



MANAGING HEATHLY ELK HERDS: A PACIFICORP CASE STUDY

MARCH 14, 2013



Lewis River Wildlife Habitat Management Plan

1. Purpose is to offset habitat impacts and associated habitat losses from the Lewis River Hydroelectric Projects by protecting, mitigating, and enhancing wildlife habitat on PacifiCorp owned lands.
2. Goal of the Wildlife Habitat Management Plan (WHMP) is to benefit a broad range of wildlife, fish ,and native plant species.
3. Acquire interests in land (ownership or easements) to increase the amount of habitat in the basin set aside for wildlife.

TERRESTRIAL COORDINATION COMMITTEE

- ✓ Stakeholder group consisting primarily of WDFW, USFWS, USFS, Cowlitz Tribe, & RMEF
- ✓ Monitor implementation of WHMP
- ✓ Land acquisitions
- ✓ Annual budgets
- ✓ Monthly meetings with PacifiCorp terrestrial staff.



FOREST MANAGEMENT

Goal:

To promote forestland species composition and structure that benefit wildlife and provide an appropriate mosaic of big game hiding cover and forage.

Objectives:

- Develop and maintain a mix of forage and hiding cover for elk
- Retain structural diversity
- Promote forest diversity



Associated Species:

Black-capped chickadee, savannah sparrows, pileated woodpecker, elk, northern flying squirrel, northern spotted owl, black-tailed deer.

Lewis River



- ◆ Dam
- City
- Recreation Area
- County
- PacificCorp Property
- Lake/River
- WA DNR Property

0 1 2 3 Miles

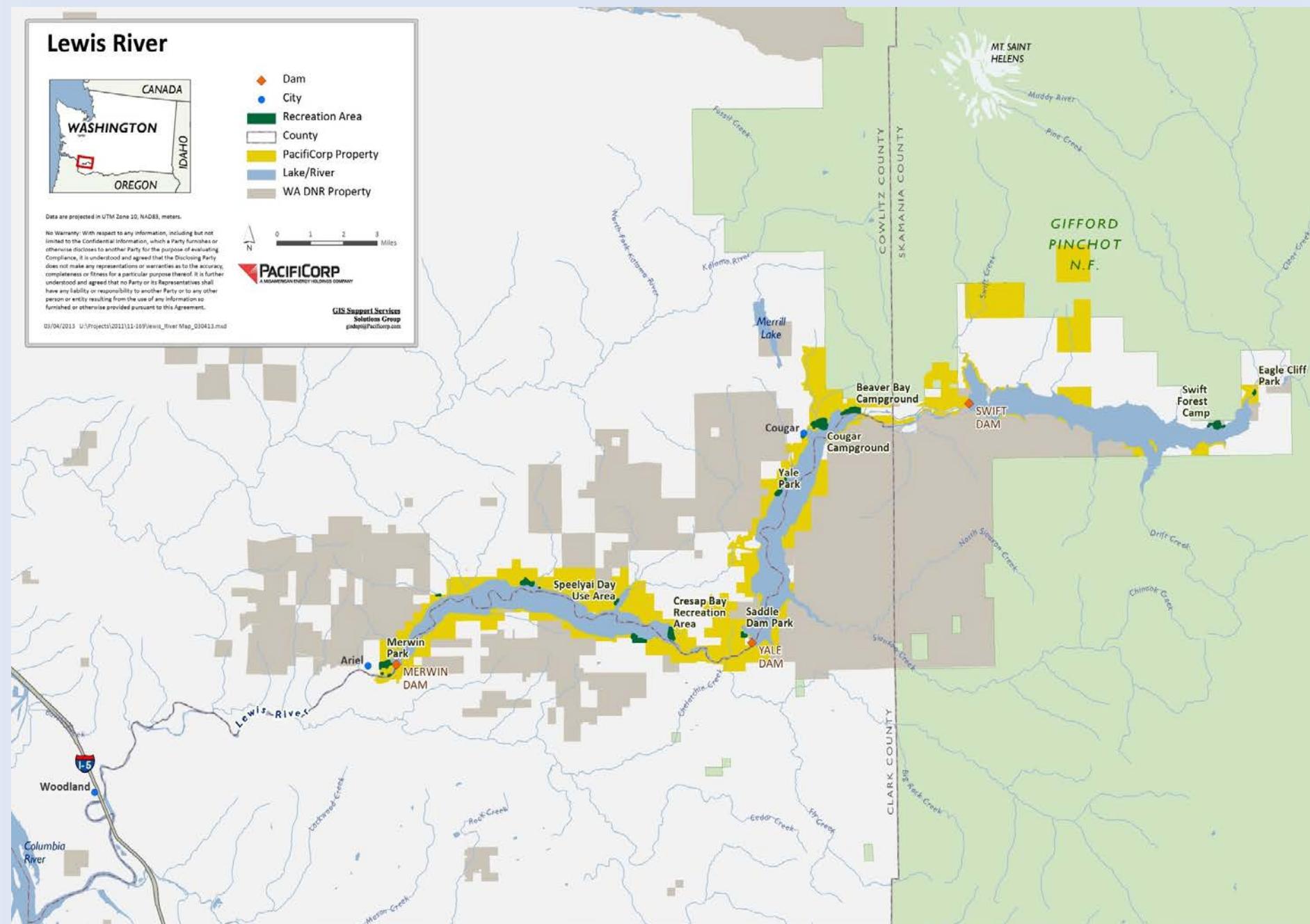


GIS Support Services
Solutions Group
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Data are projected in UTM Zone 10, NAD83, meters.

No Warranty: With respect to any information, including but not limited to confidential information, which may furnish or otherwise disclose to another Party for the purpose of evaluating Compliance, it is understood and agreed that the Disclosing Party does not make any representations or warranties as to the accuracy, completeness or fitness for a particular purpose thereof. It is further understood and agreed that no Party or its Representatives shall have any liability or responsibility to another Party or to any other person or entity resulting from the use of any information so furnished or otherwise provided pursuant to this Agreement.

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TYPICAL SECOND-GROWTH LOW ELEVATION WESTERN WASHINGTON FOREST UNDERSTORY

LOW DIVERSITY – POOR FORAGE FOR BIG GAME



- ✓ Sword Fern
- ✓ Bracken Fern

- ✓ Salal
- ✓ Oregon Grape



Lewis River



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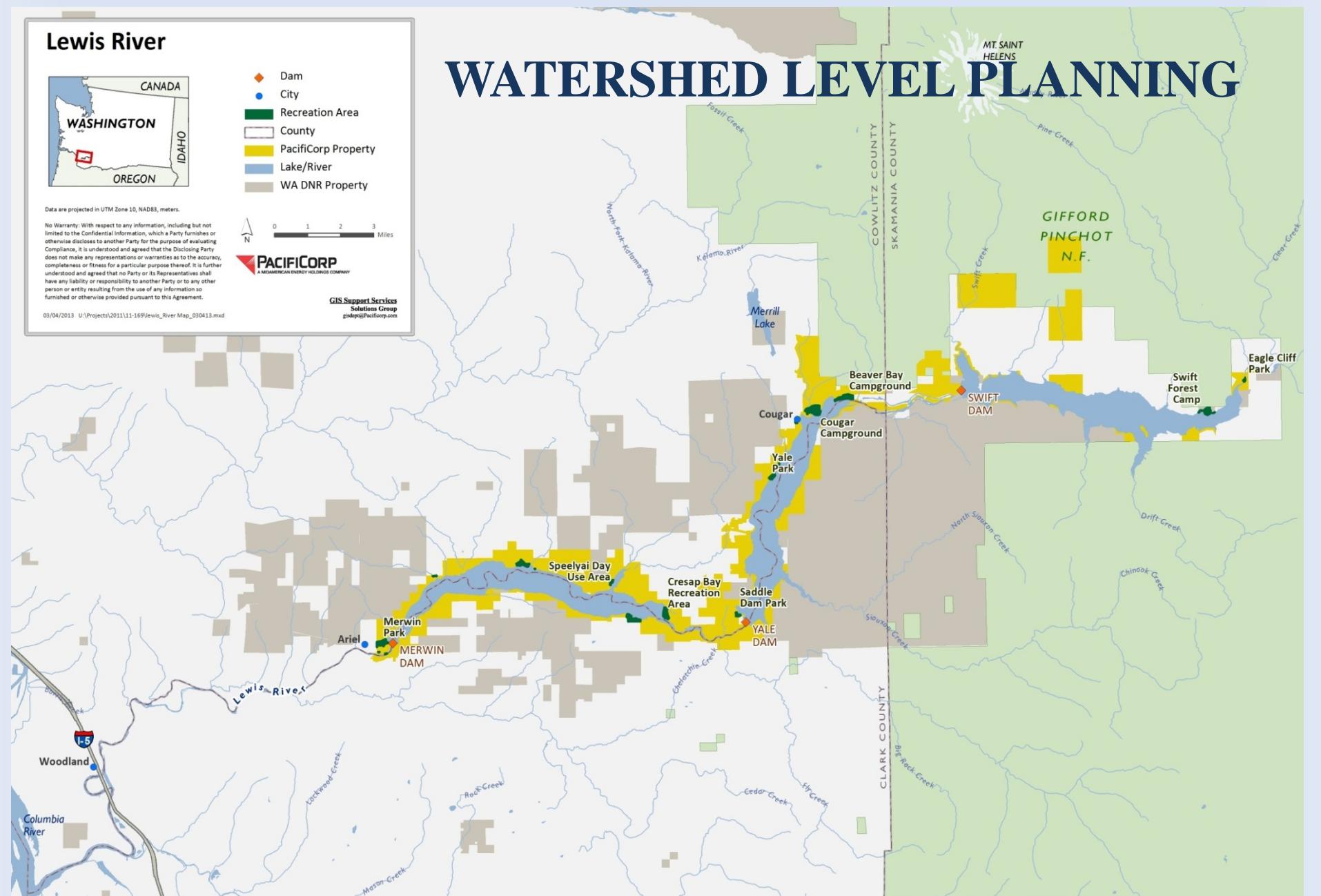
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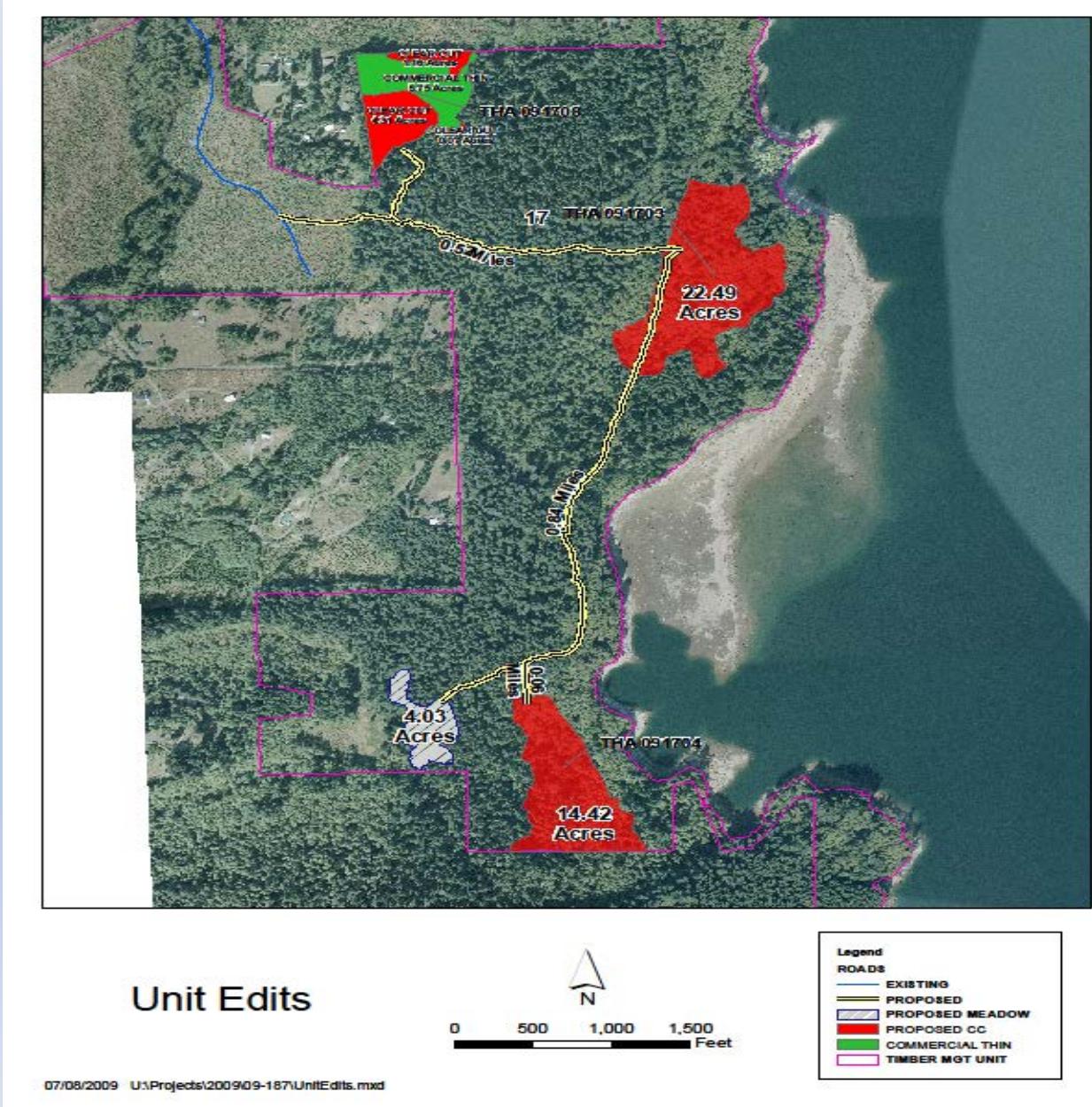
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WATERSHED LEVEL PLANNING



LANDSCAPE / MANAGEMENT UNIT PLANNING

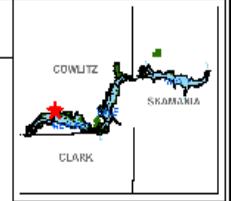
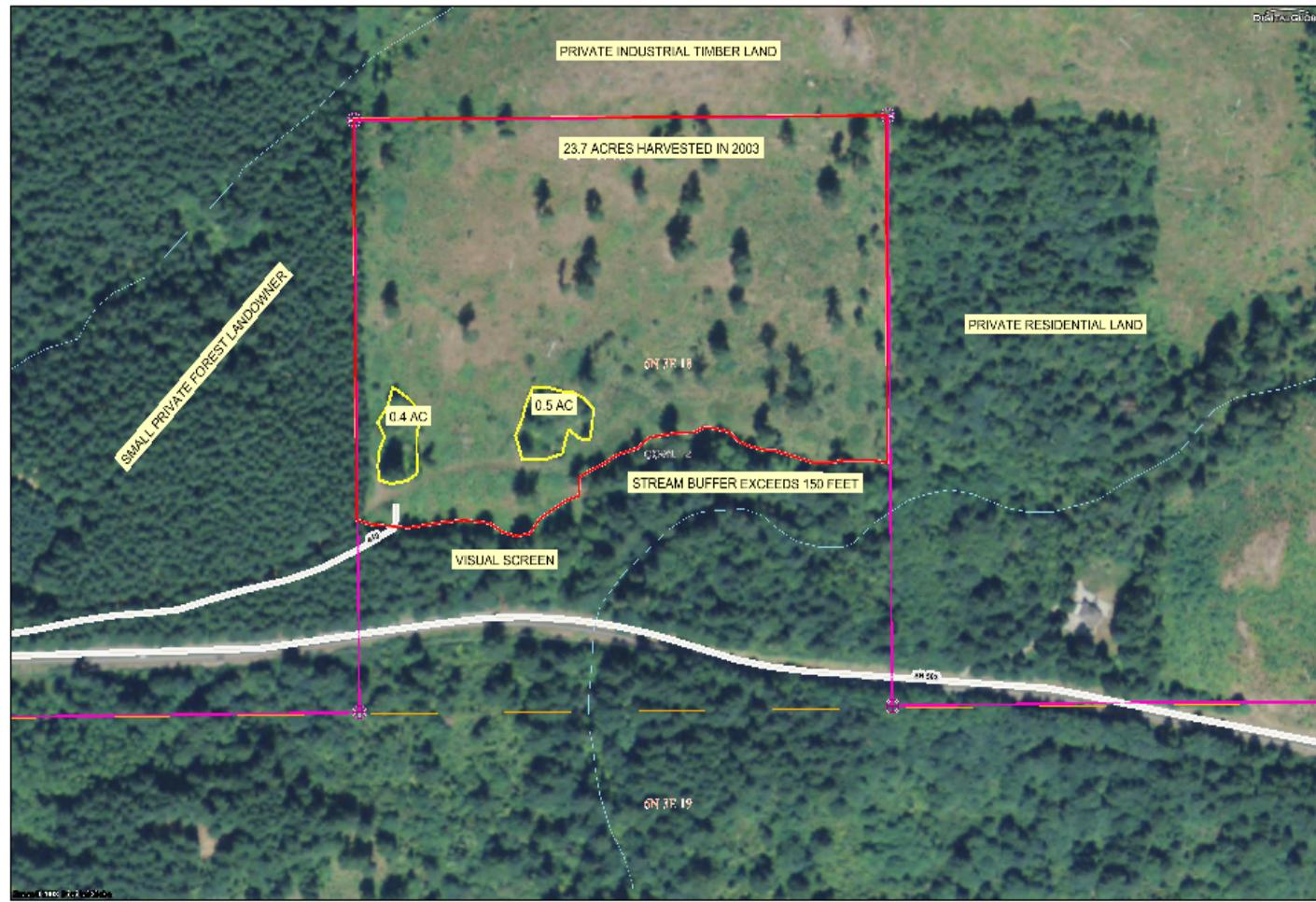
- ✓ Logistics
 - Road Access
 - Unauthorized access
 - Survey Property Lines
- ✓ Wildlife Objectives
 - Increase elk forage
 - Manage existing orphaned meadow
 - Increase LWD/snags
- ✓ Timber Harvest
 - Harvest decadent alder
 - Plant mixed conifer
- ✓ Other
 - Raptor surveys
 - Cultural surveys



SITE LEVEL PLANNING



SITE A



Legend

Generation Facilities

Hydro

Geothermal

Thermal

Wind

Biomass

Surveyed Corner

Surveyed Section Corner

Surveyed Property Corner

Pacificorp Transmission Pole

Road

Pacificorp Transmission Line

County

Pacificorp Ownership

Section

Stream

Scale: 1:2,955

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

RETENTION TREES

WHMP objectives are to maintain or create at least 8 trees per timber harvest acre:

- Snags \geq 20 in. dbh
- Wildlife Reserve Tree \geq 15 in. dbh
- Green Retention Tree \geq 15 in. dbh

and to promote forest diversity by retaining minor native trees

- Western red cedar
- Black cottonwood
- Big-leaf maple



SCARIFICATION AND DEBRIS MANAGEMENT



FORAGE SEEDING



Species	Pounds	Percent
Perennial Ryegrass	7	35
Annual Ryegrass	1	5
Orchard grass	2	10
Subclover	5	25
White clover	1	5
Birdsfoot trefoil	4	20

PERMANENT FORAGE AREAS







TREE SEEDLING PLANTING



PRE-COMMERCIAL THINNING TO RELEASE THE UNDERSTORY



SHRUB ENHANCEMENT



PRUNING TO RELEASE THE UNDERSTORY



COMMERCIAL THIN

Two years after a commercial thin of 60% of over-story:



- ✓ Commercial thin must remove at least 50% of over-story
- ✓ Grass seeding following harvest
- ✓ No scarification

COMMERCIAL THIN

Diverse understory of 11-year old plantation with 20% of original over-story remaining

- ✓ Grass-forb mix remains in openings
- ✓ Shrubs
 - Beaked hazelnut
 - Vine maple
 - Oceanspray
 - Trailing blackberry



NEW CHALLENGE



- ✓ Newly acquired lands are overstocked at 400 TPA
- ✓ Commercially thin to 14-18 feet spacing between 130-220 TPA.

LEWIS RIVER EARLY SERAL HABITATS

- ✓ Ensure a minimum 25% of each management unit has early successional habitat (primarily big-game forage)

- ✓ Farmlands and Meadows
 - Permanent Forage Sites that may receive mowing, fertilize, etc.

- ✓ Transmission Rights-of-Way
 - Invasive Weed Control; enhanced forage sites



LEWIS RIVER EARLY SERAL HABITATS

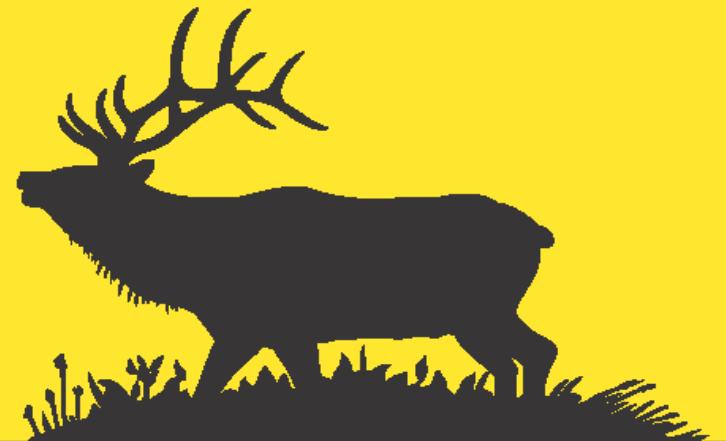
continued...

- ✓ Orchards (historic homesteads and new plantings)
 - Over 5 acres with up to 300 fruit-bearing trees
- ✓ Shrublands
 - Over 50-acres of protected / managed shrub sites > 1-ac
 - Vine maple
 - Beaked hazel etc.
- ✓ Oak Sites
 - Over 9 acres of oak sites in 15 locations



PUBLIC ACCESS

- No Motorized Vehicles
- Lands Open to Hunting, Hiking, Biking, and Horseback Riding
- Gate Access Roads
- Educate Public
- Law Enforcement
- Monitor Road Closures and Repair Unauthorized Access Areas



NOTICE

WILDLIFE HABITAT MANAGEMENT AREA

PLEASE HELP US PROTECT IT



HIKING PERMITTED



NO OPEN FIRES



NO MOTORIZED
VEHICLES



NO FIREWOOD
CUTTING



RCW 46.09.120



CONTROLLING PUBLIC ACCESS

- ✓ Work collaboratively with adjacent landowners to close problem roads
- ✓ Install gates with extra guards to prevent ATV trespass.



ADAPTATION

