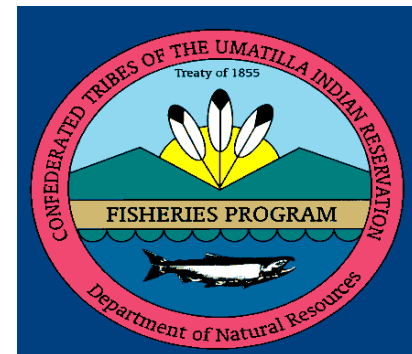
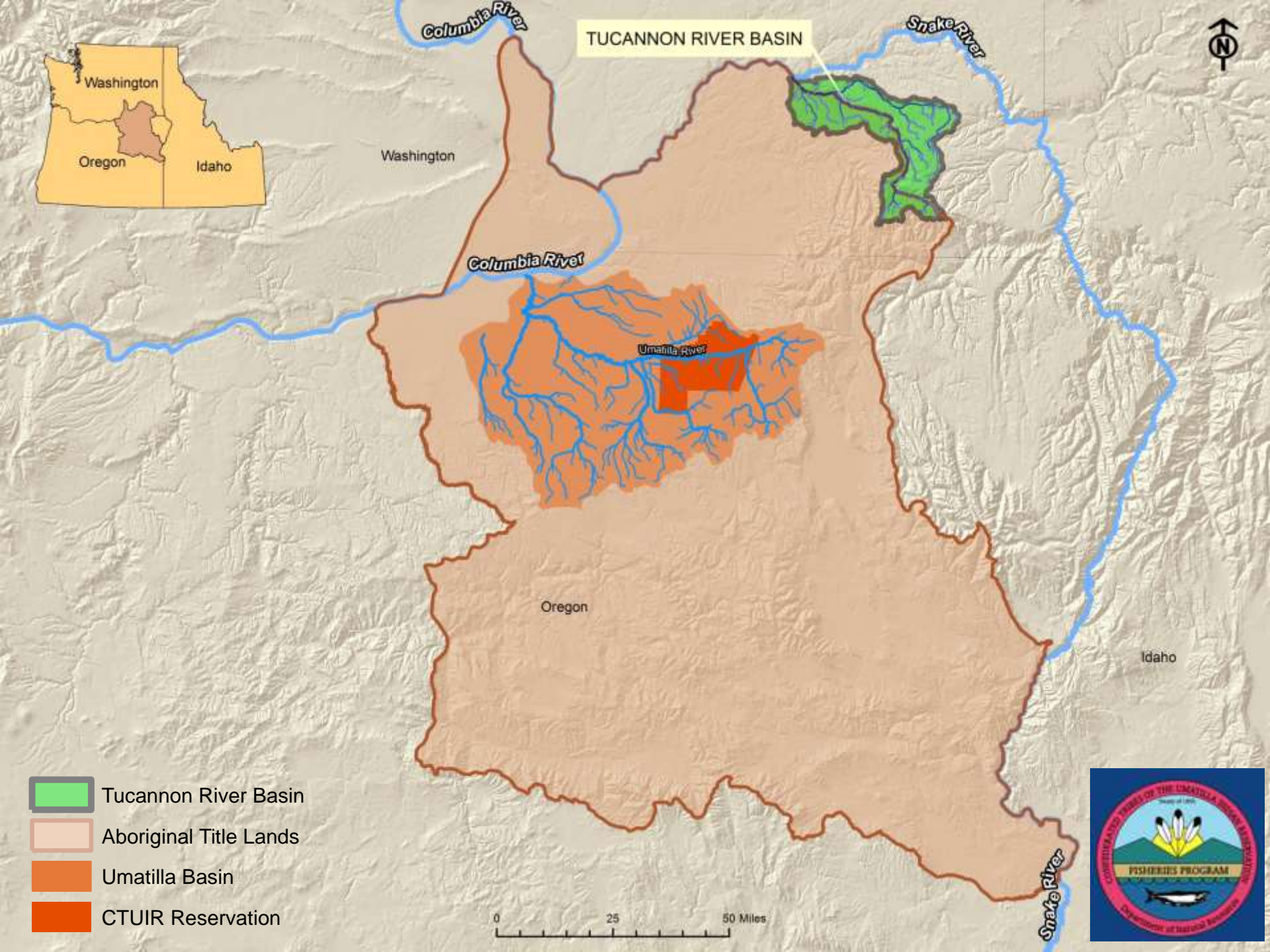


# Utilizing Helicopters To Restore Salmonid Habitat

## Tucannon River





*Eric Hoverson*





TUCANNON RIVER BASIN



-  Tucannon River Basin
-  Aboriginal Title Lands
-  Umatilla Basin
-  CTUIR Reservation

0 25 50 Miles





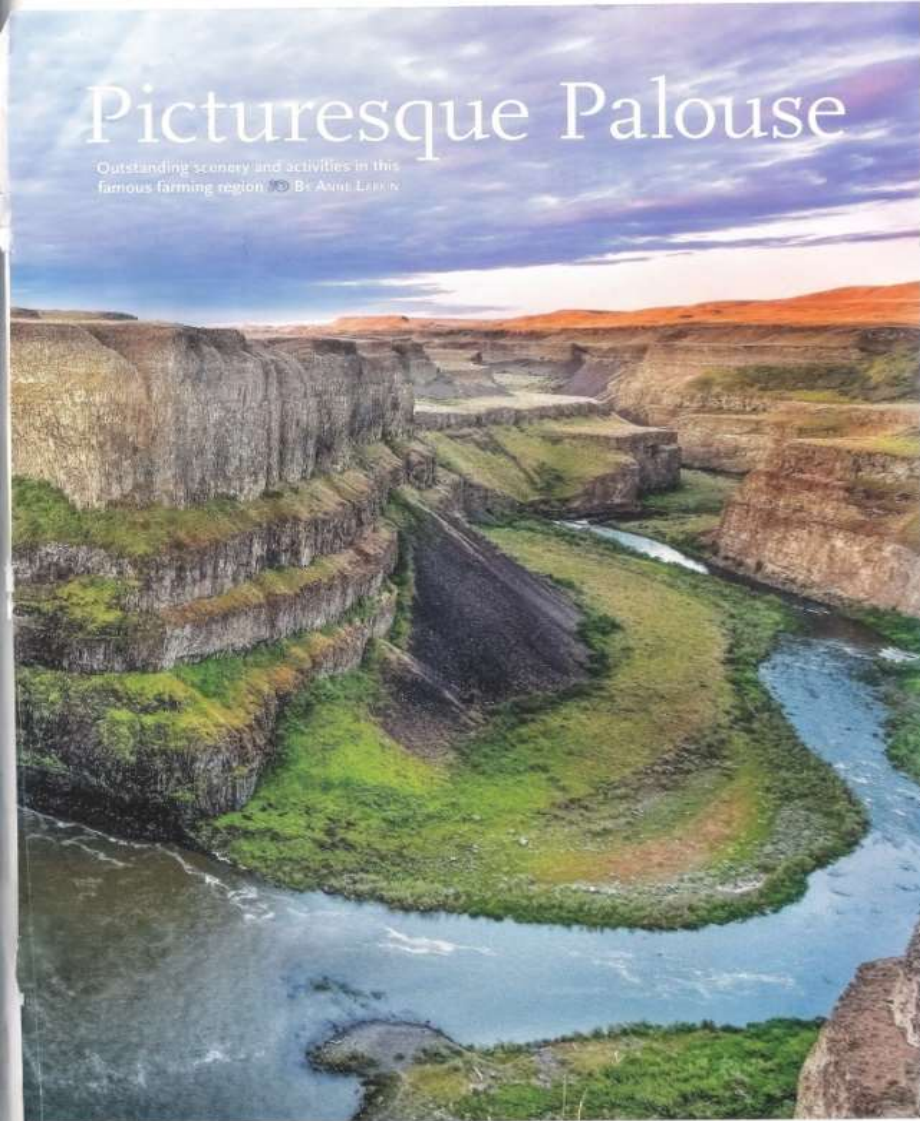
# Lower Tucannon Basin (semi-arid, 10" rain)

*Mighty Missoula Floods*

*200' Palouse Falls & Wager*

## Picturesque Palouse

Outstanding scenery and activities in this famous farming region. BY ANNE LARSEN



The Palouse River winds through scenic Palouse Falls State Park.



# Going over Palouse Falls=Unpleasant Experience



**VIDEO**

## Upper Tucannon Basin

**Fire Effects; Uplands, Riparian, Stream, Fish Kill**





# In Addition to Fires, Historical Anthropogenic Changes...



# Result=Channel Simplification!





# Reduced Potential Natural Recruitment & Retention of LWD





***VIDEO***

# Artificial Supplementation of Trees into River





**Duty Now for the Future, DEVolution**

*Safety First, ALWAYS WEAR YOUR HELMET*





Staging of Source Trees: **Green** OR **Windblown**





# PROJECT DETAILS:

**Tucannon River, RM 48** (adjacent to Wilderness)

**Restored 2 miles of salmonid habitat**

**Added 825 trees and 500 boulders**

**Staff=1 Person**

## OBJECTIVES:

- 1. Habitat Complexity**
- 2. Floodplain Connectivity**
- 3. Fish Passage**

# ***VIDEO***

## **Cost of Restoring 2 Miles, Tucannon River?**





# Aerial View: Objective 1: Complexity





# Ground View: Objective 1: Complexity





# Ground View: Objective 1: Complexity





**VIDEO**

# Objective 1: Complexity

Tree too Large for Helicopter





**VIDEO**

# Objective 1: Complexity

Boulder too Large for Helicopter





**VIDEO**

# Objective 1: Complexity

Combining Tree & Boulder





# Objective 2: Floodplain Connectivity





# Objective 2: Floodplain Connectivity

*Before*



*After*





**VIDEO**

## **Objective 2: Floodplain Connectivity**





# Objective 2: Floodplain Connectivity (sheet water)





**VIDEO**

## **Objective 2: Floodplain Connectivity**





# Objective 3: Fish Passage (Looking Upstream)

*Before* *After*





# Objective 3: Fish Passage (Looking Downstream)

*Before*



*After*





# ***VIDEO***

## **Treated vs. Untreated Comparison** **Physical Habitat Improvement**





***VIDEO***

**Biological Response**





# ***Results/Accomplishments:***

- Increased secondary channel length by 1,242 meters
- Increased number of pools from 58 to 167
- Increased habitat-type complexity units from 133 to 258
- Increased overhead cover/undercut from 20% to 46%
- Increased wood complexity from 2.1 to 3.1
- Increased River Complexity Index Value from 3.78 to 9.88



**VIDEO**

# Conclusions? Nothing Went Wrong





# ***VIDEO***

## **Complications...**





# CTUIR Fisheries Has Job Openings

Call Mike Lambert (541) 429-7240

