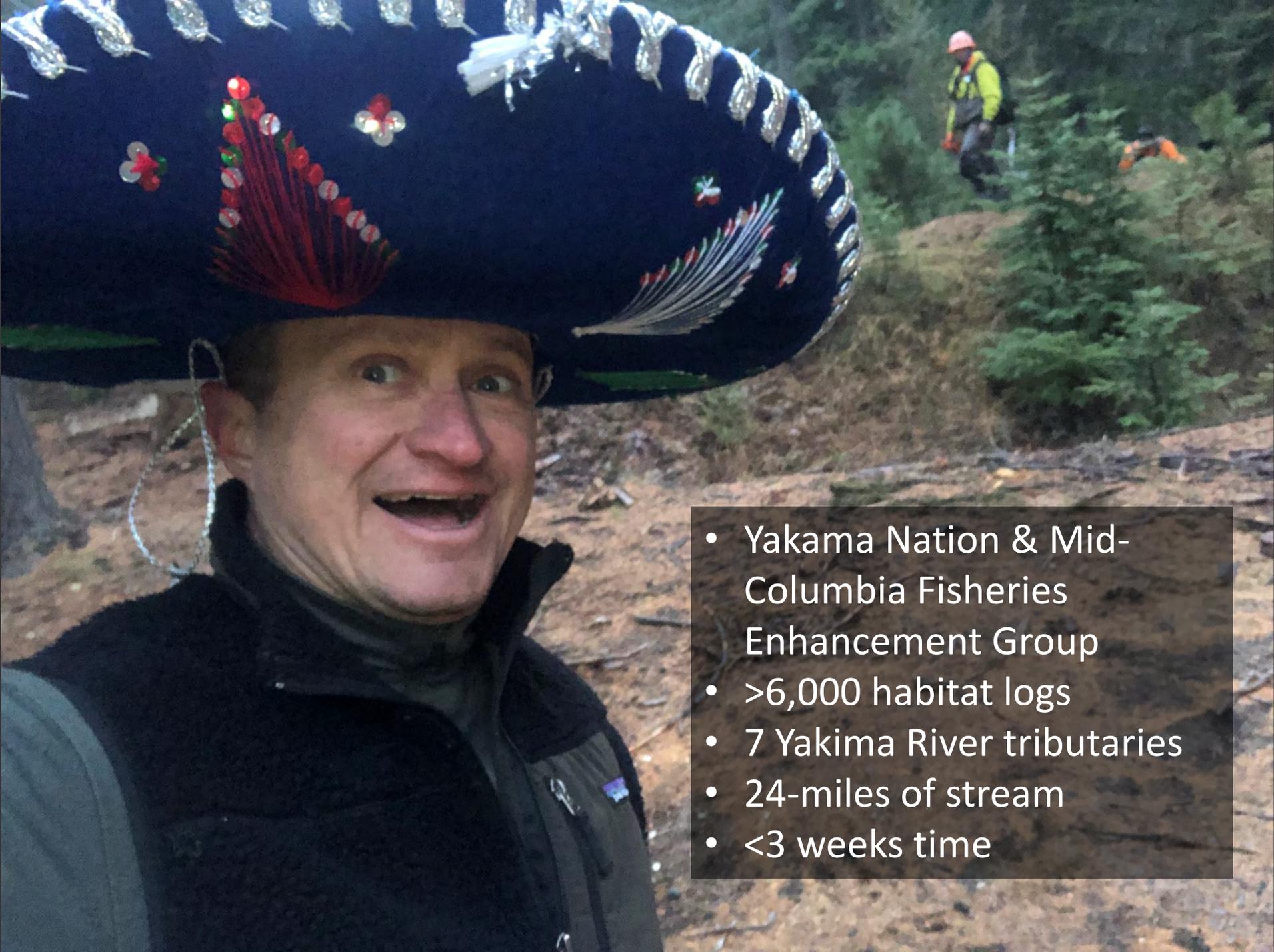




A night sky with the Milky Way galaxy visible, silhouetted mountains in the foreground, and a dark landscape. The text is overlaid on the sky.

**We received a large pot of funding that
needed to be spent in <1 years time**

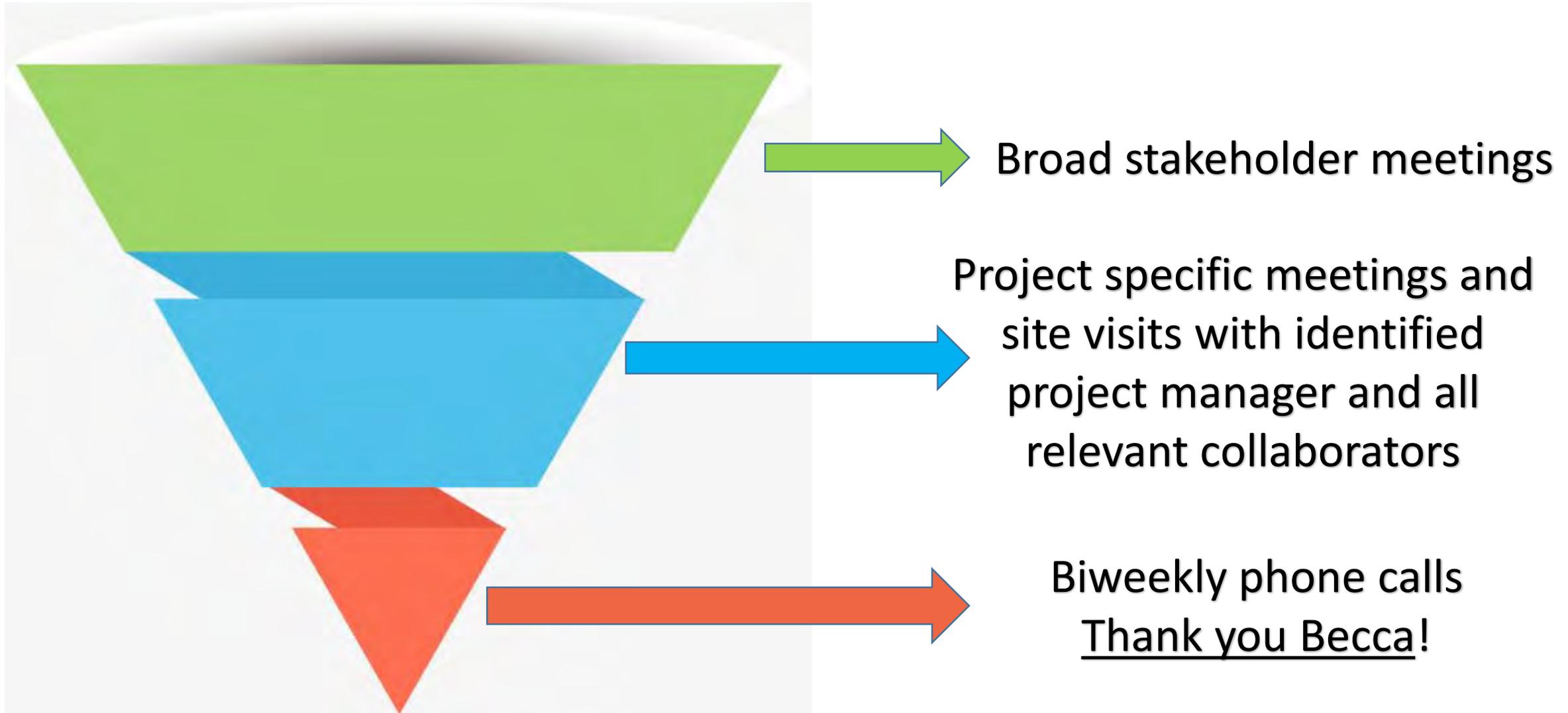
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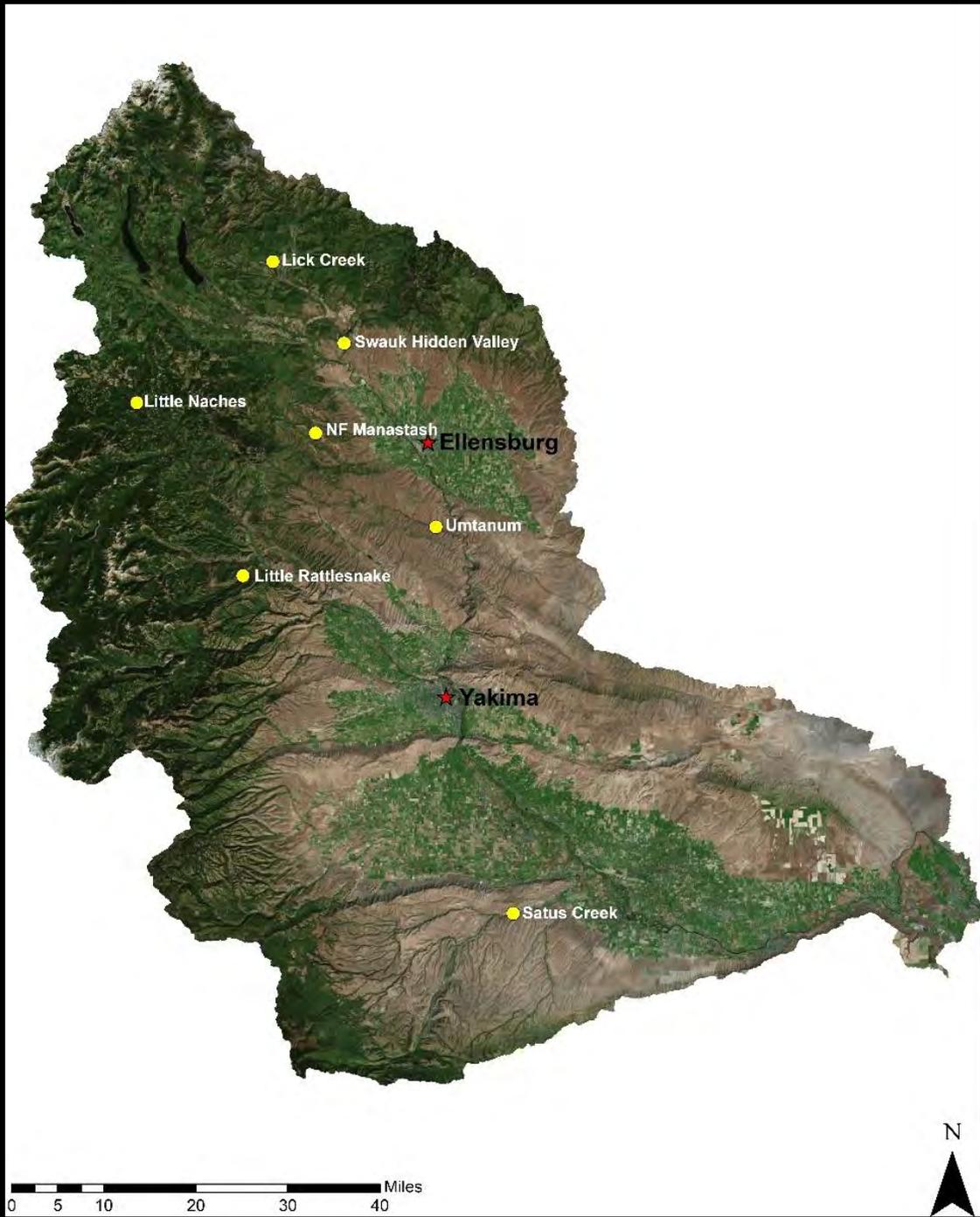


- Yakama Nation & Mid-Columbia Fisheries Enhancement Group
- >6,000 habitat logs
- 7 Yakima River tributaries
- 24-miles of stream
- <3 weeks time

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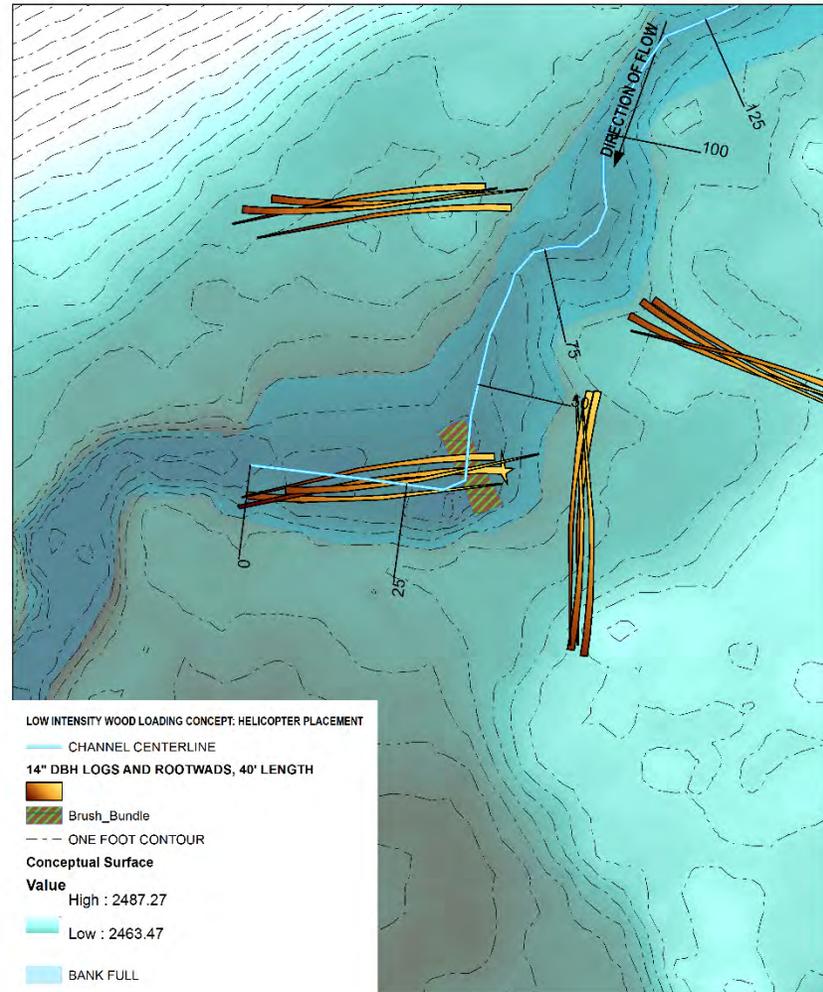
Planning for Wood Fiesta





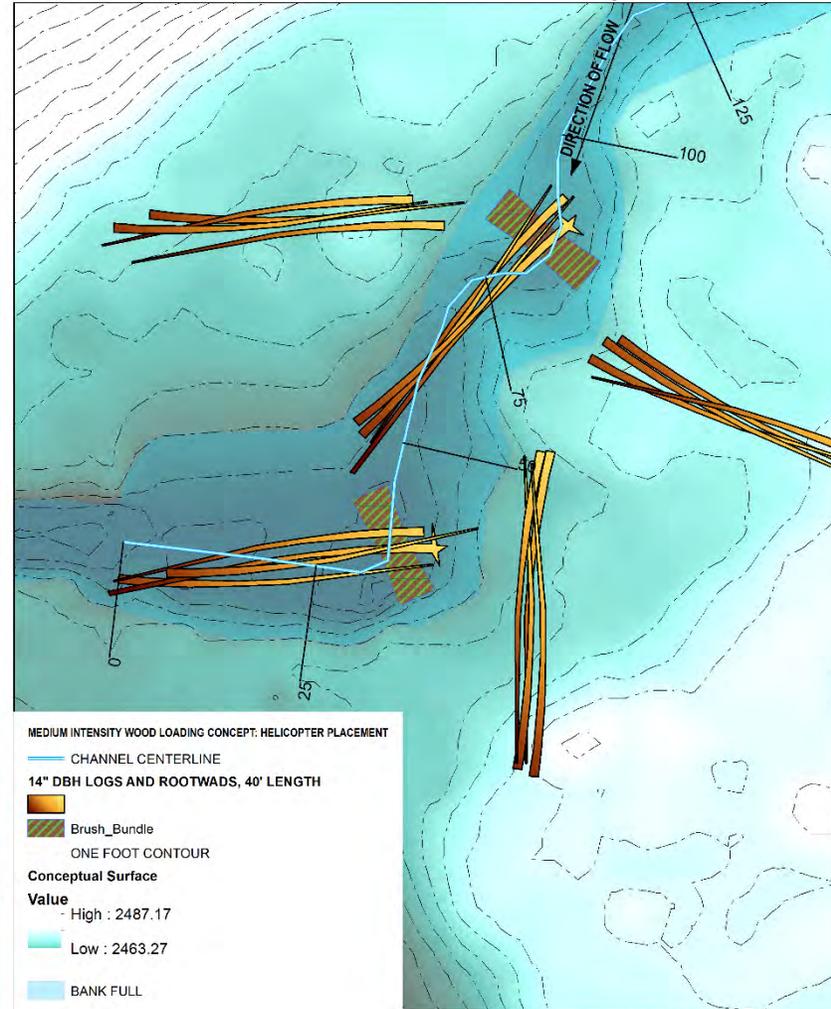
- **Lick Creek** – 650+ habitat logs in 1.5 miles
- **Swauk Creek** – 550+ habitat logs in 1 mile
- **Little Naches** – 1000 habitat logs in 1.5 miles
- **Umtanum** – 1000 habitat logs in 4.5 miles
- **Little Rattlesnake** – 500 habitat logs in 5 miles
- **NF Manastash** – 2000 habitat logs in 7.5 miles
- **Satus Creek** – 400 habitat logs in 3 miles

Low intensity



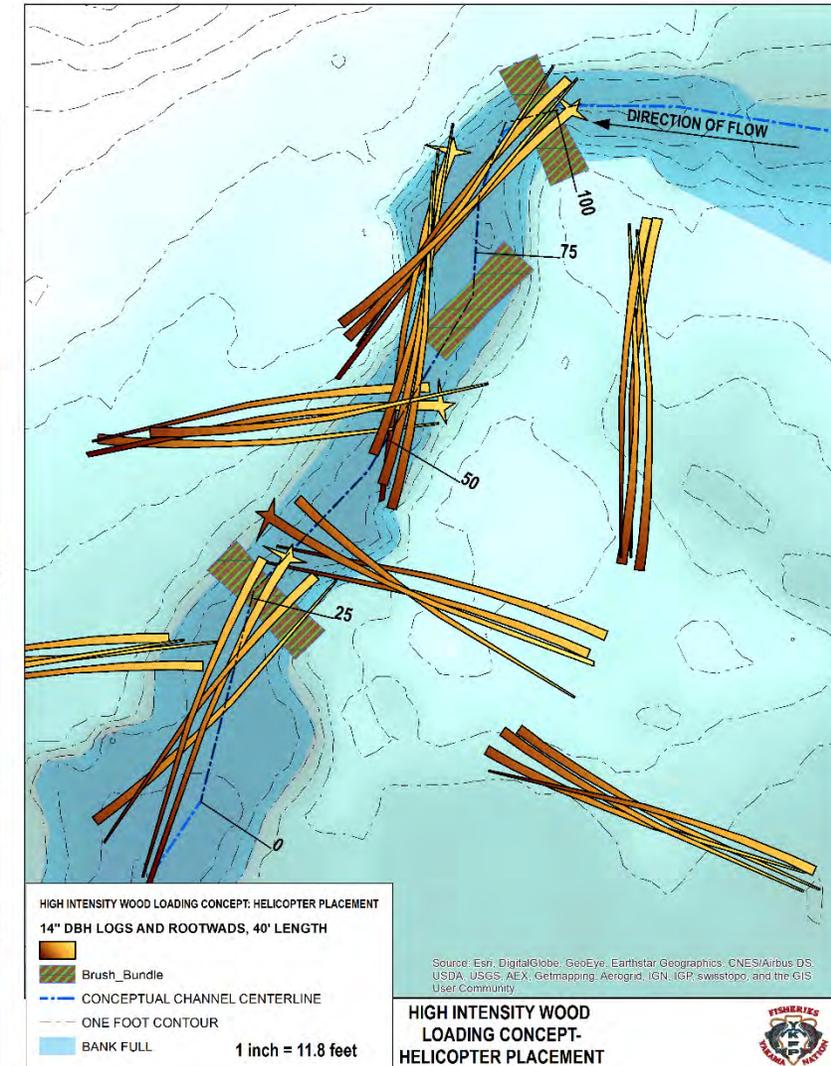
LOW INTENSITY WOOD LOADING CONCEPT- HELICOPTER PLACEMENT

Medium Intensity



MEDIUM INTENSITY WOOD LOADING CONCEPT- HELICOPTER PLACEMENT

High Intensity



HIGH INTENSITY WOOD LOADING CONCEPT- HELICOPTER PLACEMENT



Permitting, Agreements & Contracts

Umtanum (WDFW)

- BNSF (Railroad) Flagger Request
- SEPA
- HPA
- HIPIII
- Section 106
- MOA with WDFW for source wood harvest, delivery & staging
- Contract with BFI for reseeding
- BLM CRS addendum for staging
- Contract with Northern Wasco Co. PUD

Little Rattlesnake (DNR)

- DNR Aquatics Land-Use License
- DNR Uplands Land-Use License
- USFS Road-Use Permit
- SEPA
- HPA
- HIPIII
- Section 106
- Contract for delivery & staging
- Wood Acquisition
- MOA between YN & MCF

NF Manastash (WDFW & DNR)

- SEPA
- HPA
- HIPIII
- MOA with WDFW for source wood harvest, delivery, staging & reseeding
- Section 106
- DNR Aquatics Land-Use License
- MOA between YN & MCF
- Contract with Northern Wasco Co. PUD

Lick Creek (TCF)

- SEPA
- HPA
- HIPIII
- Section 106
- Contract for source wood harvest, delivery & staging

Swauk Creek (Private Ownership)

- 3 Landowner Agreements
- Additionally Insured on Yakama Nation Policy
- MOA with WDFW for source wood harvest, delivery & staging
- HPA
- HIPIII
- Section 106
- USFWS Partner's Addendum

Little Naches (USFS)

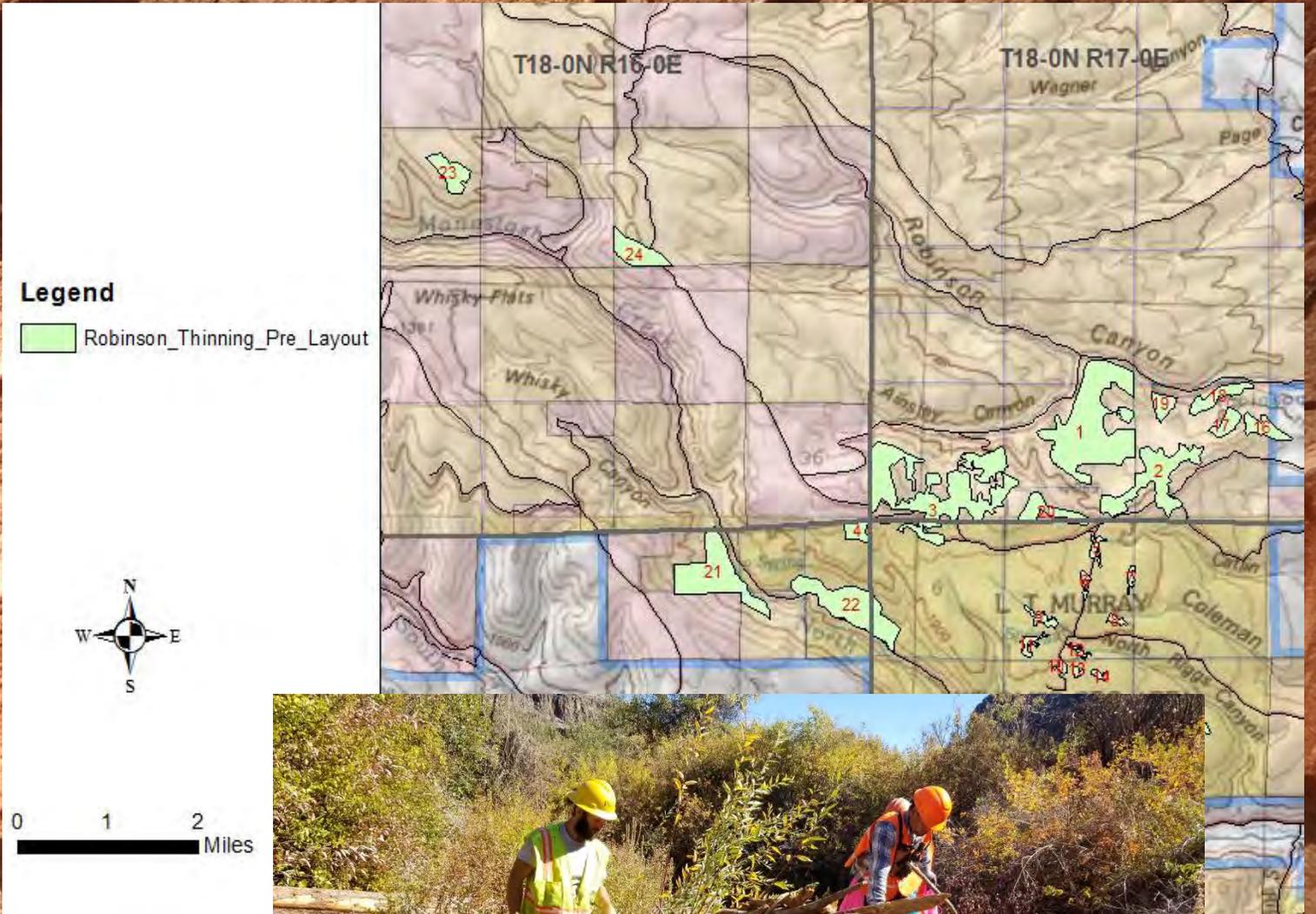
- NEPA – CatEx
- ARBO
- HPA
- Contract with TNC
- Section 106
- Supplemental Project Agreement with USFS
- MOA between YN & MCF

Satus Creek (Yakama Reservation)

- Water code permit
- Section 106
- HIPIII
- Contract for source wood harvest, delivery & staging

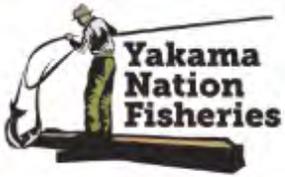
Source Wood

- A large portion of wood came from units thinned for forest health and fire resiliency
 - L.T. Murray provided wood for Swauk, Umtanum, and NF Manastash
 - TNC ownership provided wood for Little Naches
 - Reservation provided wood for Satus
- Additional wood was purchased
- WCC cut and bundled small diameter trees/slash



Wood Staging





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Show project map

Yakima Basin "Wood Fiesta"

Project abstract:

The Yakima Basin "Wood Fiesta" Helicopter Aquatic Restoration project is a multi-watershed collaborative effort aimed at enhancing aquatic habitat in remote watersheds that have been greatly altered by past management practices. Large wood will be placed in stream and on the floodplain of seven Yakima River tributaries using a helicopter to improve habitat for native fish species. The projects are located in remote areas where terrain and or vegetation limits the use of ground-based equipment to place large wood. More information on these projects and associated temporary impacts to public access can be found below.

Click here to watch a video about the Wood Fiesta effort

Project locations and temporary restrictions to public access:

Restrictions to public access are required during implementation due to hazardous conditions including falling trees and other debris. (Check back as this table will be updated regularly with new developments)

Project Location	Description	Recreational Impacts
Lick Creek	Project will restore 1 mile of Lick Creek with 500 habitat logs, beginning approximately 1.5 miles from the confluence with the NF Teanaway River.	No major impacts. Project is planned for October 15, 2018
Swauk Creek	Project will restore 1 mile of stream with 500 habitat logs within the lower 4 miles of Swauk Creek.	No major impacts. This project is located on private property and is planned for the October 13, 2018.
		The Umtanum Creek Recreation Site.



Status: **Completed**
10/01/2018 to 11/15/2018

Lead Project:

[Yakima Klickitat Fisheries Project \(YKFP\)](#)

Activity:

[Restoration](#)

Targeted Populations:

[Mid Columbia River Steelhead](#)

[Spring Chinook](#)

[Coho](#)

[Lamprey](#)

[Westslope Cutthroat Trout](#)

In partnership with:

Outreach



FOREST CONTRACT
Yakama Nation
PCT





**KEEP
CALM
IT'S
GAME
DAY**







COLUMBIA

COLUMBIA 107

N191CH

IT IS AGAINST THE LAW TO TAMPER WITH
DAMAGE OR INTERFERE WITH THE FLIGHT
OPERATIONS OF ANY CIVIL AIRCRAFT









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Environment (/News/Topic/Environment/)

Helicoptering In Logs For The Northwest's Largest River Restoration

by Courtney Flatt (/contributor/courtney-flatt/) [Follow](#) NWPB/EarthFix Nov. 6, 2018 2 p.m.

REGIONAL NEWS

24-mile stream enhancement project lifts off

ELLENSBURG — Beginning this week, natural resources partners in the Yakima River Basin undertake what is arguably the largest habitat wood placement and stream enhancement project in Washington's history. The project is said to benefit fish and forests.

The effort, dubbed The Yakima River Wood Fiеста Helicopter Aquatic Restoration Project is a multi-watershed effort aimed at enhancing aquatic habitat in remote watersheds that have been greatly altered by past management practices.

This month and next the Yakama Nation and its partners are placing logs in-stream and on the floodplain of seven Yakima River tributaries using a helicopter.

Project locations include the North Fork Manastash Creek, Swauk Creek, the Tenaway's Lick Creek, the Little Naches River, the Rattlesnake River, Little Satus Creek and

Stream gravels are sorted upstream of jams where fish spawn. Logjams also force water out onto adjacent valleys, in turn promoting groundwater recharge and storage. Once water is available in floodplains, beavers return to colonize, promoting even more groundwater storage.

The Yakama Nation has been working to restore degraded aquatic habitat through the placement of large logs in streams and

habitat biologist with the Yakama Nation Fisheries effort sites are in remote areas where terrain and dense vegetation limits the use of ground-based equipment to place large logs. Therefore, a helicopter will be used to deliver logs to these areas.

Targeted project locations mentioned earlier in this story are used by spawning and

n't have done it without a bunch of collaboration," said Kelly Clayton, habitat biologist with the Yakama Nation Fisheries.

"Habitat restoration is such a critical tool for ensuring the successful return of salmon and other Northwest, and strong partnerships are allowing us to successfully undertake these large-scale projects."

Collaborating partners on the project include the Yakama Nation, the Columbia Fisheries Enhancement Group, the Washington Dept. of Fish and Wildlife (WDFW), the Nature Conservancy, the Washington Dept. of Natural Resources, the U.S. Forest Service, and affected agency funded project. For more information visit yakamafish-nsn.gov.

About helicopter ops

Helicopter support for the Wood Fiesta project is provided by Oregon's Columbia Helicopters, Inc., the same company in the Upper County years back supporting a Kittitas County Conservation Trust project of the same kind on the Cle Elum River.

David Horvath, Columbia Helicopters' Forester Operations Manager, had this to say.

"For Wood Fiesta we're using a Columbia 107-II twin engine, twin rotor helicopter originally manufactured by Boeing."

"We started Wednesday, Oct. 3, on North Fork Manastash Creek.

"The helicopter can fly for two hours on a full tank of fuel. It burns 165 gallons per hour. The first day in the Manastash we flew 7.8 hours, hauling about 565,800 pounds of logs, a little over 490 of them in all."

NOTE: Based on industry standards, typically a heavy-lift helicopter costs a client upwards of \$8,000 an hour.

COLUMBIA HELICOPTERS' aircraft at work on the Cle Elum River a few years back doing the same kind of work required by the Wood Fiesta project.

THE HELICOPTER HOISTS logs, some with root wads still intact, from a staging area and flies them to project sites on various streams.

The Seattle Times @seattletimes [Follow](#)

5,000 logs will be dropped into Yakima River tributaries to enhance ecosystem



5,000 logs will be dropped into Yakima River tributaries to enhance ecosystem. The "Wood Fiesta" airift will place logs in Yakima River tributaries to help habitat and protect against wildfire and flooding damage. The effort should benefit the ecosys...

seattletimes.com

8:03 PM · 29 Sep 2018



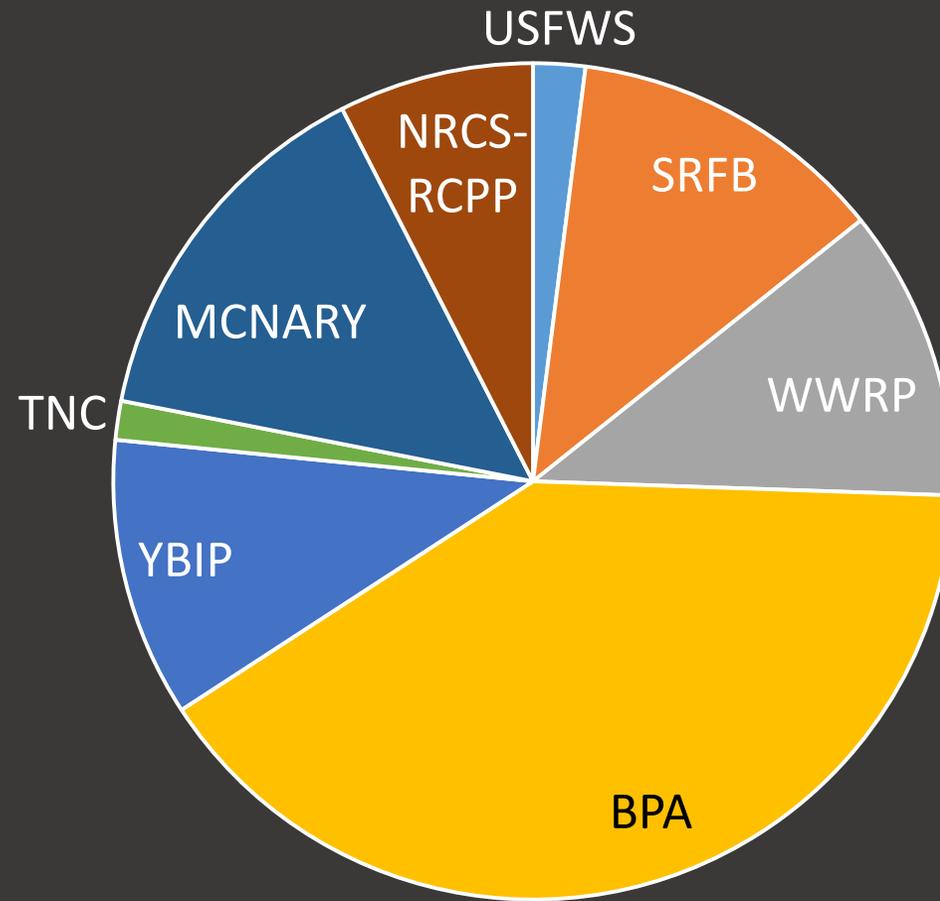




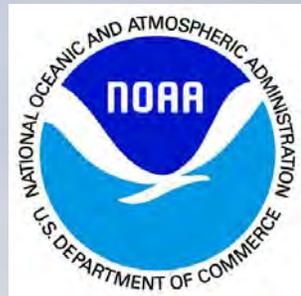
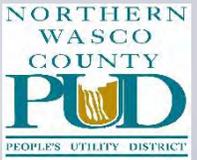




FUNDING SUPPORT



THANK YOU TO OUR PARTNERS!!!!!!!!!!!!!!



This River Runs Forever
Yakima Basin Integrated Plan





