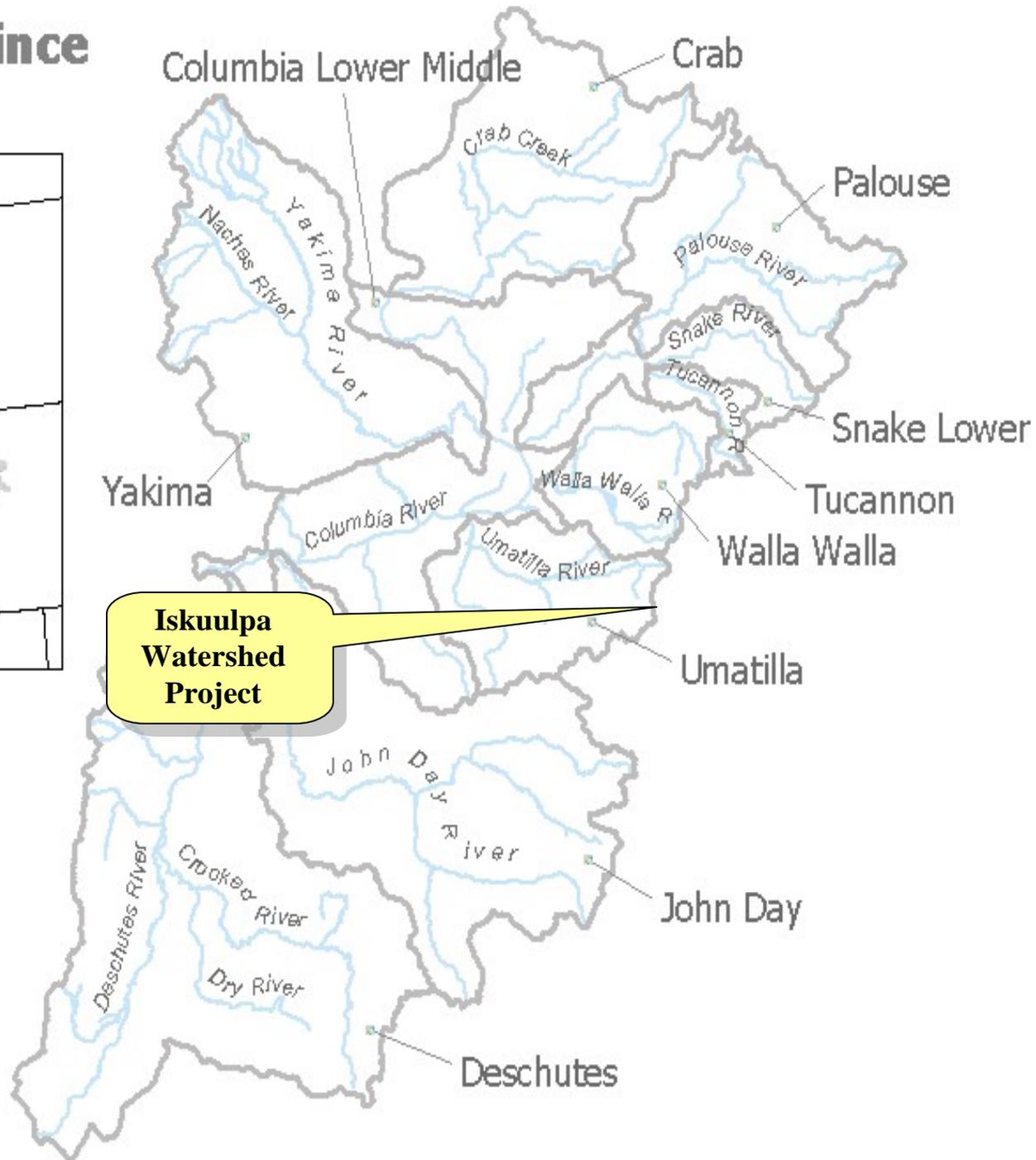
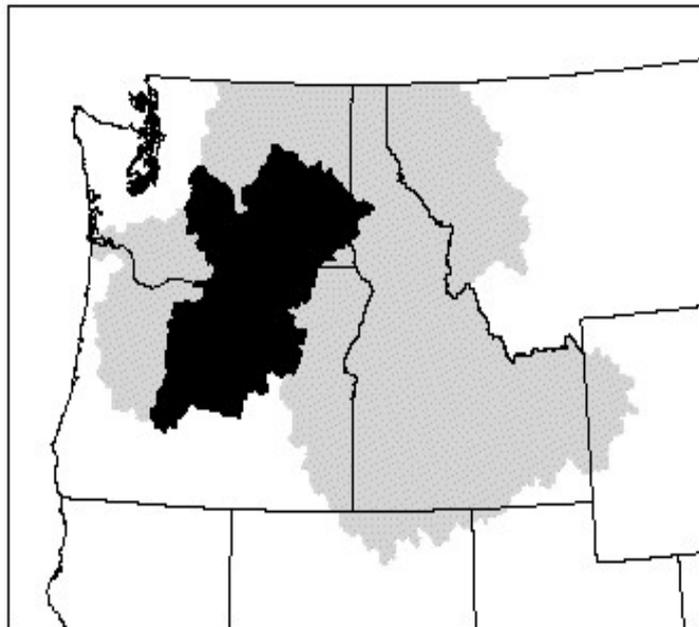


Iskuulpa Watershed Project

BPA Project # 199506001

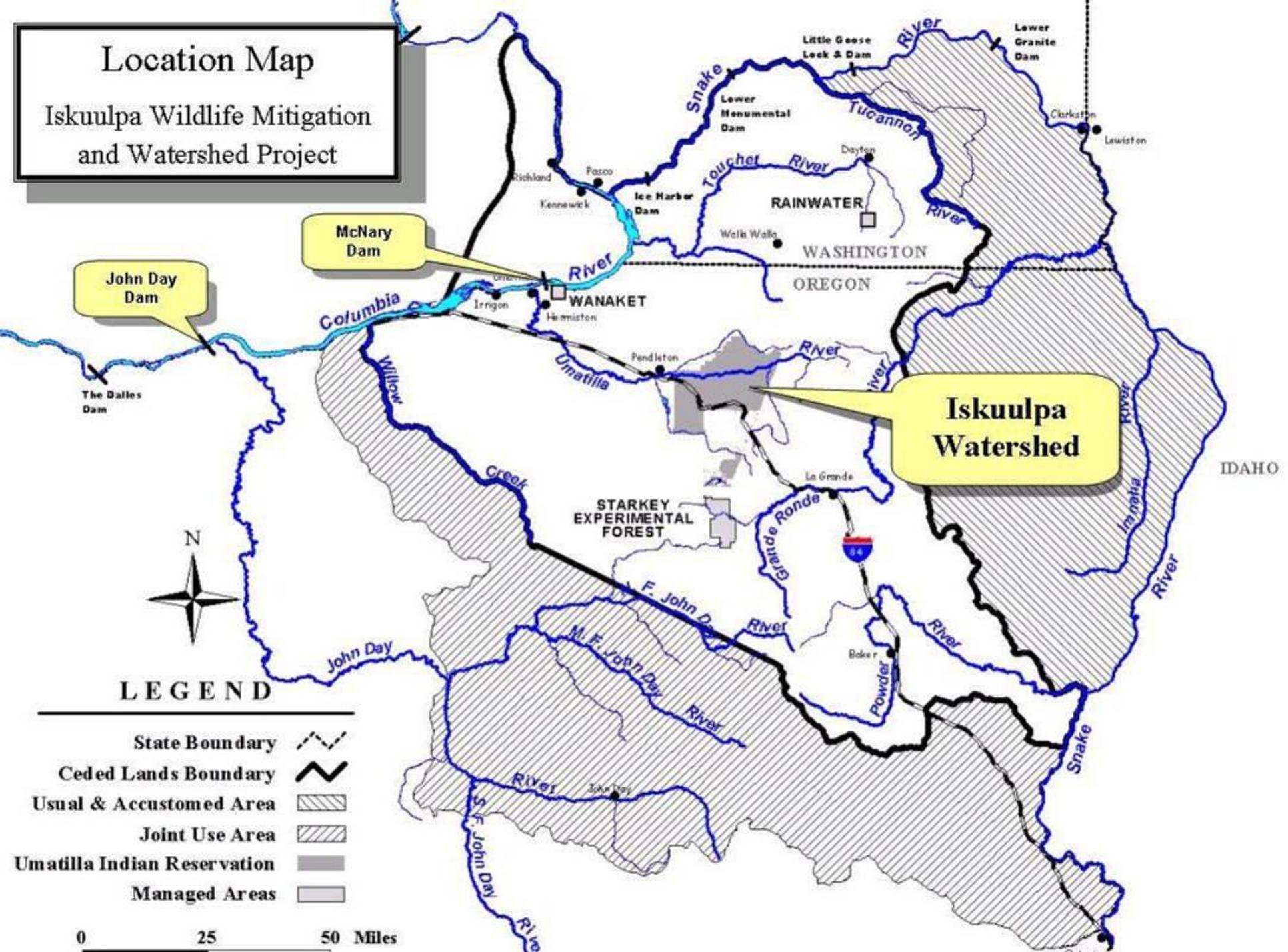
Confederated Tribes of the
Umatilla Indian Reservation

Columbia Plateau Province



Location Map

Iskuulpa Wildlife Mitigation and Watershed Project



McNary Dam

John Day Dam

Iskuulpa Watershed

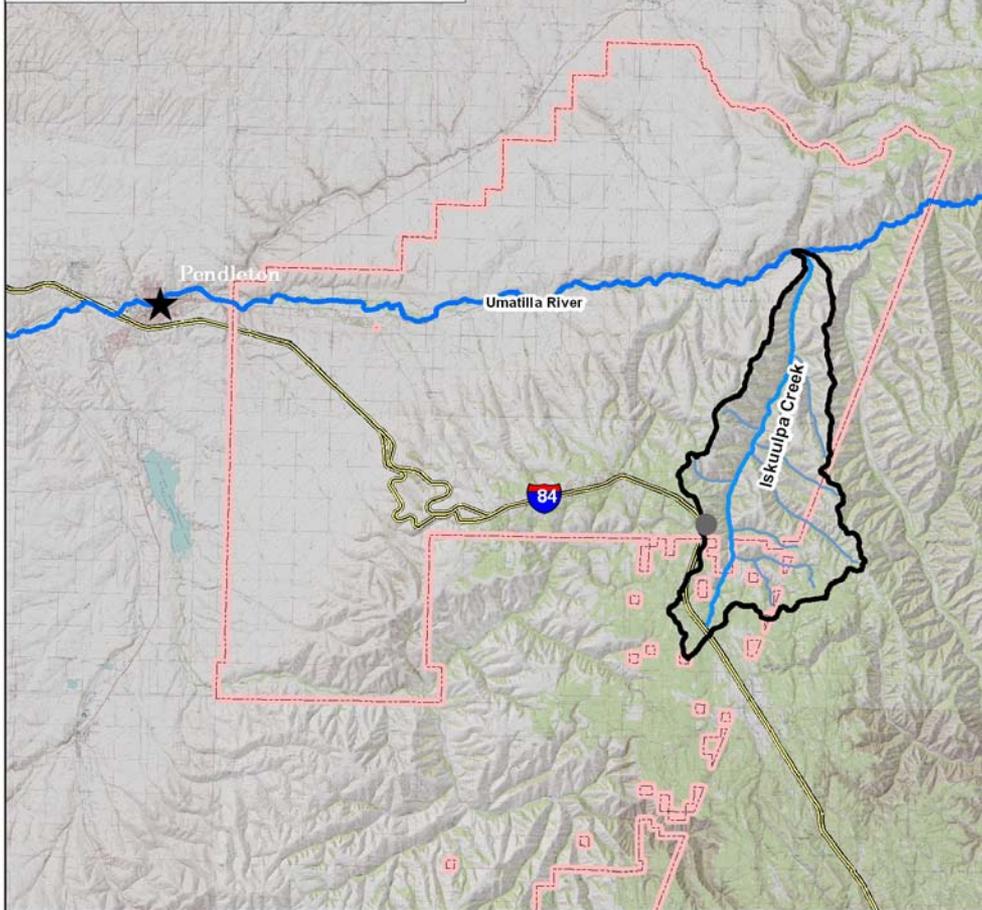
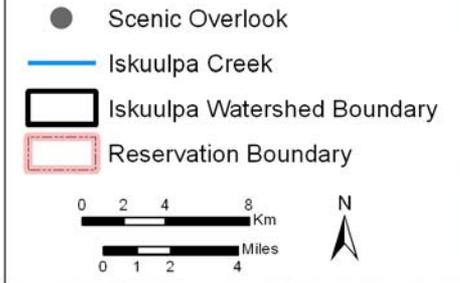


LEGEND

- State Boundary
- Ceded Lands Boundary
- Usual & Accustomed Area
- Joint Use Area
- Umatilla Indian Reservation
- Managed Areas

0 25 50 Miles

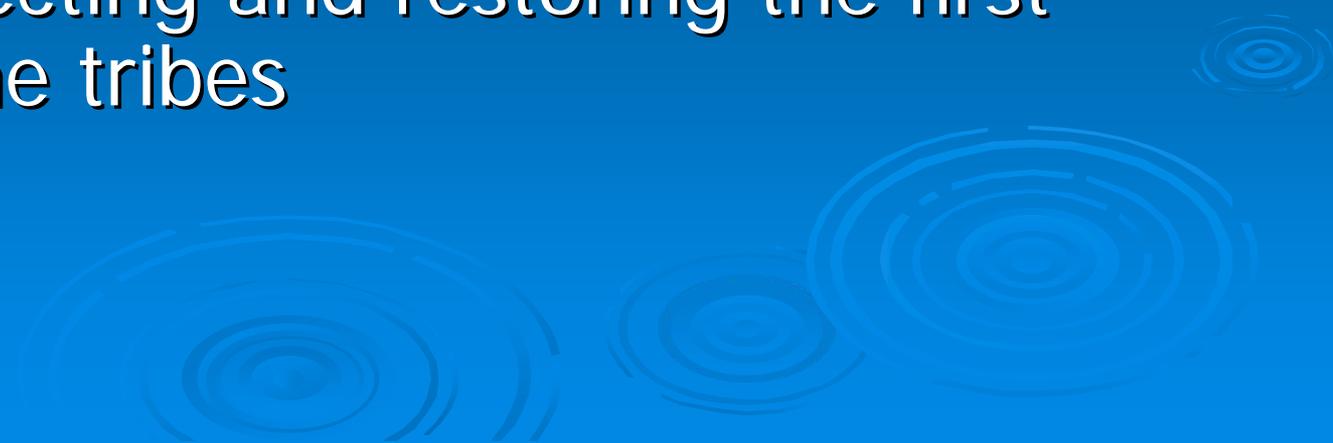
Iskuulpa Watershed Project



Iskuulpa Watershed

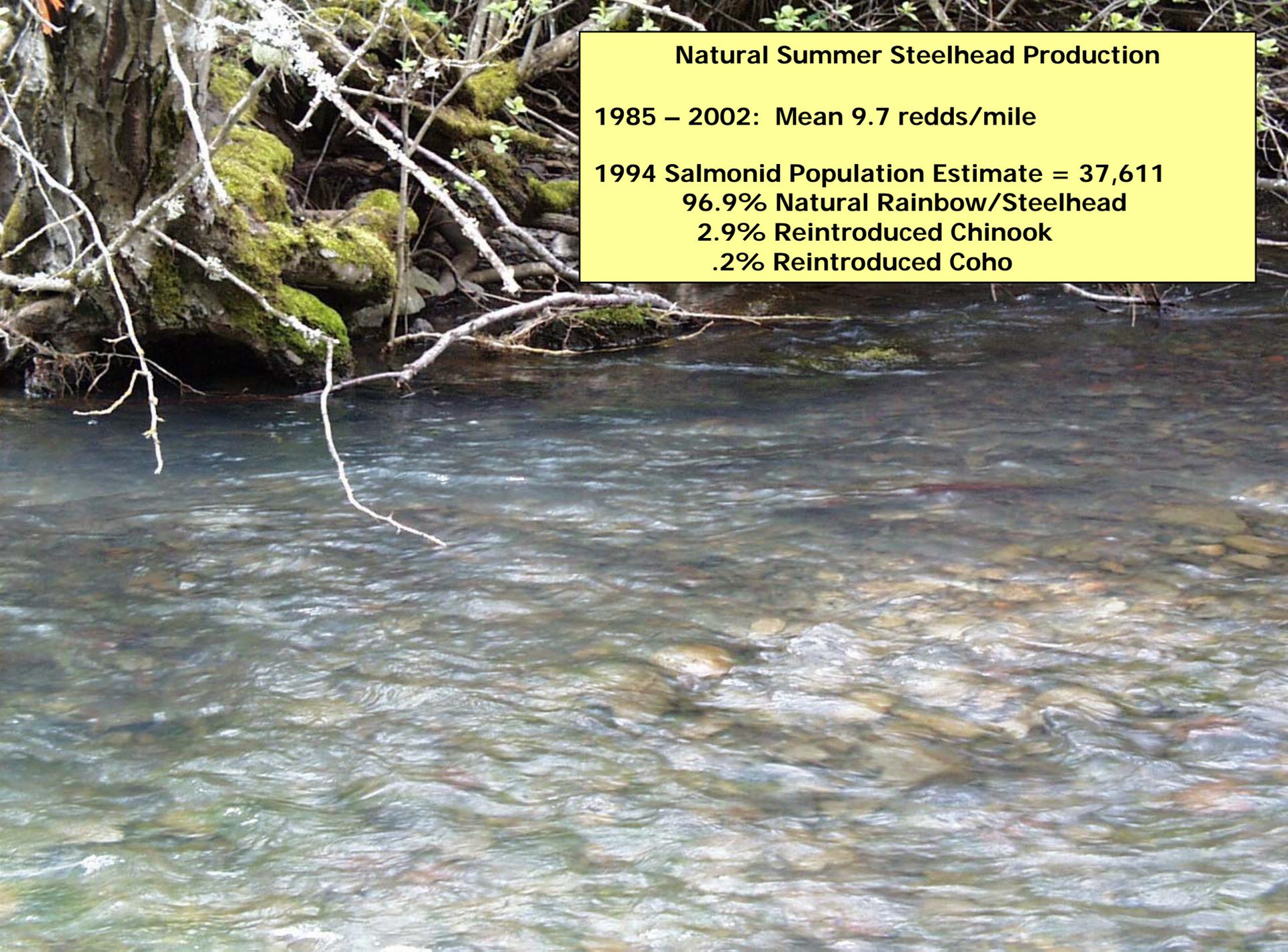
- 24,000 acres
- 4.3 miles across at widest
- Iskuulpa Creek:
 - 12.7 miles
 - 4th order stream
 - Perennial streamflow with subterranean segments

Iskuulpa Watershed Project

- A Columbia Basin Fish and Wildlife Mitigation Project
 - Established by the CTUIR in 1995
 - Provides dual benefit to fish and wildlife while protecting and restoring the first foods of the tribes
- 
- The background of the slide features several concentric, light blue circular ripples that resemble water droplets or raindrops, scattered across the lower half of the image.

Why Iskuulpa Watershed?

- Priority anadromous fish habitat in Umatilla Basin
- In-kind, off-site, mitigation for wildlife habitat loss by protecting same plant communities impacted by Columbia River dams
- Opportunity for Tribe to consolidate land ownership in order to provide perpetual protection and consistent management of the watershed, first foods and cultural resources



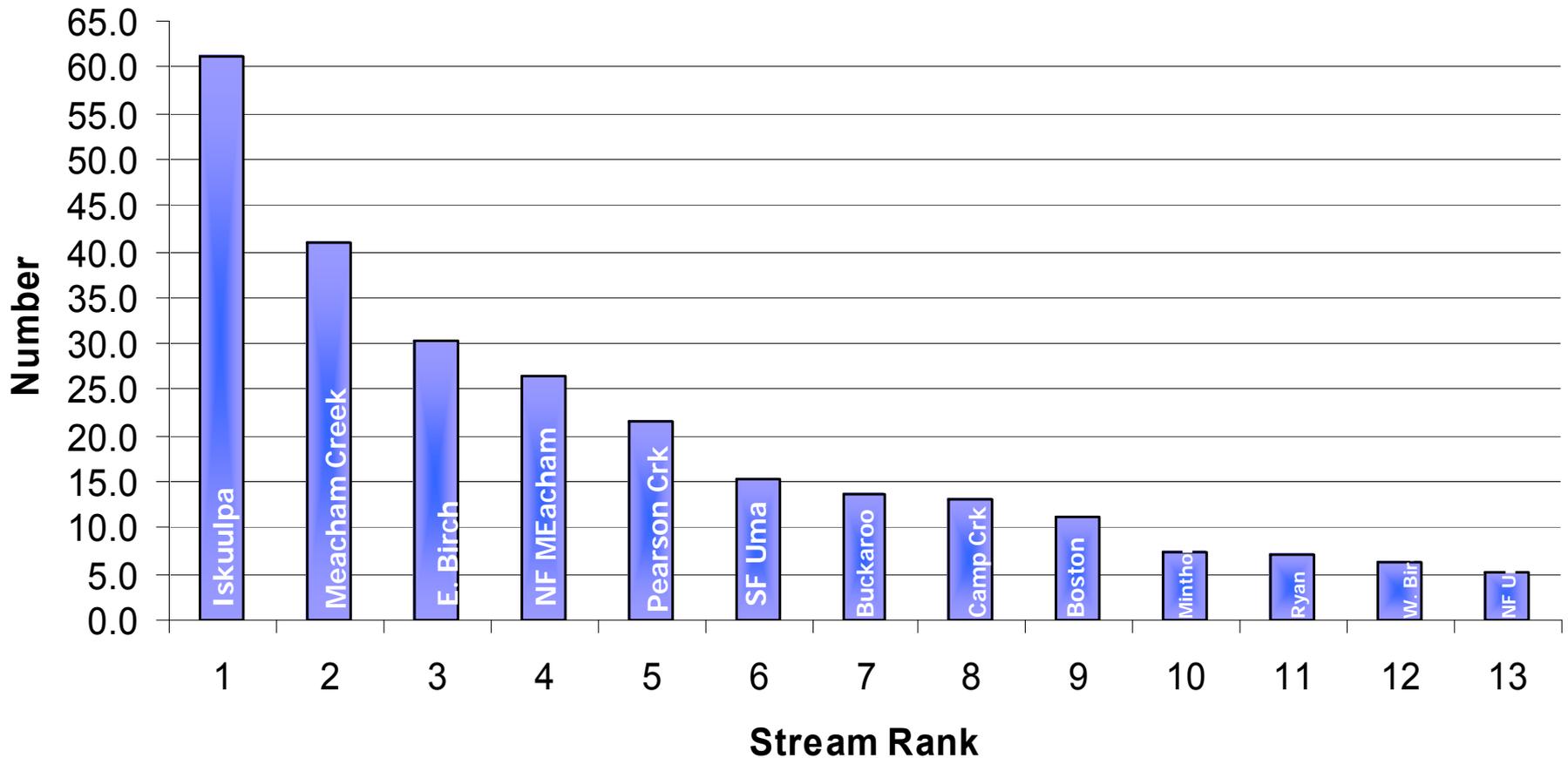
Natural Summer Steelhead Production

1985 – 2002: Mean 9.7 redds/mile

1994 Salmonid Population Estimate = 37,611
96.9% Natural Rainbow/Steelhead
2.9% Reintroduced Chinook
.2% Reintroduced Coho

Umatilla Basin - Anadromous Use -

Average Number Redds

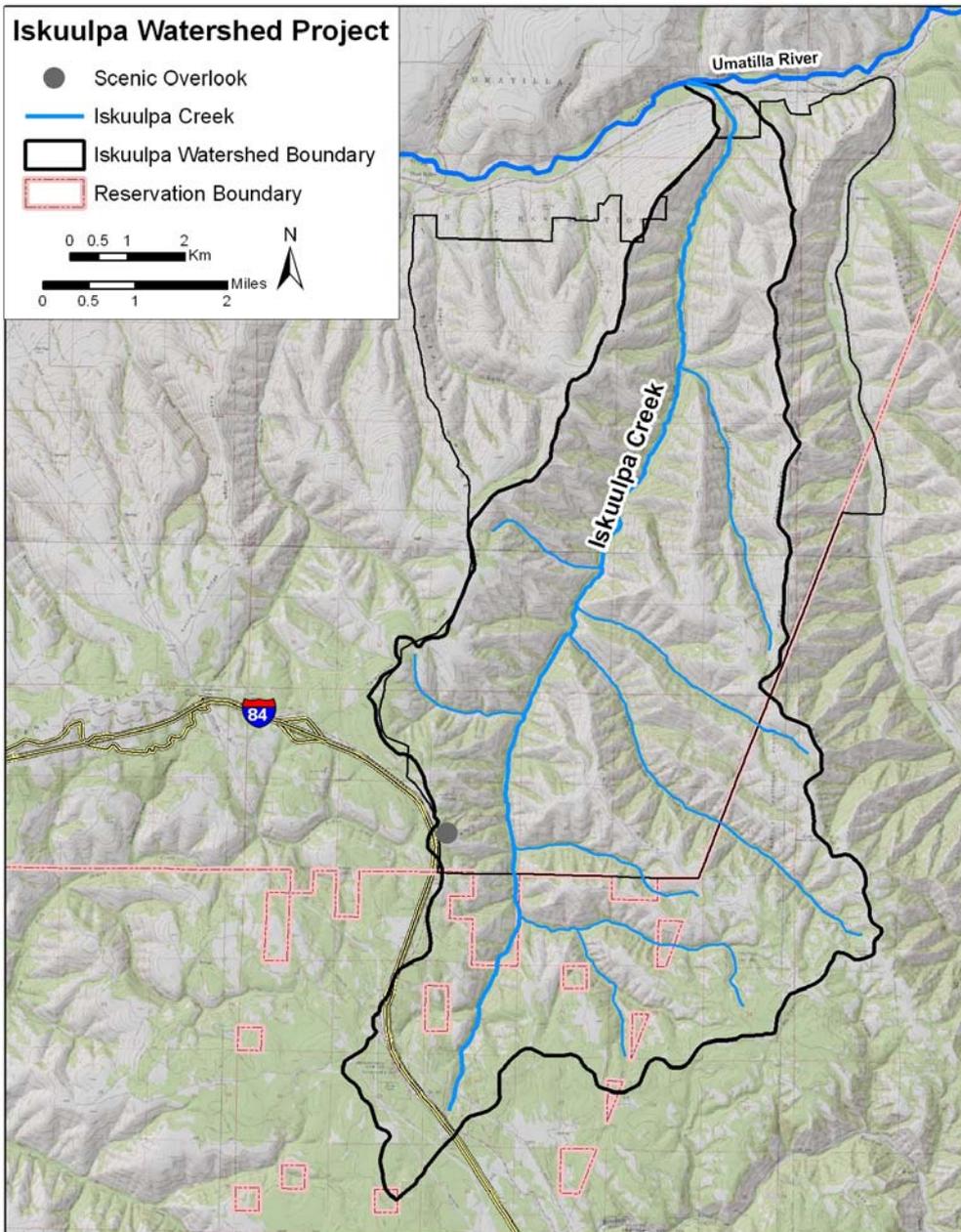


Umatilla Drainage Fish Habitat Improvement Implementation Plan

- 7 miles of Iskuulpa Creek identified for habitat improvement

- Limiting factors
 - Low/intermittent summer flows
 - Poor quality riparian areas (low shade density)

- Methods for improvement
 - Reduce livestock grazing
 - Plant riparian vegetation



Iskuulpa Watershed Project

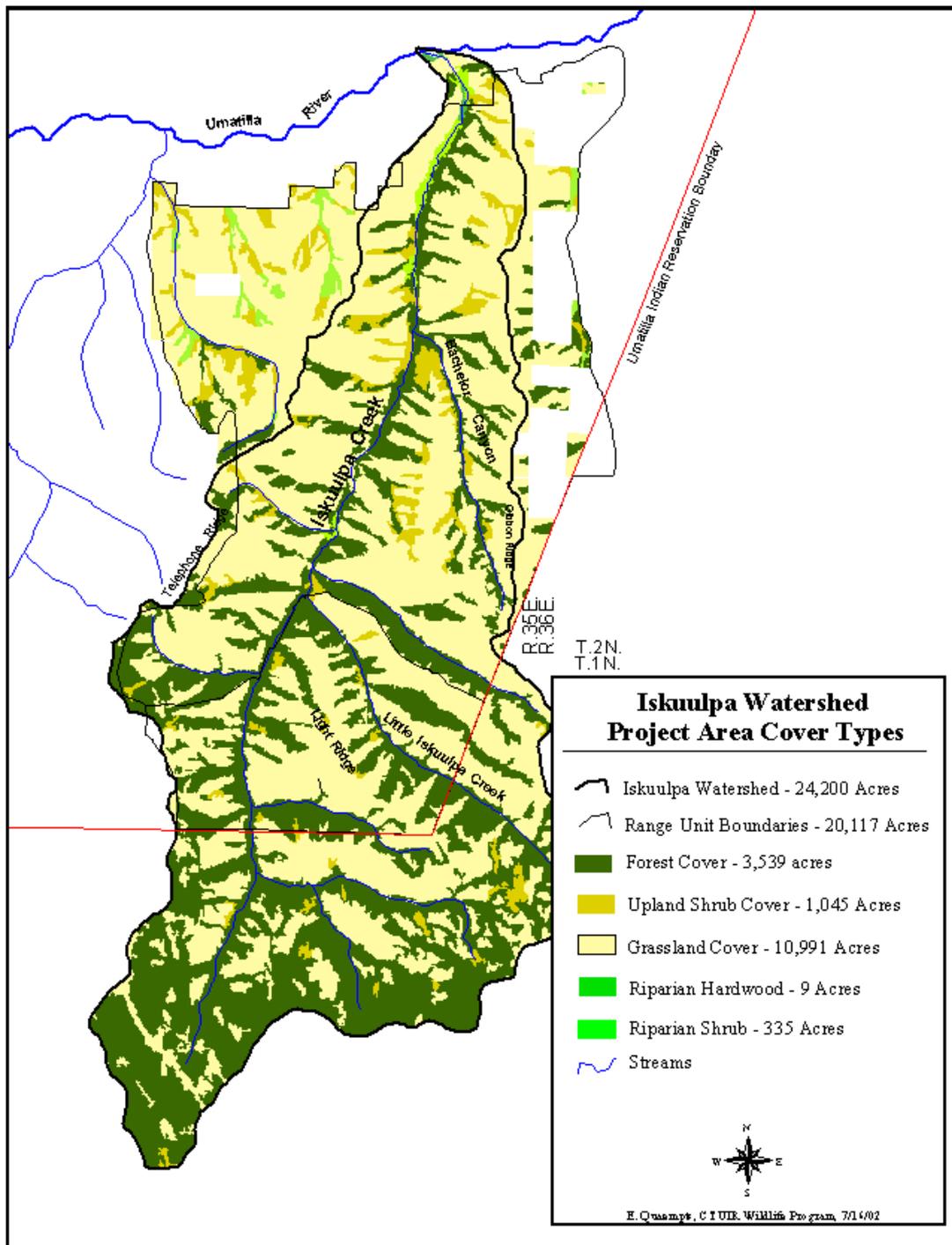
- 7 wildlife mitigation species representing 5 broad habitat types
- Provides 10 miles of anadromous and resident fish habitat
- Reintroduced spring chinook, summer steelhead, redband trout, coho, Pacific lamprey, bull trout (small numbers)

Iskuulpa Watershed Project

Cover Types

<u>Cover Type</u>	<u>Acres</u>
Grasslands	10,991
Forest	3,539
Upland Shrub	1,045
Riparian Shrub	335
Riparian Hardwood	9

Analysis Area Total 15,919



Project Goals

- Provide perpetual protection of watershed resources
 - Enhance wildlife habitat to provide partial mitigation for McNary and John Day Hydroelectric Power Project impacts
 - Improve natural salmonid habitat and production
- 

Project Activities



- Land purchase
- HEP evaluation
- Rest from livestock grazing
- Seasonal road closure
- Plant community monitoring
- Invasive plant inventory and treatment
- Large wood additions
- Native plant restoration using local sources

Project Activities



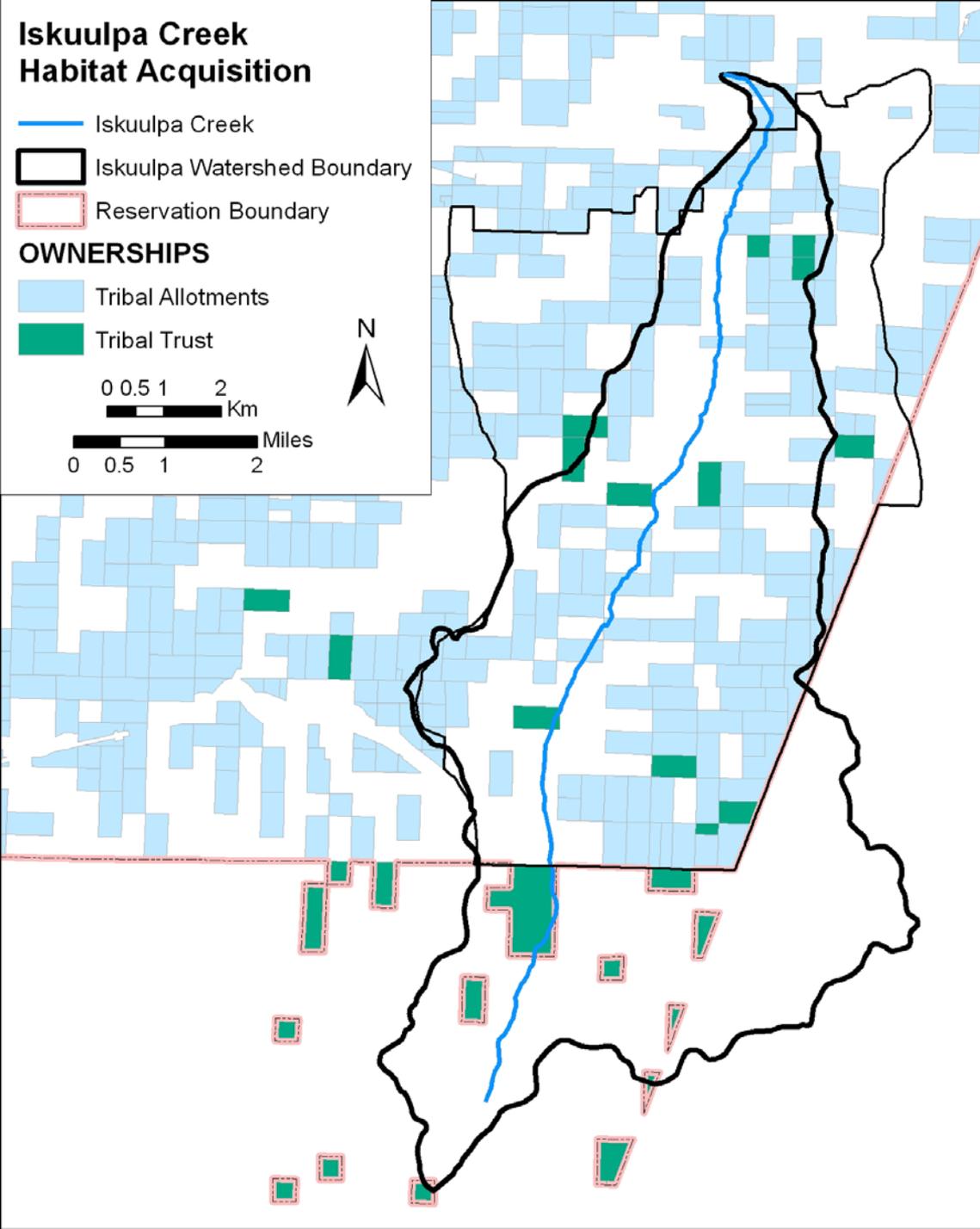
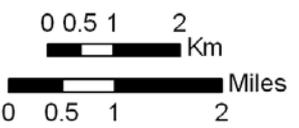
- **Land purchase**
- HEP evaluation
- Rest from livestock grazing
- Seasonal road closure
- Plant community monitoring
- Invasive plant inventory and treatment
- Large wood additions
- Native plant restoration using local sources

Iskuulpa Creek Habitat Acquisition

- Iskuulpa Creek
- Iskuulpa Watershed Boundary
- Reservation Boundary

OWNERSHIPS

- Tribal Allotments
- Tribal Trust



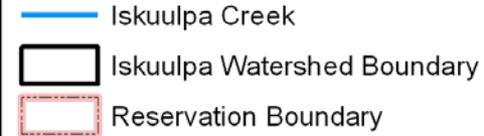
Pre-Project Landownership

1997 Project Initiation

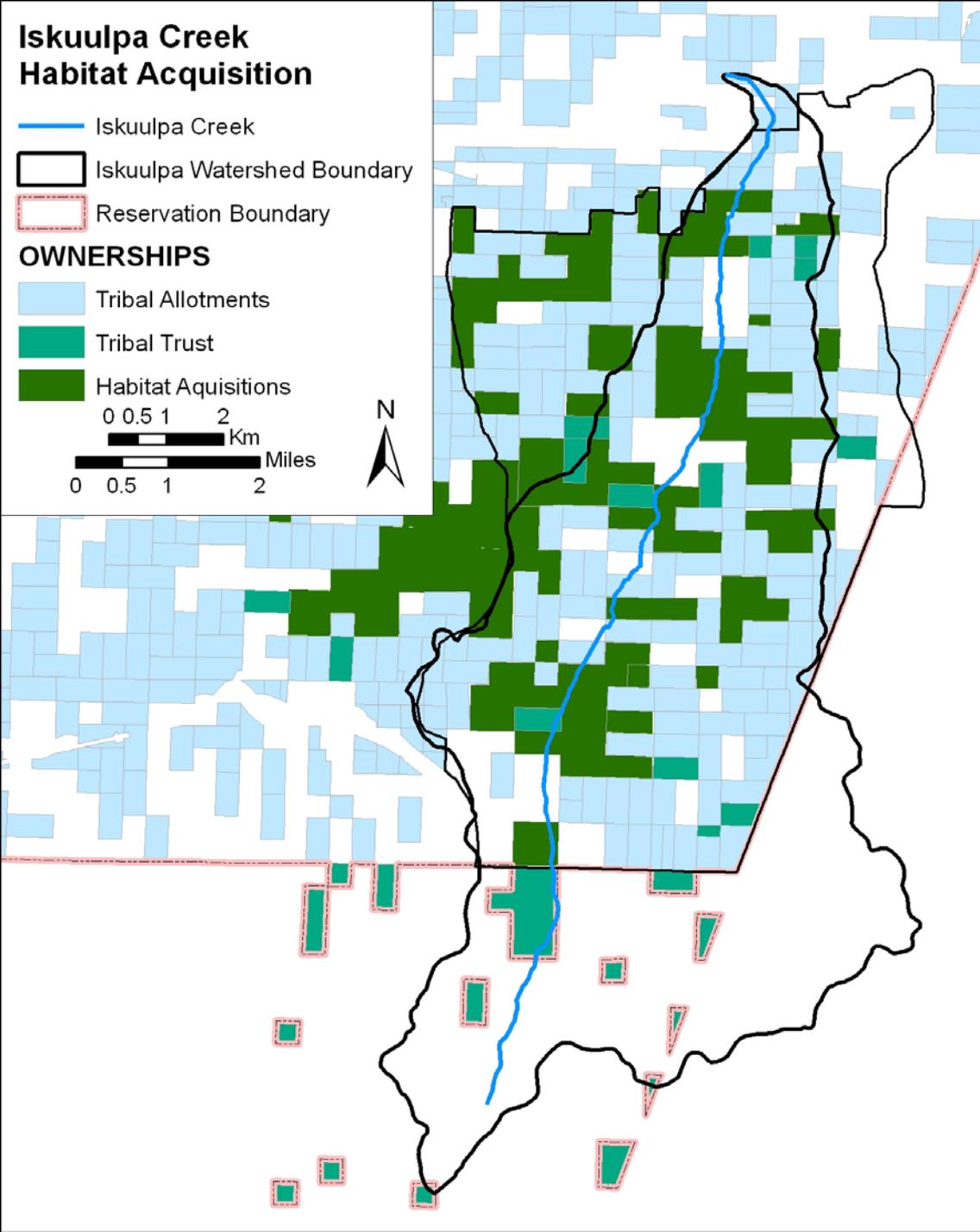
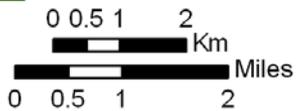
-5,537 Acres under
tribal control



Iskuulpa Creek Habitat Acquisition



OWNERSHIPS



Tribally Controlled Lands

➤ 1997 Project Initiation
- 5,537 Acres

➤ Total Acquisitions
- 6,736 Acres

➤ >90% within Diminished
Reservation now under
tribal control

Project Activities



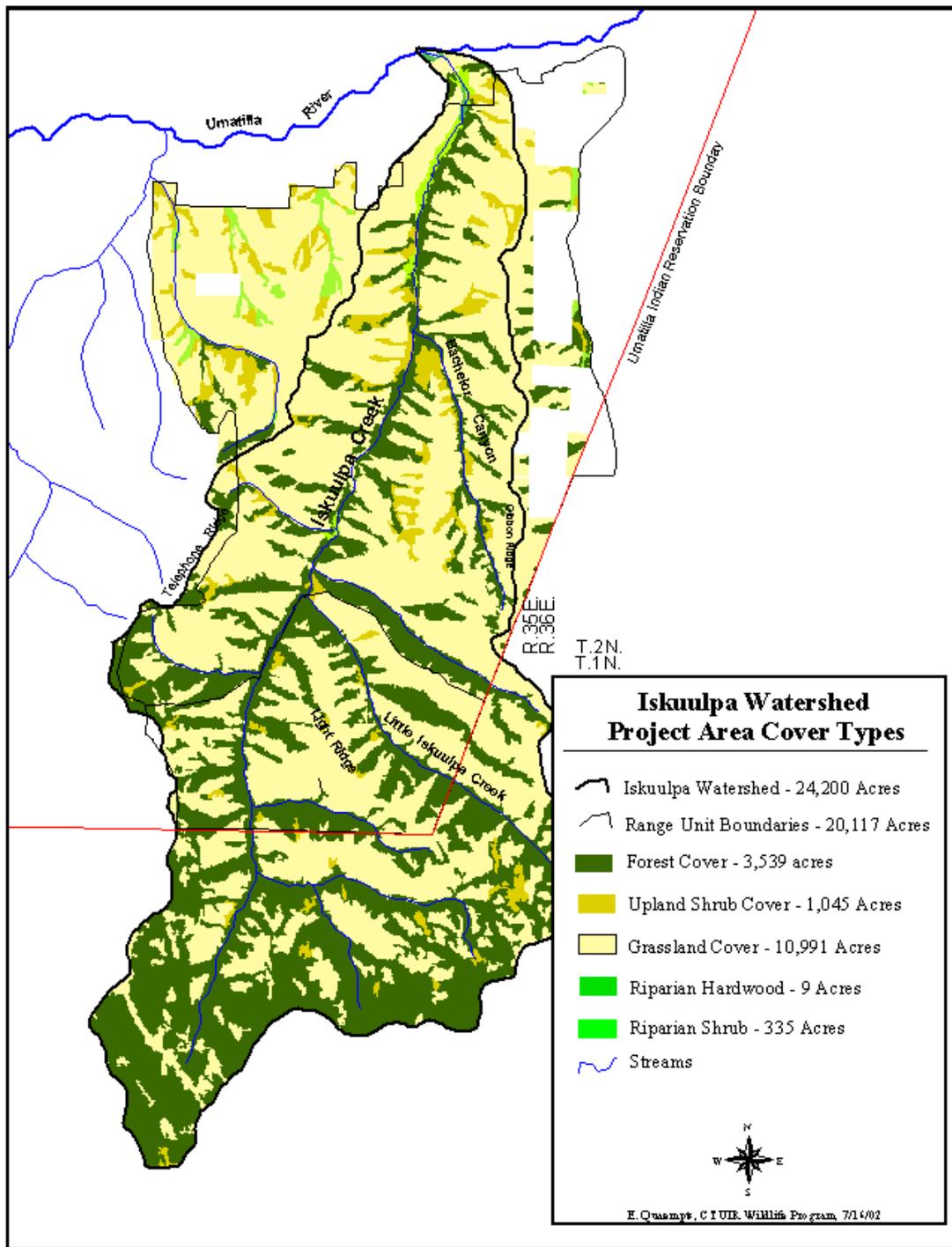
- Land purchase
- **HEP evaluation**
- Rest from livestock grazing
- Seasonal road closure
- Plant community monitoring
- Invasive plant inventory and treatment
- Large wood additions
- Native plant restoration using local sources

HEP

TARGET MITIGATION SPECIES

Cover Type	Species
Riparian (Hardwood and Shrub)	Yellow Warbler Mink Great Blue Heron Black-capped Chickadee
Forest	Black-capped Chickadee Downy Woodpecker Dusky (Blue) Grouse
Upland Shrub	Downy Woodpecker Dusky (Blue) Grouse
Grassland	Western Meadowlark

HEP Crediting



Mitigation Species	Habitat Units
Western Meadowlark	1,318.9
Downy Woodpecker	1,222.7
Black-capped Chickadee	1,203.8
Blue Grouse	407.6
Great Blue Heron	30.5
Yellow Warbler	280.6
Mink	103.7
TOTAL	4,567.8



HEP Survey Accomplishments

1998 – 2008

55,000 Feet of Transects

678 M² Plots

243 One-Tenth Acre Plots

Habitat Types Surveyed:

Riparian Hardwood

Riparian Shrub

Upland Shrub

Forest

Grassland

Riparian HEP species



Great Blue Heron



Yellow warbler



Mink

Limiting Habitat Factors

- Low percent shrub cover
- Low percent composition hydrophytic shrubs (black cottonwood, alder, Douglas hawthorn, willow spp.)
- Distance between potential nest sites and foraging areas (Great Blue Heron)



Desired Future Conditions



- Increase average shrub cover values to between 50-80%
- Restored native plant community composition and structure
- 70% of shrub species composed of hydrophytic species
- Shrub heights average 6 feet or more

Enhancement strategies



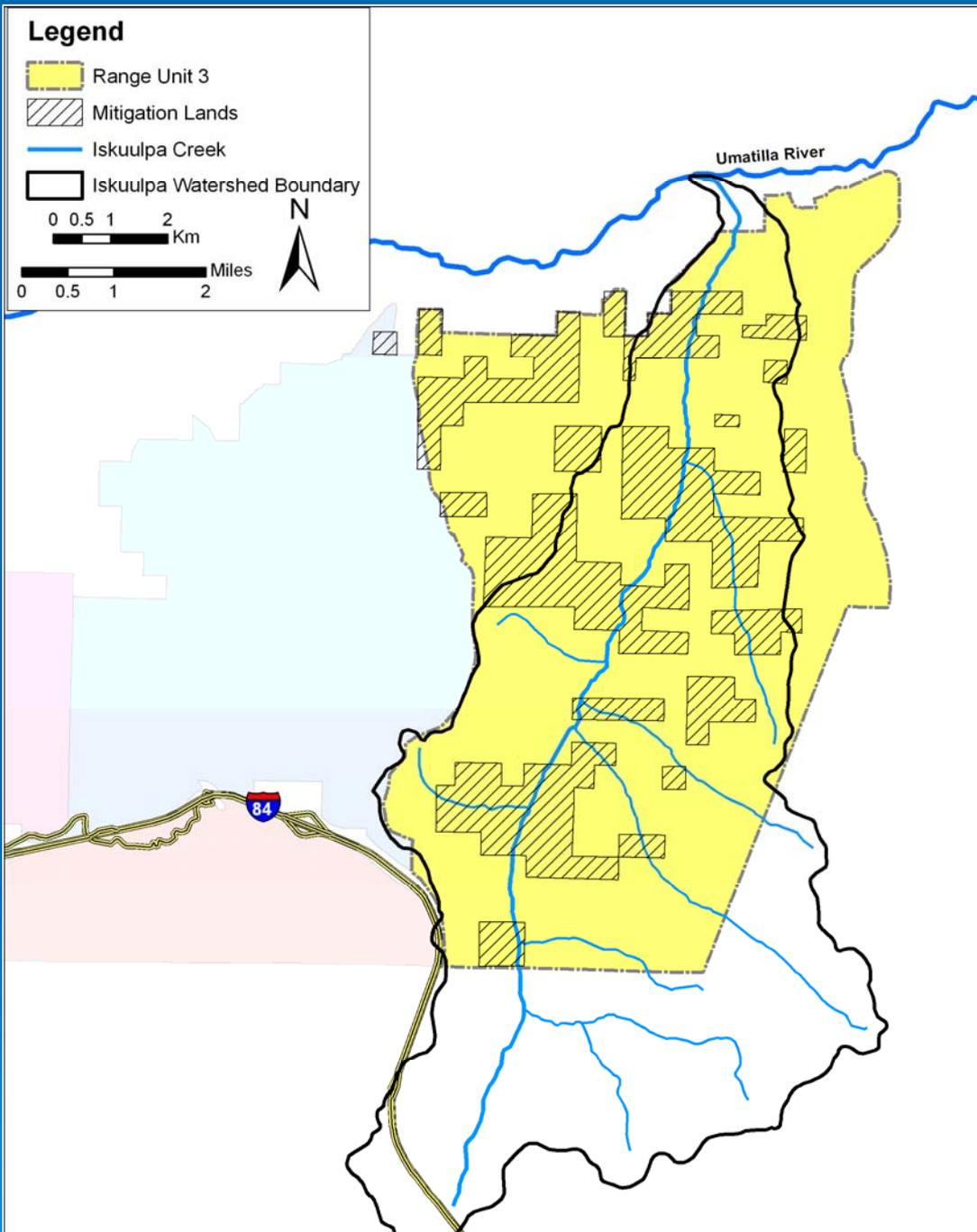
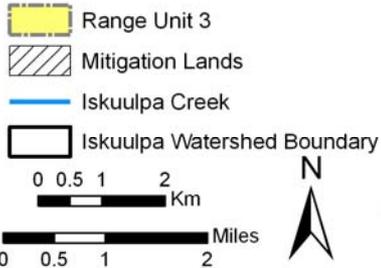
- Rest from livestock grazing
- Large wood additions to floodplains
- Obliterate floodplain roadbeds
- Plant deciduous and hydrophytic shrubs

Project Activities



- Land purchase
- HEP evaluation
- **Rest from livestock grazing**
- Seasonal road closure
- Plant community monitoring
- Invasive plant inventory and treatment
- Large wood additions
- Native plant restoration using local sources

Legend



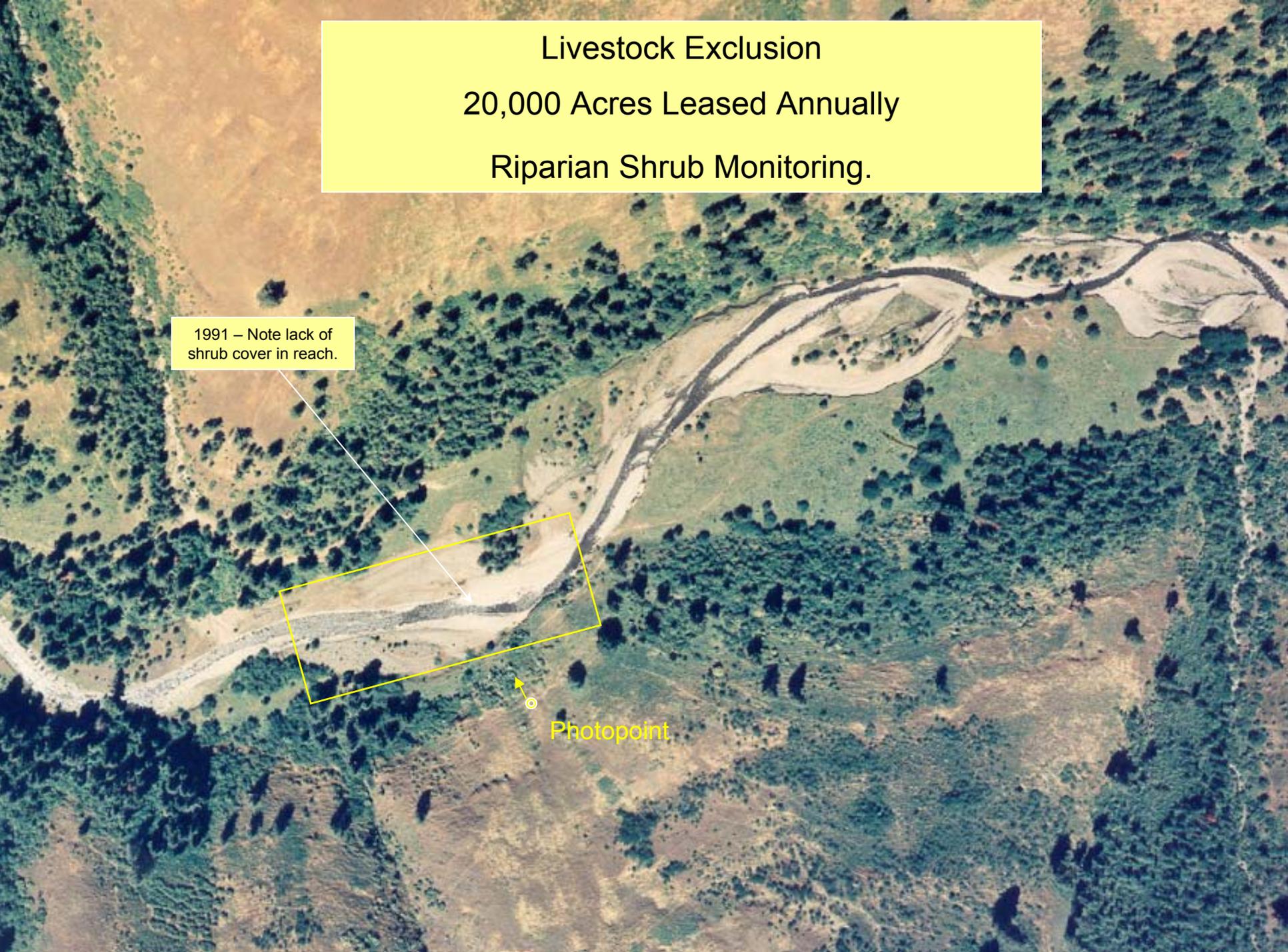
CTUIR Wildlife Program leases and rests Range Unit 3

- Initiated in 1998
- 20,557 acres total rested from livestock grazing
- 10,794 acres of grassland habitat, for which BPA gets protection and enhancement credit for the lease
- Facilitates recovery of grassland and riparian vegetation

Livestock Exclusion
20,000 Acres Leased Annually
Riparian Shrub Monitoring.

1991 – Note lack of
shrub cover in reach.

Photopoint

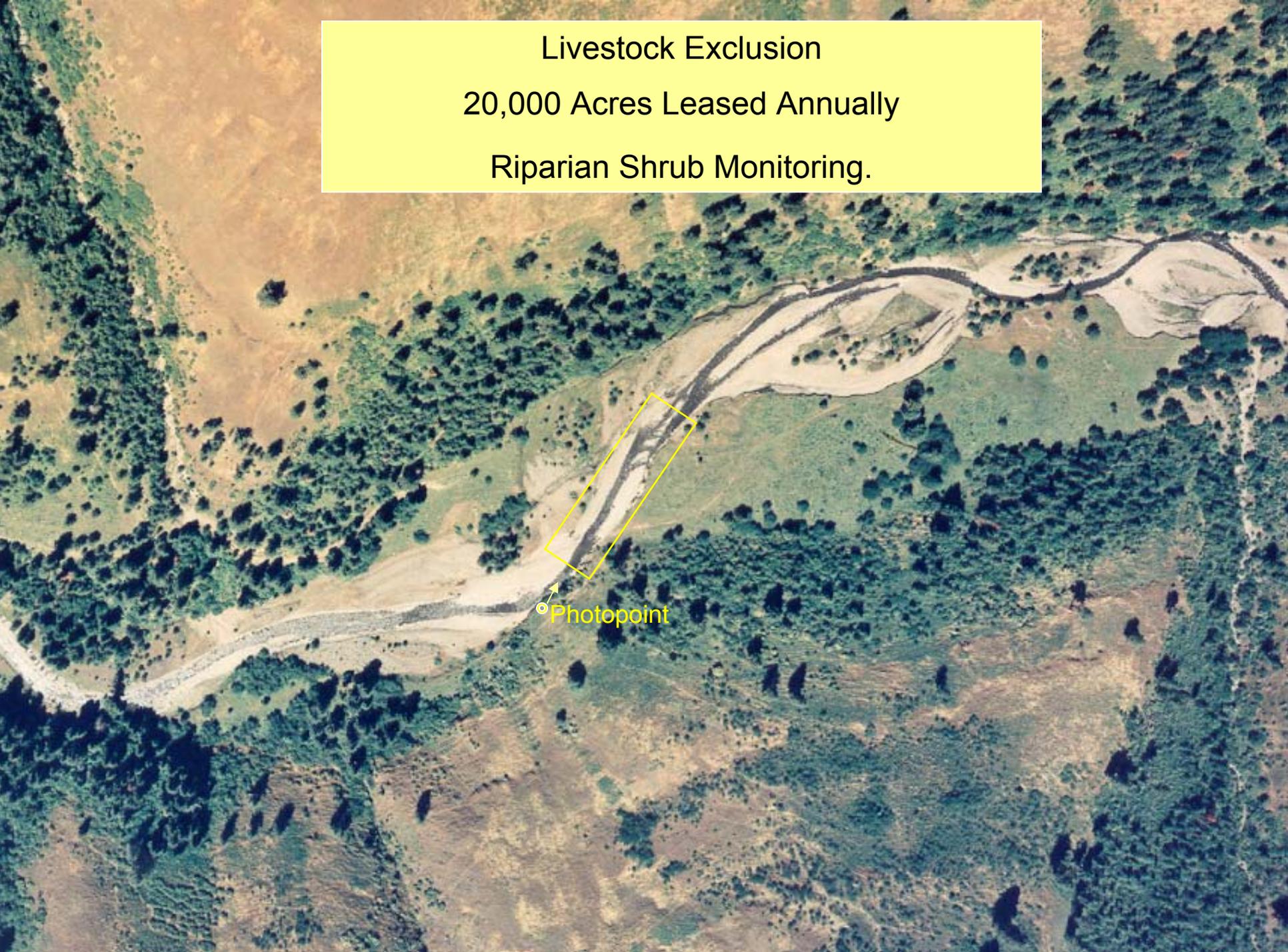




3 7:49 AM



Livestock Exclusion
20,000 Acres Leased Annually
Riparian Shrub Monitoring.

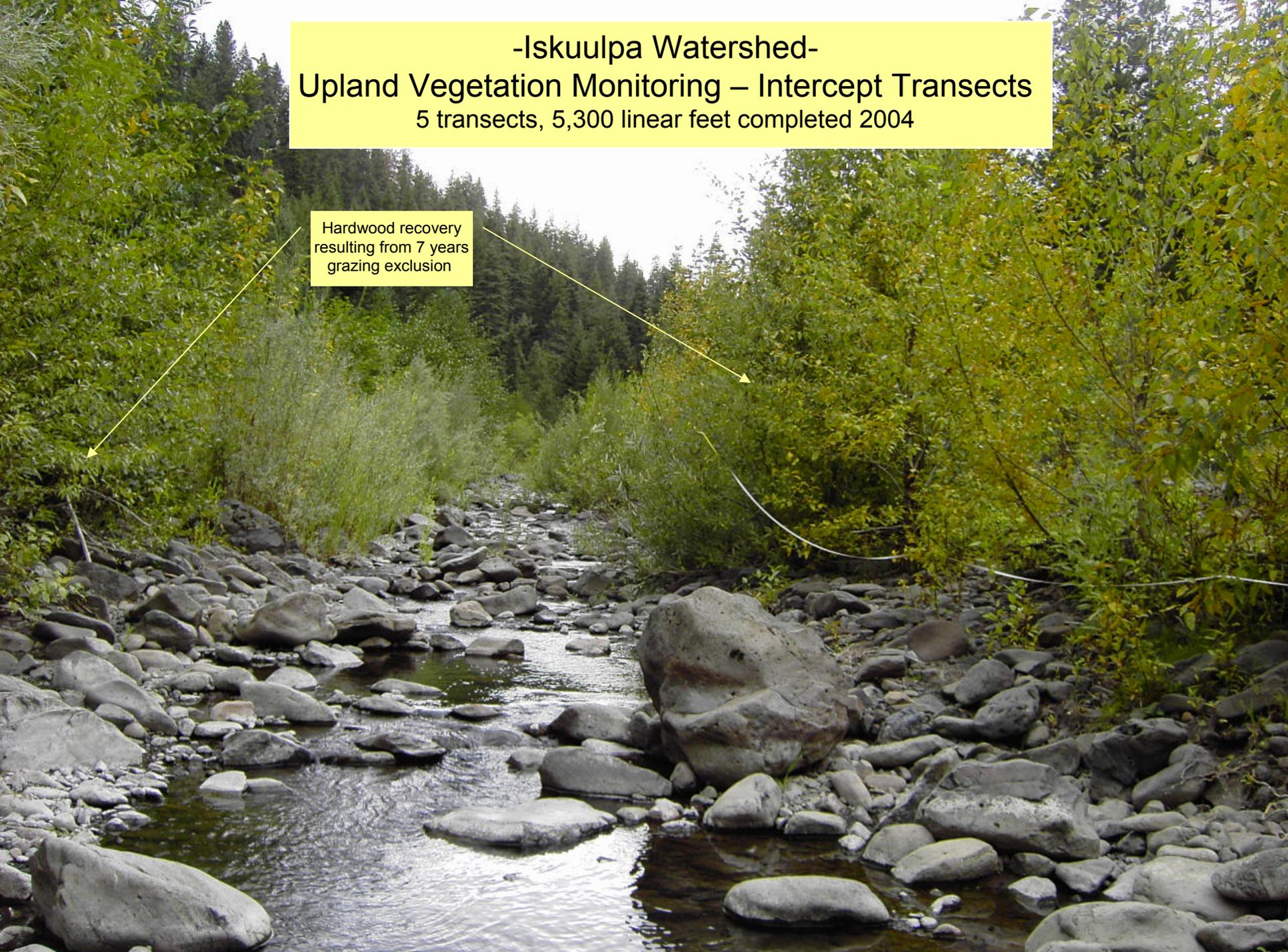




3 7:43 AM

**-Iskuulpa Watershed-
Upland Vegetation Monitoring – Intercept Transects
5 transects, 5,300 linear feet completed 2004**

Hardwood recovery
resulting from 7 years
grazing exclusion



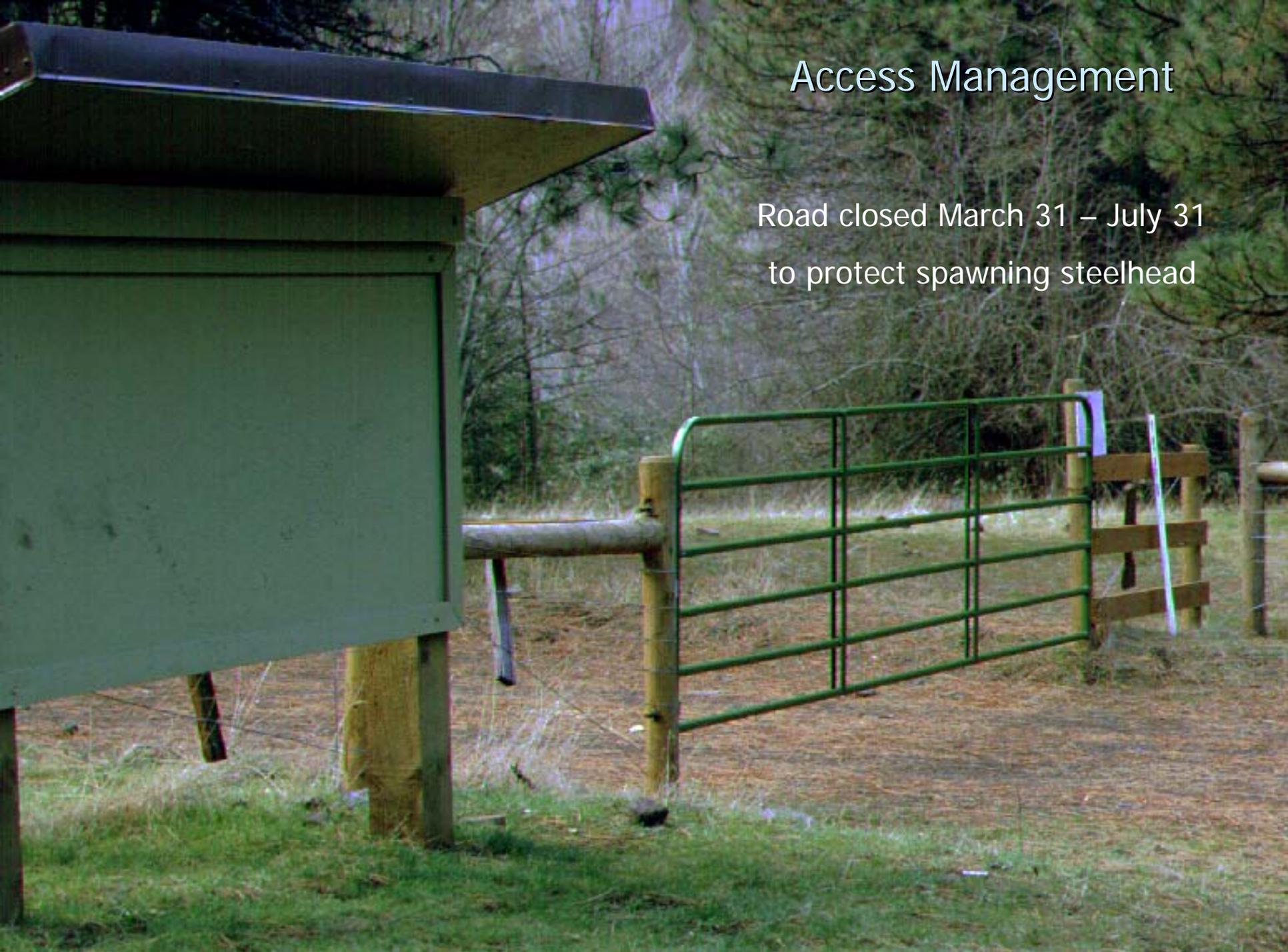
Project Activities



- Land purchase
- HEP evaluation
- Rest from livestock grazing
- **Seasonal road closure**
- Plant community monitoring
- Invasive plant inventory and treatment
- Large wood additions
- Native plant restoration using local sources

Access Management

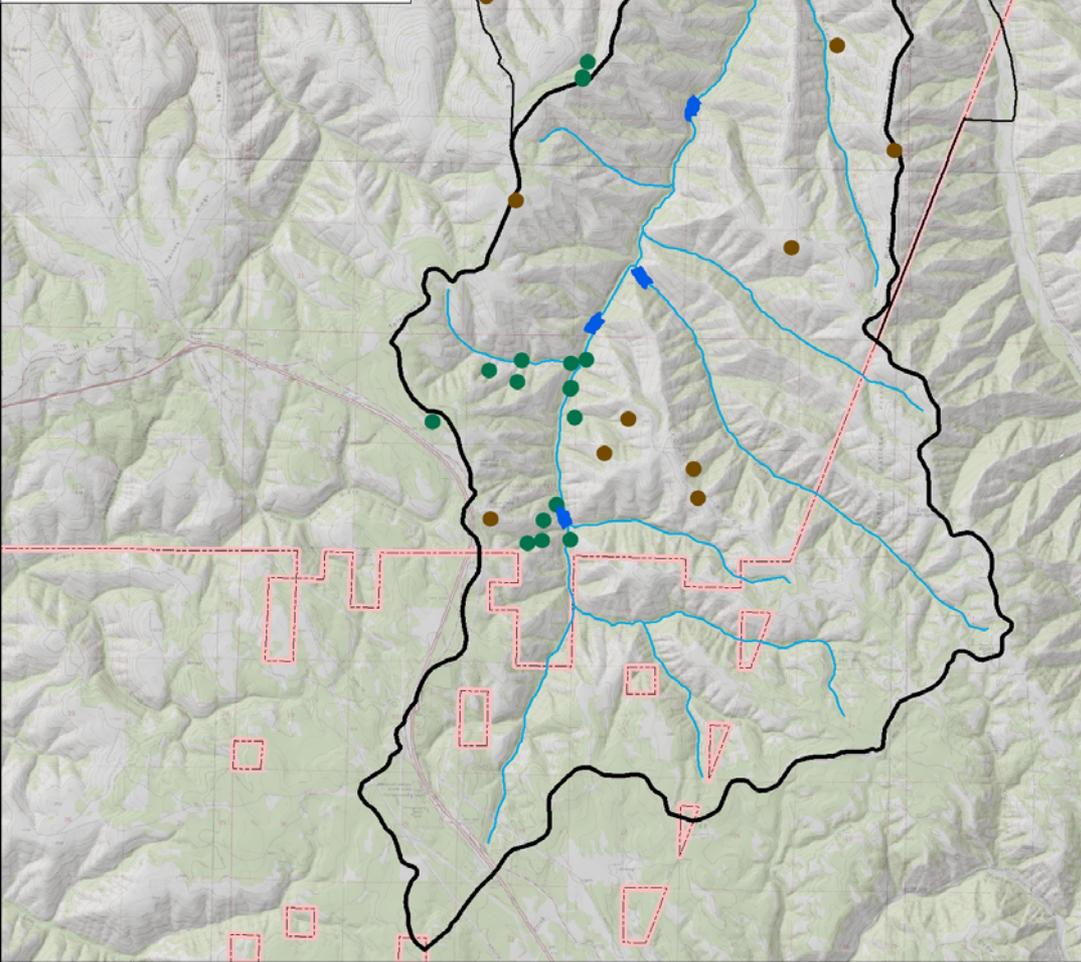
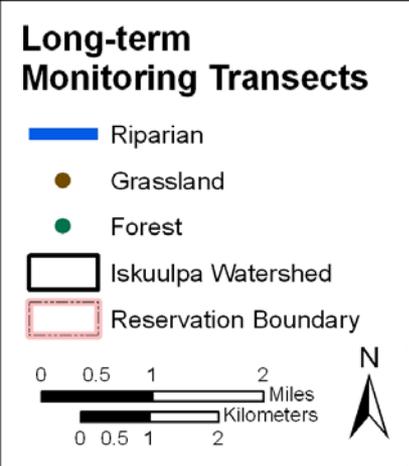
Road closed March 31 – July 31
to protect spawning steelhead



Project Activities



- Land purchase
- HEP evaluation
- Rest from livestock grazing
- Seasonal road closure
- **Plant community monitoring**
- Invasive plant inventory and treatment
- Large wood additions
- Native plant restoration using local sources



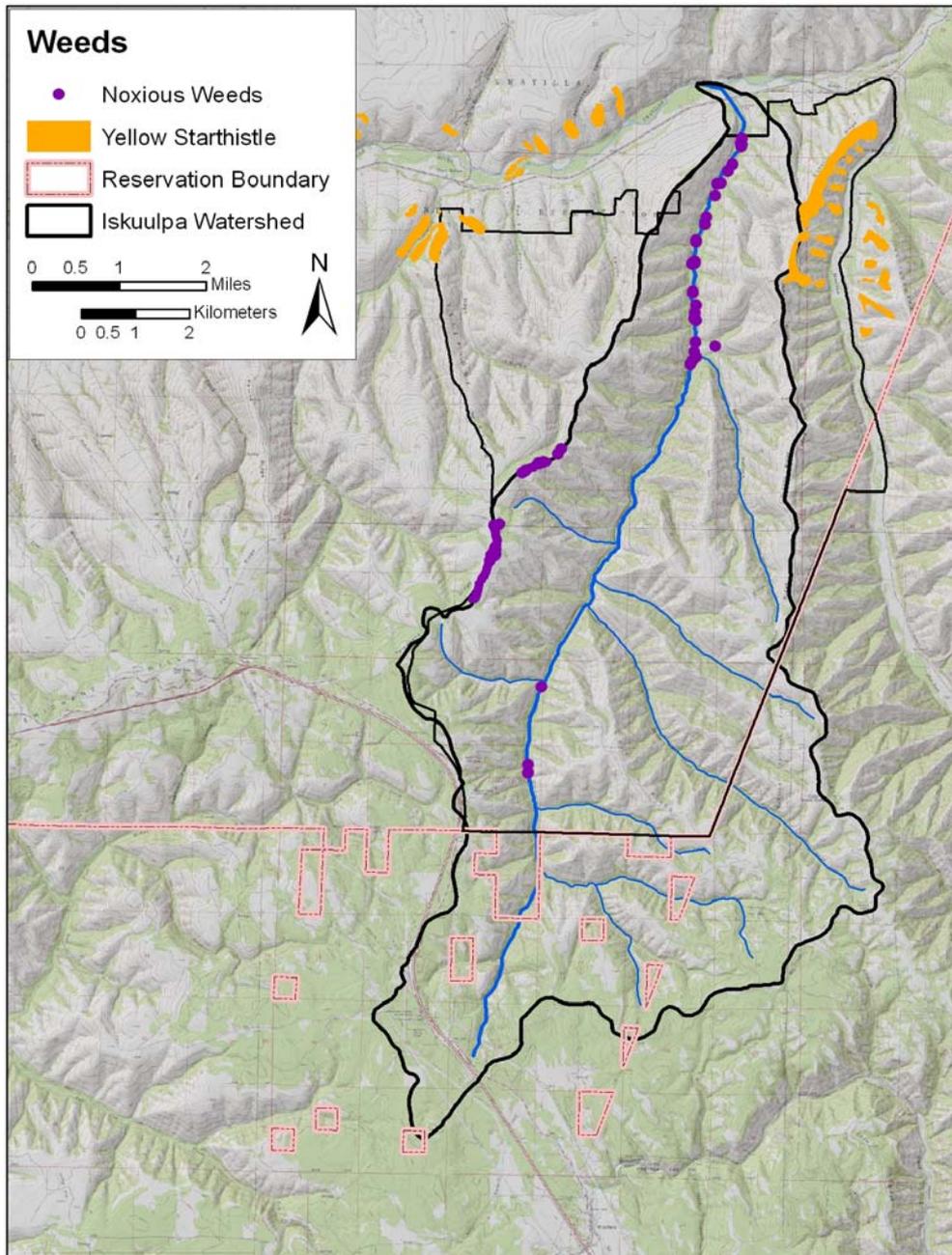
Vegetation Monitoring

- Riparian – 8 transects
- Forest – 25 transects and permanent reconnaissance plots
- Grassland – 29 transects and permanent reconnaissance plots

Project Activities



- Land purchase
- HEP evaluation
- Rest from livestock grazing
- Seasonal road closure
- Plant community monitoring
- **Invasive plant inventory and treatment**
- Large wood additions
- Native plant restoration using local sources



Invasive Plant Management

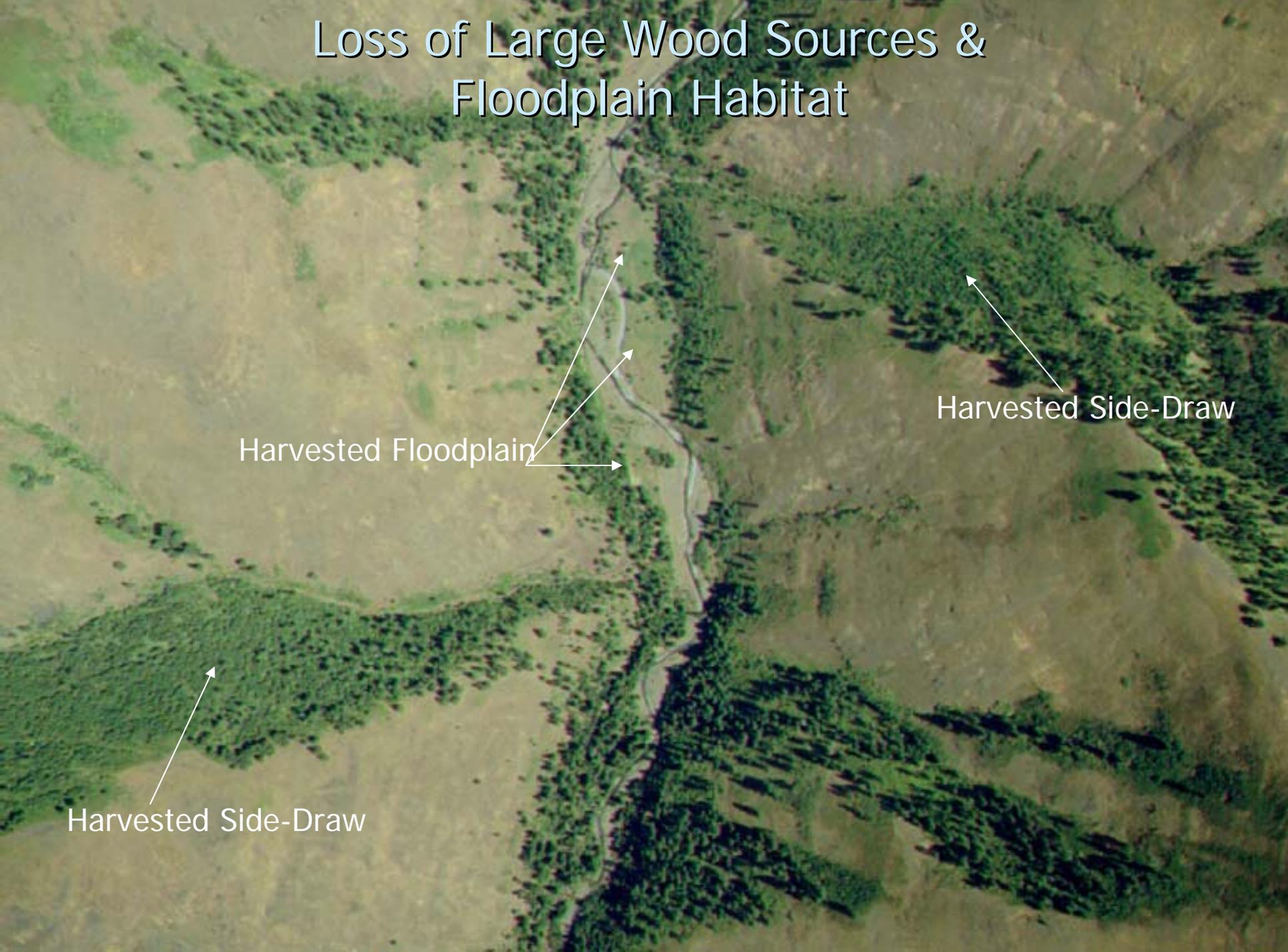
- Prevention is top priority
- Assist with yellow starthistle control adjacent to the watershed
- Annual survey on avenues for weed spread – ie roads, trails
- Control projects on Sulfur Cinquefoil and Himalayan blackberry

Project Activities



- Land purchase
- HEP evaluation
- Rest from livestock grazing
- Seasonal road closure
- Plant community monitoring
- Invasive plant inventory and treatment
- **Large wood additions**
- Native plant restoration using local sources

Loss of Large Wood Sources & Floodplain Habitat



Harvested Floodplain

Harvested Side-Draw

Harvested Side-Draw

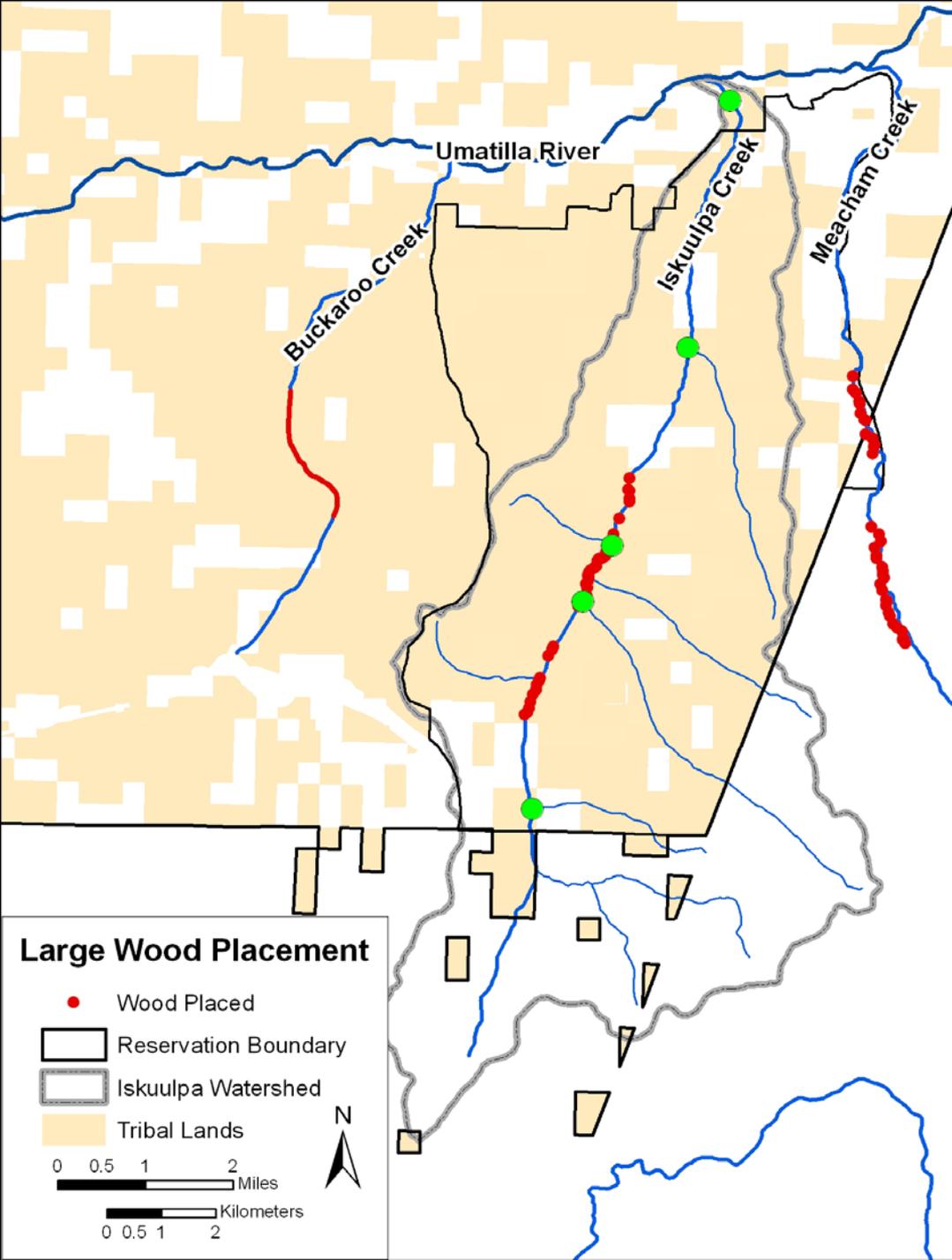
Project Objectives (LWD)

- Reduce stream-flow energies
- Increase fine sediment retention
- Promote the development of sites for vegetation establishment and development



Two rounds of placement - 2003 and 2006

- 151 in Iskuulpa and Buckaroo
- 230 in Iskuulpa and Meacham
- Placed in complexes of 2 or more pieces
- Whole trees with intact rootwads
- Airlifted into position



Project Activities



- Land purchase
- HEP evaluation
- Rest from livestock grazing
- Seasonal road closure
- Plant community monitoring
- Invasive plant inventory and treatment
- Large wood additions
- Native plant restoration using local sources



- Cuttings from cottonwood and willow were collected from Iskuulpa Creek and grown at the CTUIR Native Plant Nursery.
- Increase provides source material for revegetation projects



March



September



Conifer encroachment in Aspen Clones

Aspen Exclosures



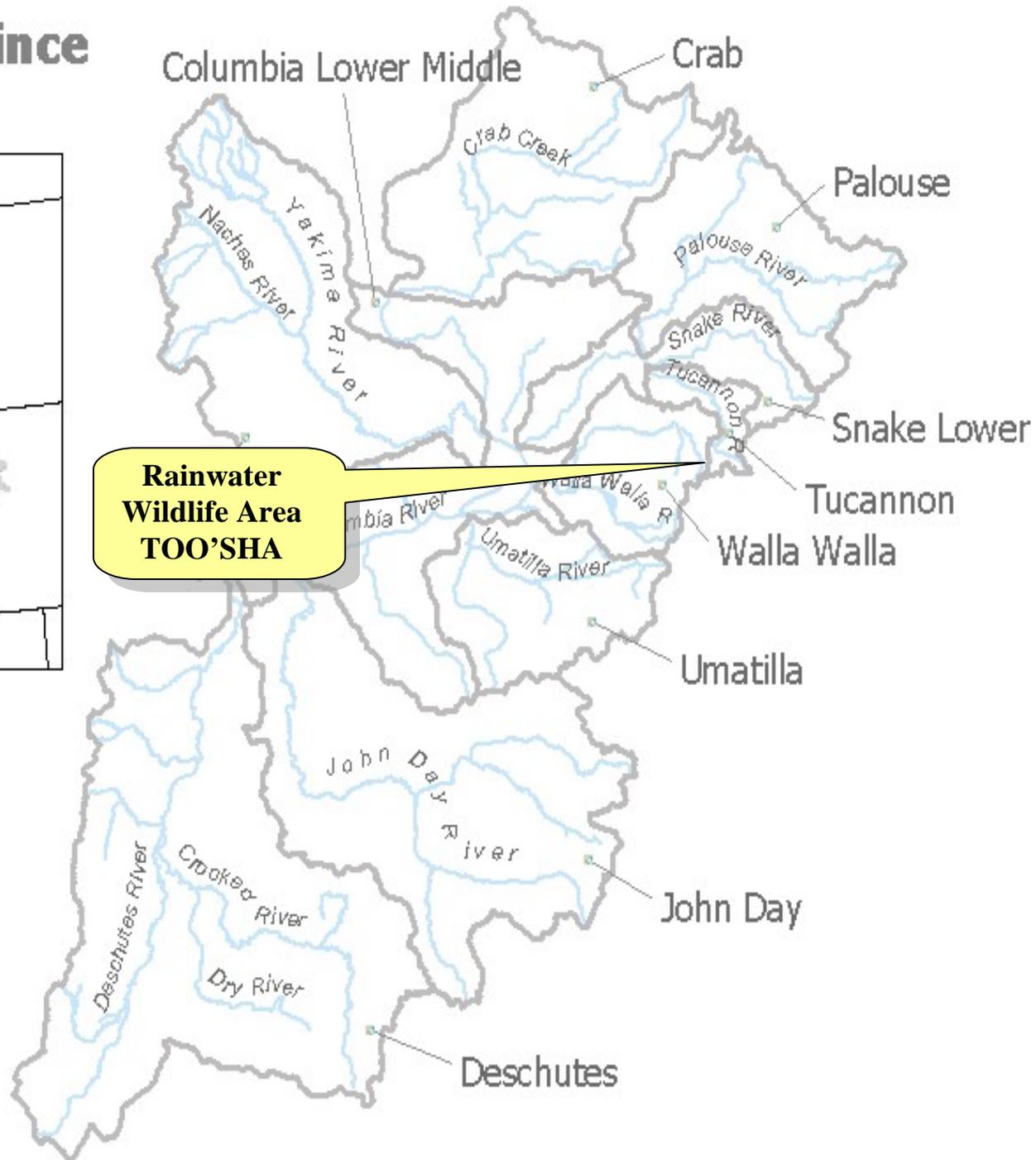
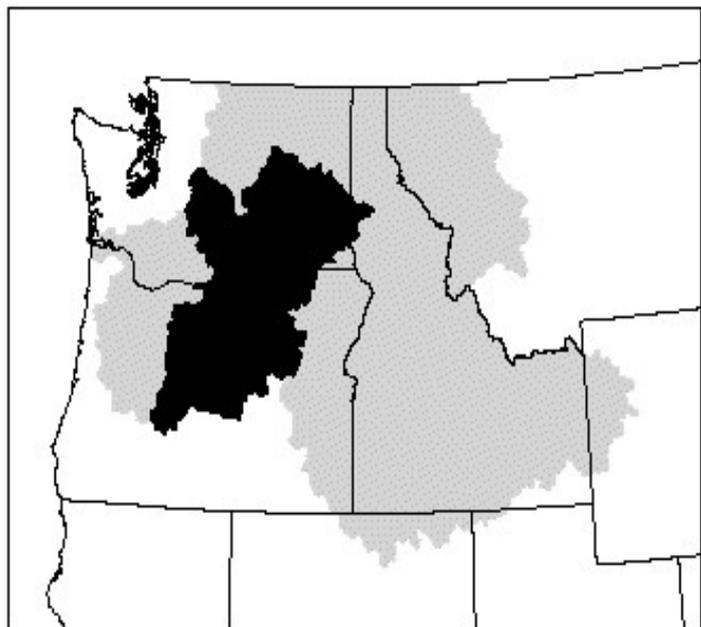
RAINWATER WILDLIFE AREA

**A Columbia River Basin Fish & Wildlife Mitigation
Project BPA #200002600**

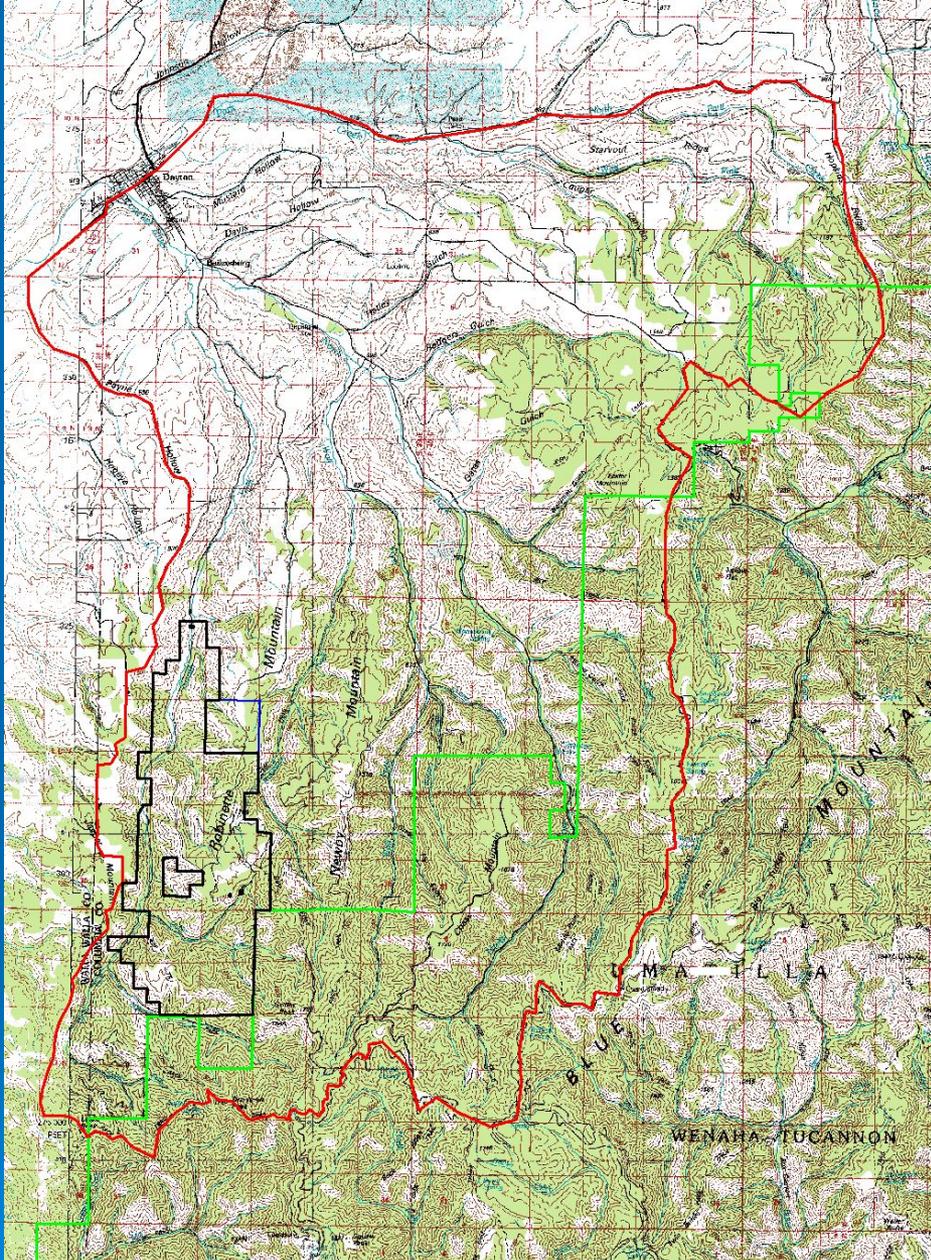


Confederated Tribes of the
Umatilla Indian Reservation

Columbia Plateau Province



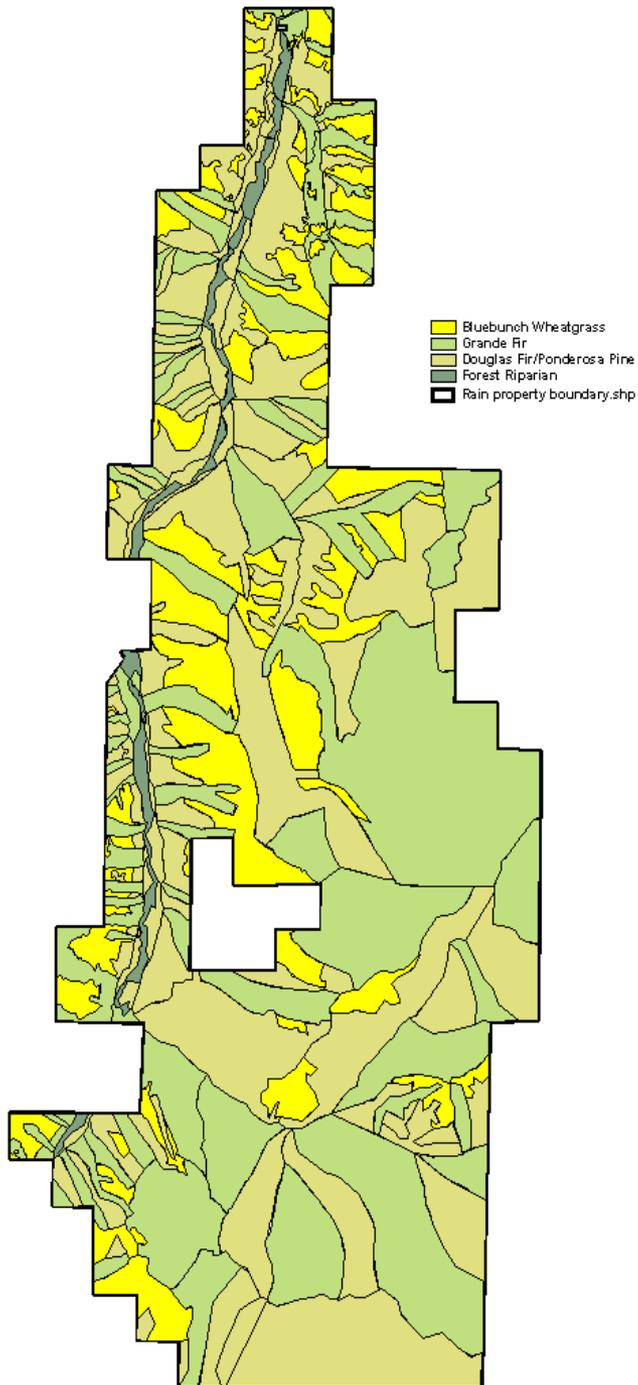
**Rainwater
Wildlife Area
TOO'SHA**



- Rainwater Wildlife Area (8,678 Acres)
(6.4% of Unit 162)
- WDFW Dayton BGMU #162 (135,914 Acres)
(212 Square Miles)
- Public Lands (Umatilla National Forest, WADNR, BLM)
Approx 34,000 Acres
- (25% of Dayton BGMU)



HEP Crediting



Downy Woodpecker 1,100

Black Capped Chickadee 3,178

Blue Grouse 137

Great Blue Heron 117

Yellow Warbler 28

Mink 447

Western Meadowlark 154

TOTAL 5,161

PROJECT HIGHLIGHTS

- Protection of Key Habitats in northern Blue Mountain Physiographic Province/Walla Walla Subbasin Headwater tributaries
- Over 250 Terrestrial Vertebrate Species
- 7 out of 11 HEP Species from John Day and McNary Loss Assessments
- Over 10 miles spawning/rearing habitat for threatened summer steelhead & bull trout



- 1,400 Acres Grass and Shrubland Cover Types



- Idaho fescue-bluebunch wheatgrass, bluebunch wheatgrass-Sandberg's bluegrass, and snowberry-rosehip plant associations

- Noxious weeds and competing and unwanted vegetation
- <5% native perennial bunchgrass and forb composition
- Very Early and Early seral stages predominant



- 6,750 acres coniferous forest
- Douglas-fir, ponderosa pine, western larch, and grand fir
- Interior and stringer forest type



- **Predominantly Early and Mid-seral stages**
- **Limited old growth/Late seral stages**
- **Low to moderate basal area**
- **Moderate thermal and hiding cover**
- **Low availability of snag and log habitat**



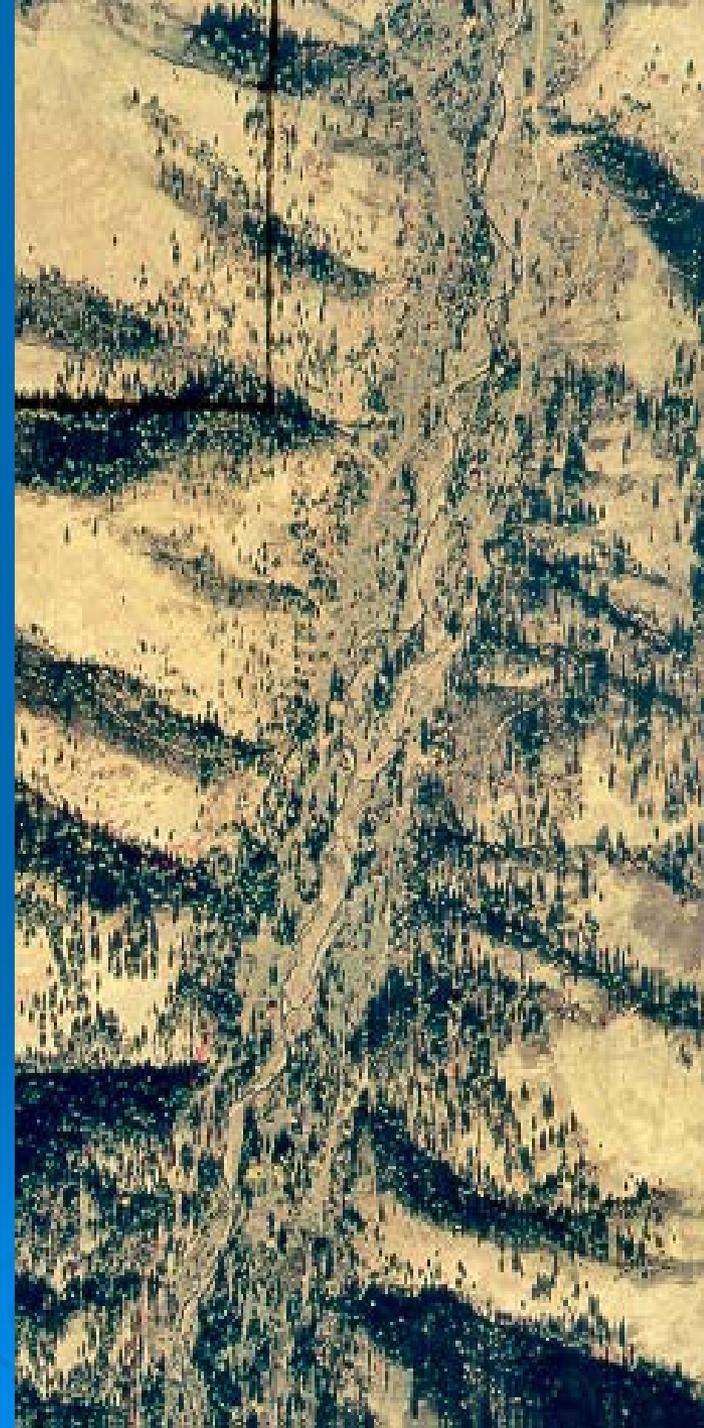
- Ten miles spawning and rearing habitat for resident and migratory salmonids and other fish



- 600 acres riparian habitat along South Fork Touchet River, Griffin Fork, and Burnt Fork

- Black cottonwood galleries, alder, willow, red osier dogwood sedge/rush, and conifer species

- **Channel braiding**
- **High width:depth ratio**
- **Lack of large pool habitat**
- **Lack of late seral hydrophytic shrubs**
- **Lack of large woody debris**
- **High summer water temperatures**



MANAGEMENT STRATEGIES

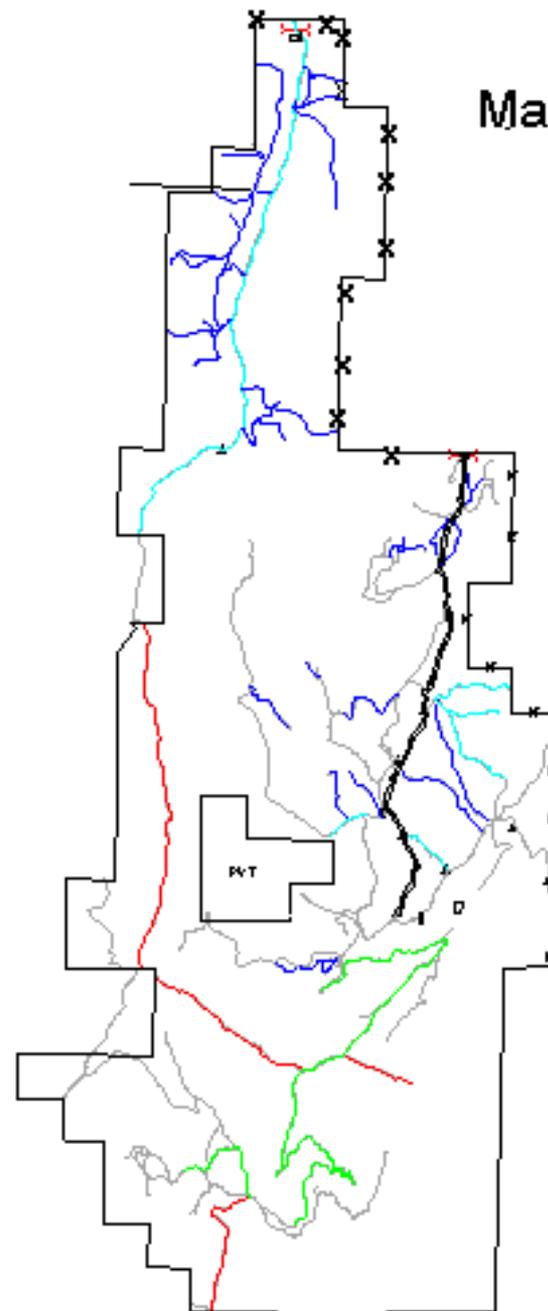
➤ PROTECTION

- Landscape/watershed context
- Access & Travel Management
- Livestock exclusion

➤ RESTORATION & ENHANCEMENT

- Thinning/planting/natural reproduction
- Weed control/grassland restoration
- Road obliteration/drainage repair
- Restoration of watershed hydrology & fluvial morphology (natural stable channels)

Management Activities



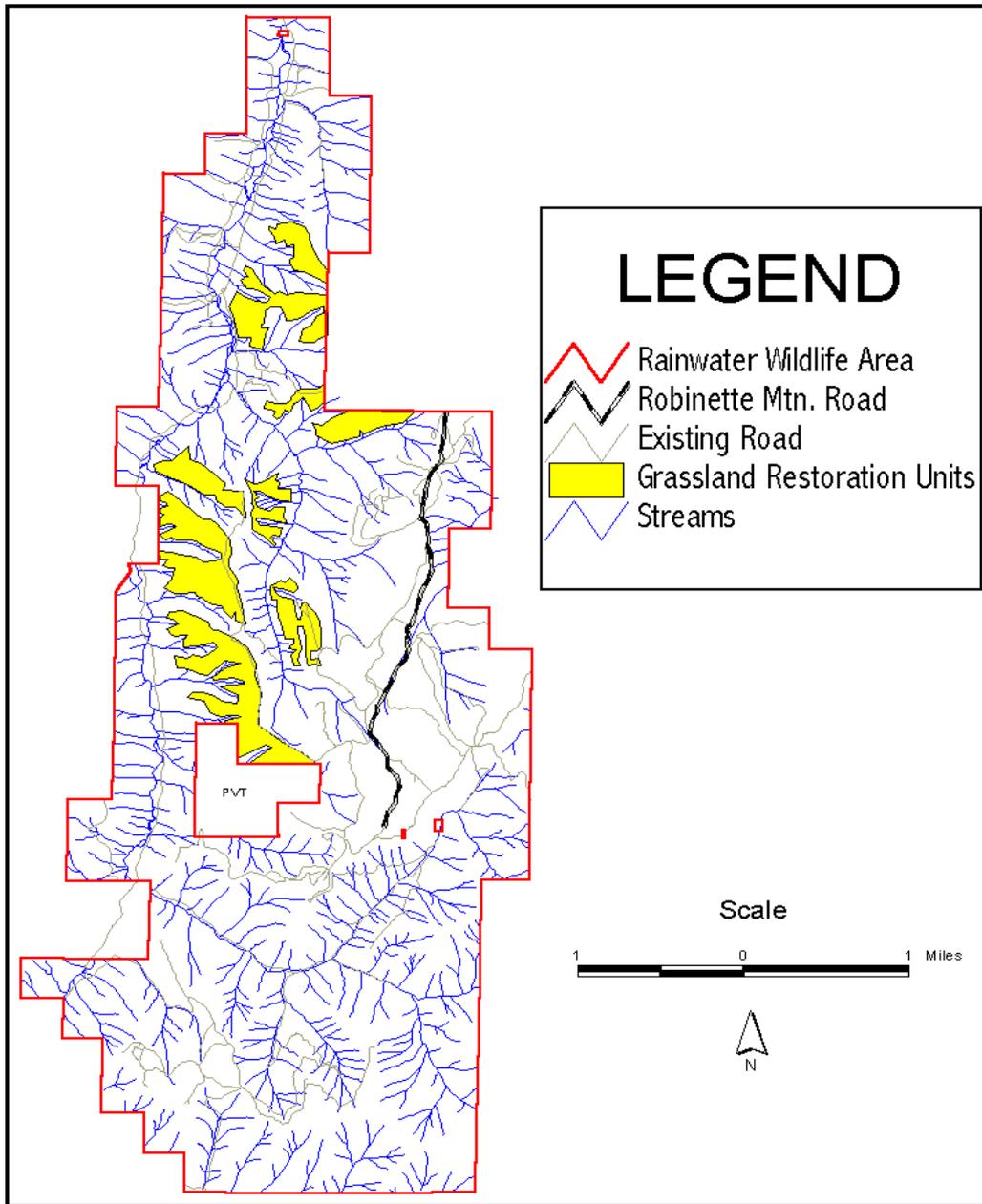
LEGEND

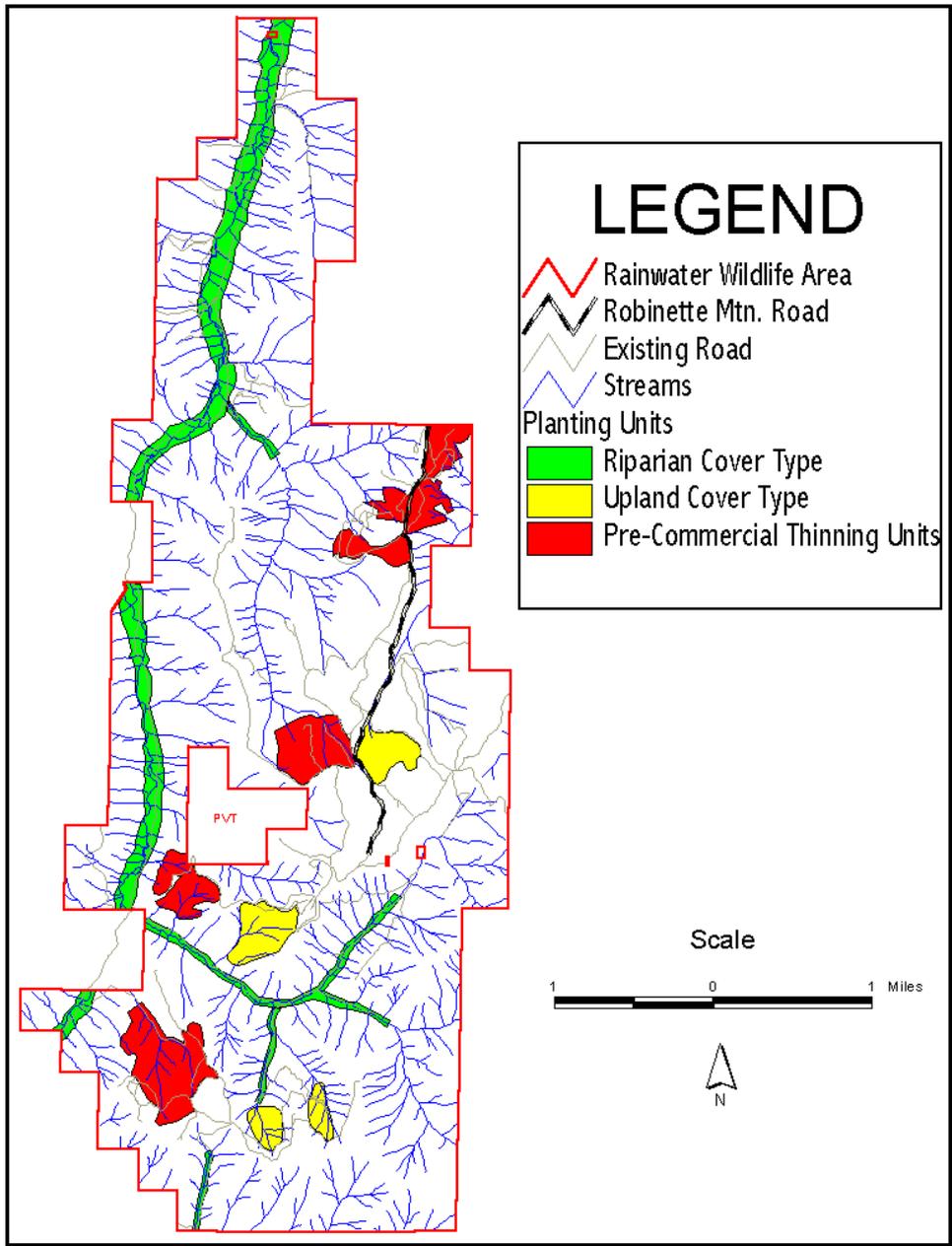
-  Robineau Mtn. Road
-  Existing Road
-  Decommissioned Rd .00'
-  Maintained Road 99' &.00'
-  Planned Rd Decom.
-  Planned Drainage Repair/Maint.
-  Existing Gate
-  Cattle Guard

Scale





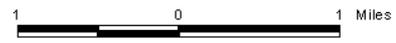




LEGEND

-  Rainwater Wildlife Area
-  Robinette Mtn. Road
-  Existing Road
-  Streams
- Planting Units
 -  Riparian Cover Type
 -  Upland Cover Type
 -  Pre-Commercial Thinning Units

Scale



Monitoring & Evaluation

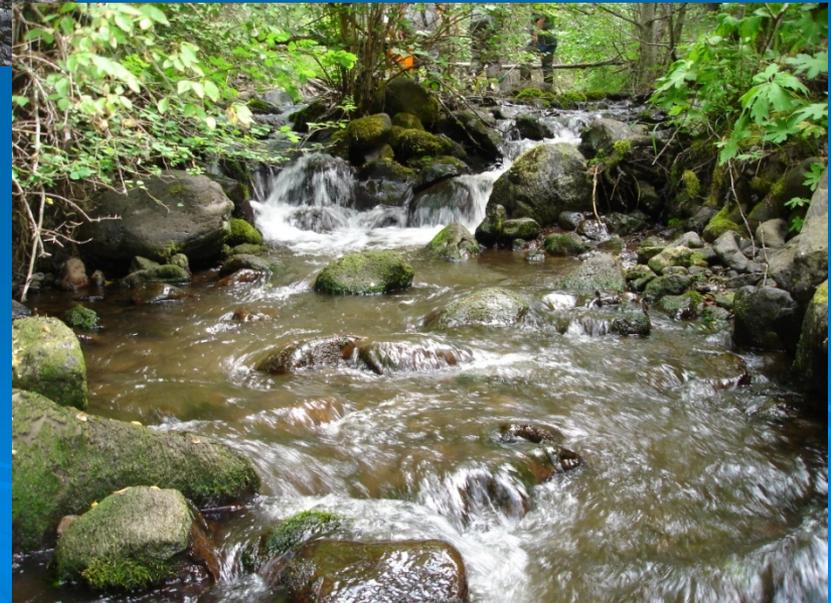


- HEP (includes ecological reconnaissance plots)
- Aerial photography/ photopoints
- ArcInfo database development & Thematic Mapping
- Big Game surveys (WDFW)

- Water Quality
- Juvenile fish population index sites and adult redd counts
- Aquatic Habitat geomorphic Surveys

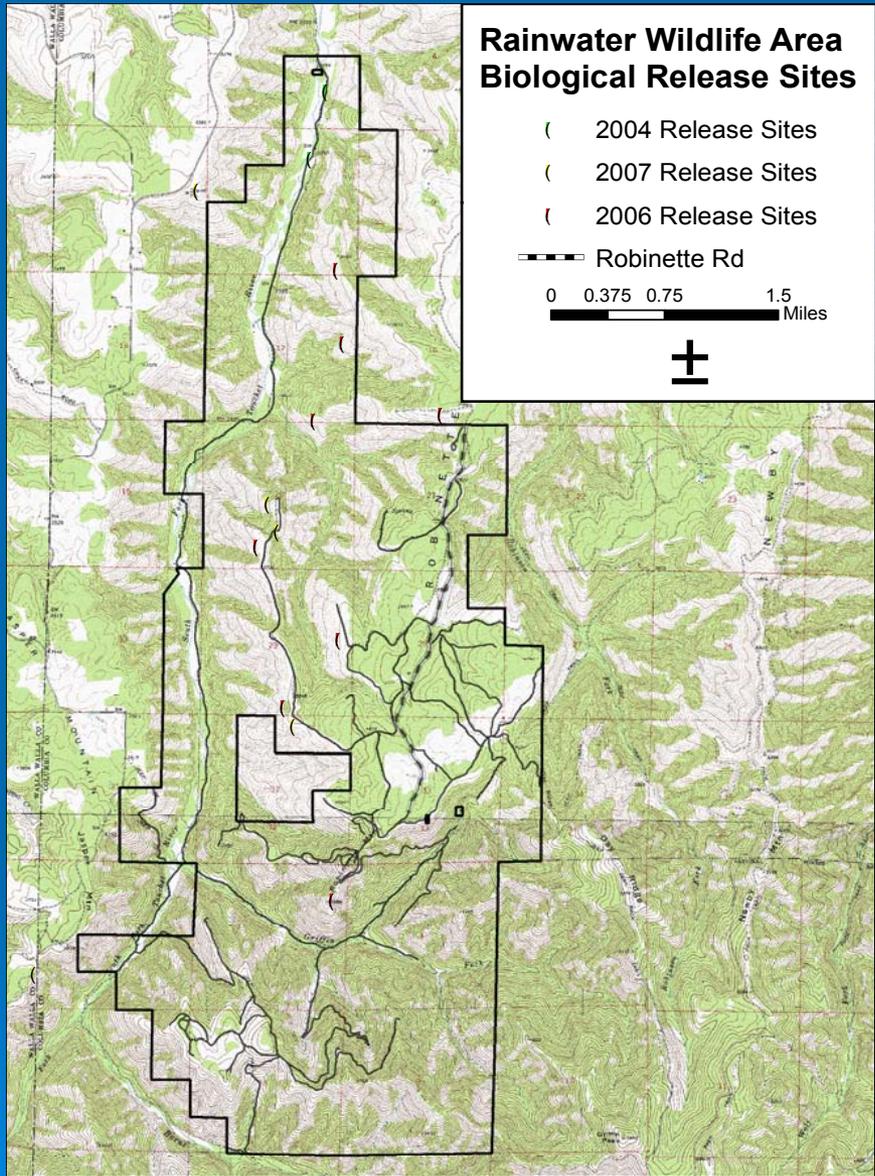


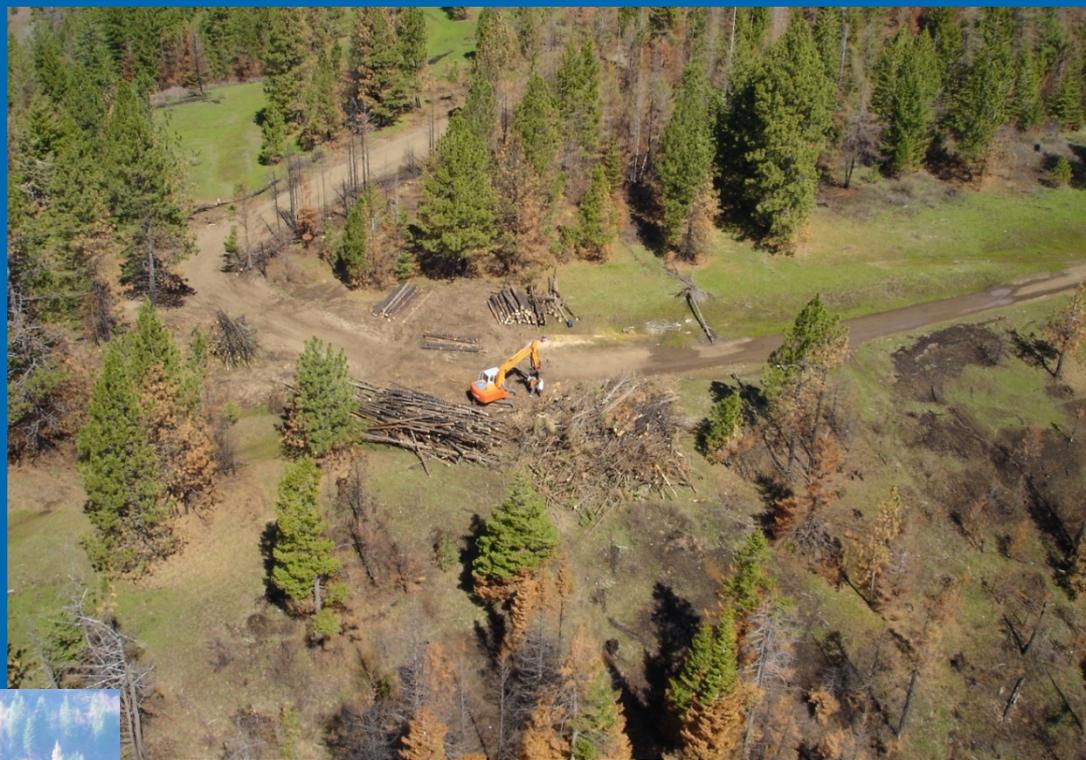
Aquatics Monitoring



June 2007 yellow starthistle infestation









*Indian Corps of Engineers
Beaver complex development
along South Fork Touchet
River on Too'sha Wildlife
Area.*





A photograph of a wetland area. In the foreground, there is a body of water with tall, green reeds and some yellowish-brown vegetation. The background shows a grassy field and a line of trees under a clear sky.

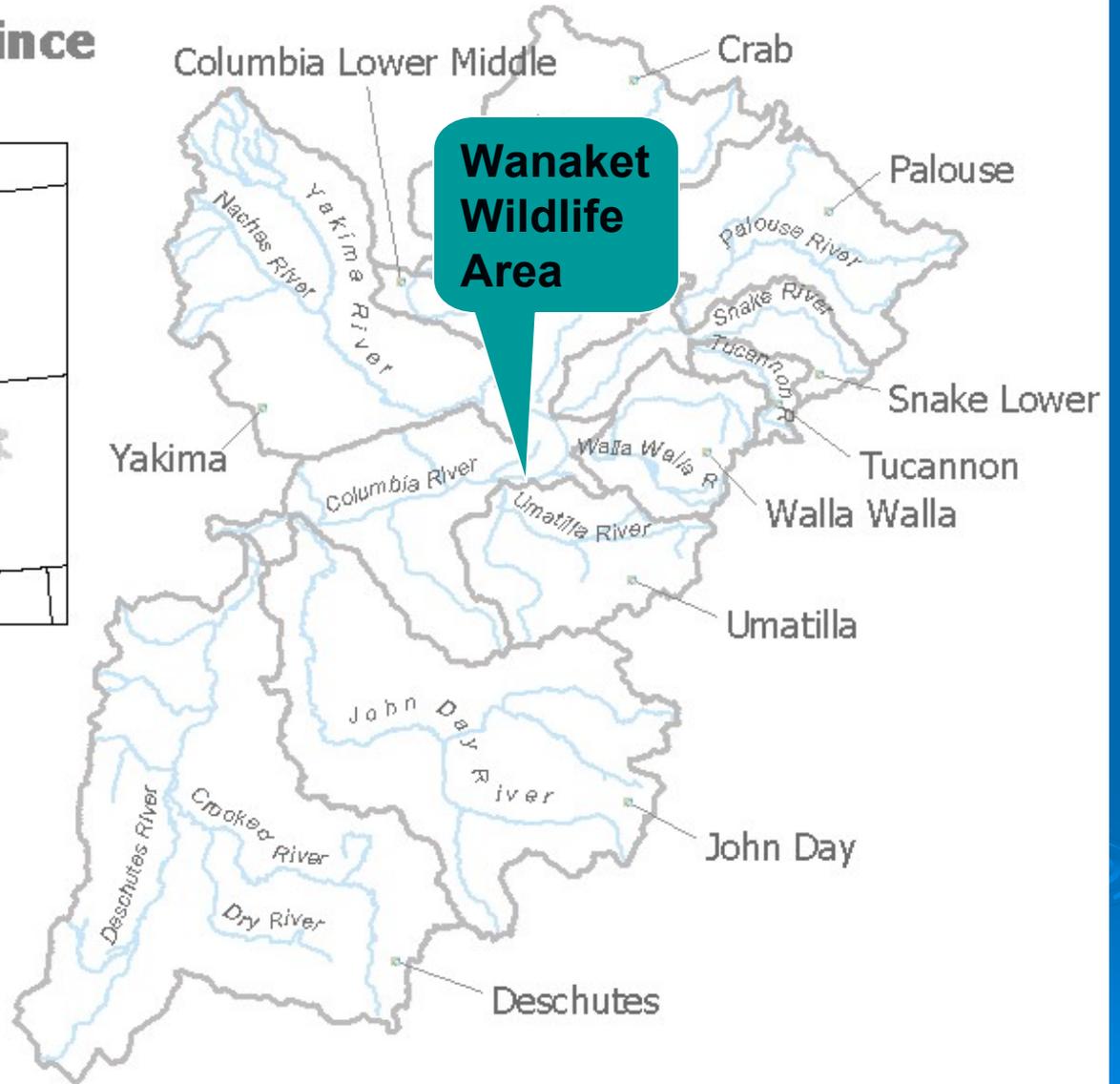
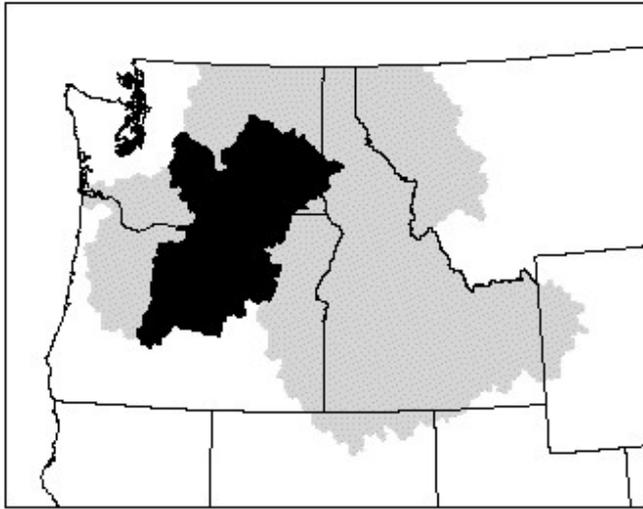
WANAKET WILDLIFE AREA

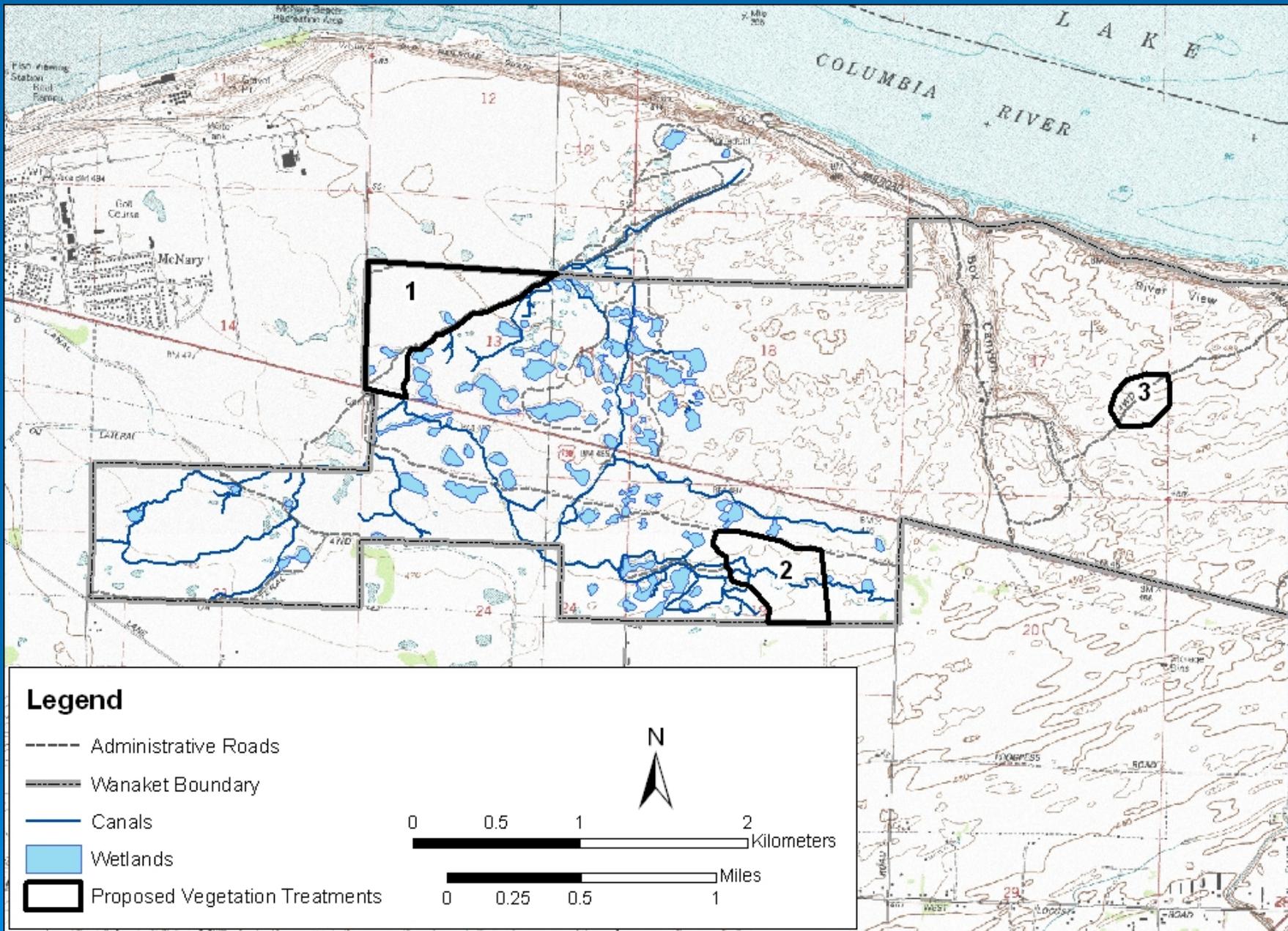
(Water in Trees)

BPA Project # 199009200

**Confederated Tribes of the
Umatilla Indian Reservation**

Columbia Plateau Province





Established in 1992 with BPA purchase of the Conforth Ranch as “lost opportunity”

Second wildlife project in Oregon, first tribal project

2,817 total acres.

Primary vegetation types are:

- shrub-steppe/grassland (2,477 acres) and**
- emergent wetland (159 acres)**
- other habitat types (riparian herb, riparian shrub, riparian tree, sand/cobble/gravel/mud**



HEP Crediting

- Provides 2,334 Habitat Units of protection credit for eight wildlife mitigation species.

- Target wildlife mitigation species include:
 - mallard (*Anas platyrhynchos*),
 - spotted sandpiper (*Actitis macularia*),
 - mink (*Mustela vison*),
 - yellow warbler (*Dendroica petechia*),
 - downy woodpecker (*Picoides pubescens*),
 - California quail (*Callipepla californica*),
 - western meadowlark (*Sturnella neglecta*).



A photograph of a riverbank. In the foreground, there is a wide, flat gravel bar. A small, brown animal, possibly a mink or a similar aquatic mammal, is standing on the gravel. The background shows a steep bank covered in dry, yellowish-brown grasses and some green shrubs. The river water is visible in the lower right corner, showing some ripples and a small waterfall or drop-off.

PROJECT GOAL

- Protect and restore wildlife habitat, on-site and in-kind to provide partial mitigation for federal hydropower development on the Columbia River (McNary)

PROJECT OBJECTIVES

- Provide protection credit and protect habitat (2,334 HUs)
- Provide enhancement credits and enhance habitat (2,495 HUs)
- Monitor effectiveness of habitat protection and enhancement activities and Access/Travel Management regulations

PROJECT ACTIVITIES AND ACCOMPLISHMENTS

- Maintain wetland habitat through seasonal application of irrigation water (Moist Soil Management Strategy)
- Enhance and expand wetlands in partnership with DU and OWHA
- Exclude un-permitted livestock grazing
- Enhance native vegetation through removing undesirable vegetation, noxious weed control, and planting native plants
 - Russian olive removed from 125 acres since 2005
 - Approximately 50 acres of vegetation planted since 2004
 - Implemented systematic weed surveys
 - Developed weed management plan
- Provide regulated public access
- Implement three revegetation projects using match funding

Cheatgrass Treatment Projects

- 1) Use heavy, early season livestock grazing, followed by herbicide application, for three years to reduce cheatgrass competition. Reseed with native grass seed following third year of treatment. Treatment unit is 105 acres
- 2) Use fall application of herbicide to reduce cheatgrass competition. Then seed with native grass seed shortly after herbicide treatment. Treatment unit is 50 acres
- 3) In early spring, spot-spray cheatgrass in 12-18 inch circles. Mark each circle with a pin flag, and GPS the flag location. Repeat the spot-spray application on each circle in fall. Plant plugs of native grasses and forbs in winter. Spot-spray cheatgrass within in circle in spring, if needed, being sure to protect seedling from spray.

MONITORING AND EVALUATION

Baseline HEP Assessment	Conducted by Rasmussen et al. 1991
Follow-up HEP Assessment (2005)	Conducted by Regional HEP Team in 2005. 22 Permanent transects were established.
Long-term trend monitoring	9 1/10-acre plots were established in 2000 and re-visited in 2005. Permanent transects were established on the plots in 2005.
Waterfowl production surveys	2 pair counts and 3 brood counts conducted annually.
Weed Monitoring	GPS-based survey data stored in long-term database. Data include information on weed location, species, patch size and distribution, treatments, and follow-up data.

ANNUAL (3 YEAR AVERAGE) PROJECT BUDGET

Prepare environmental compliance documents	\$6,789
Noxious Weed Inventory	\$8,142
Control Noxious Weeds and Competing and Unwanted Vegetation	\$35,535
Plant Herbaceous Vegetation	\$14,848
Maintain Functionality of Irrigation Facilities	\$57,719
Assist Vector Control District in Reducing Vector Production	\$14,011
Provide Regulated Public Access	\$29,981
Remove Modern Trash Resulting from Illegal Dumping	\$9,882
Prevent Unregulated Human and Livestock Trespass	\$13,402
General Administrative Duties	\$17,809
Annual Report	\$4,919
Periodic Status Reports for BPA	\$3,241
Conduct Monitoring and Evaluation	\$9,699
TOTAL	\$225,977

Thanks to our Cooperators

- Bonneville Power Administration
- Pacific Coastal Salmon Recovery Fund
- Natural Resource Conservation Service
- Rocky Mountain Elk Foundation
- United States Fish and Wildlife Service
- United States Forest Service
- Blue Mountain Elk Initiative
- Ducks Unlimited
- Oregon Waterfowl Hunters Association