

College of Forestry

CROSS BOUNDARY LANDSCAPE RESTORATION

OSWA CONFERENCE, OR
JUNE 21, 2019



**Oregon State
University**



STARTS WITH A PARTNERSHIP



KLAMATH-LAKE FOREST HEALTH PARTNERSHIP



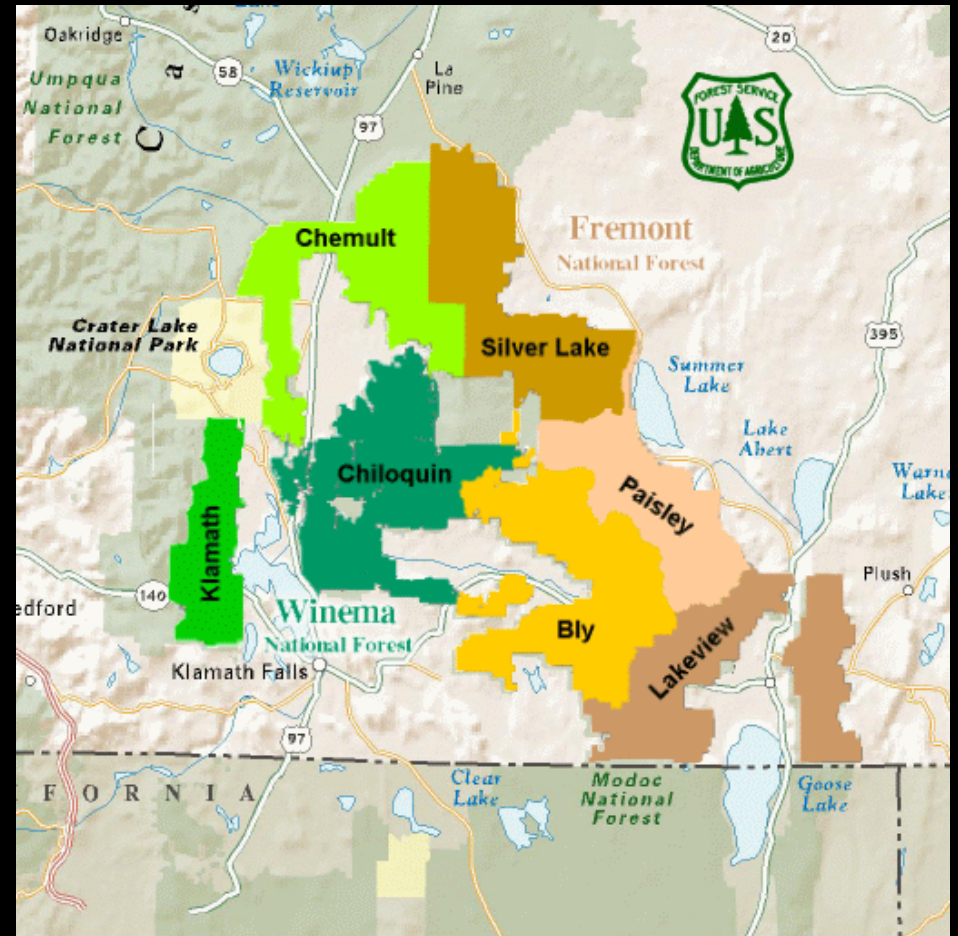
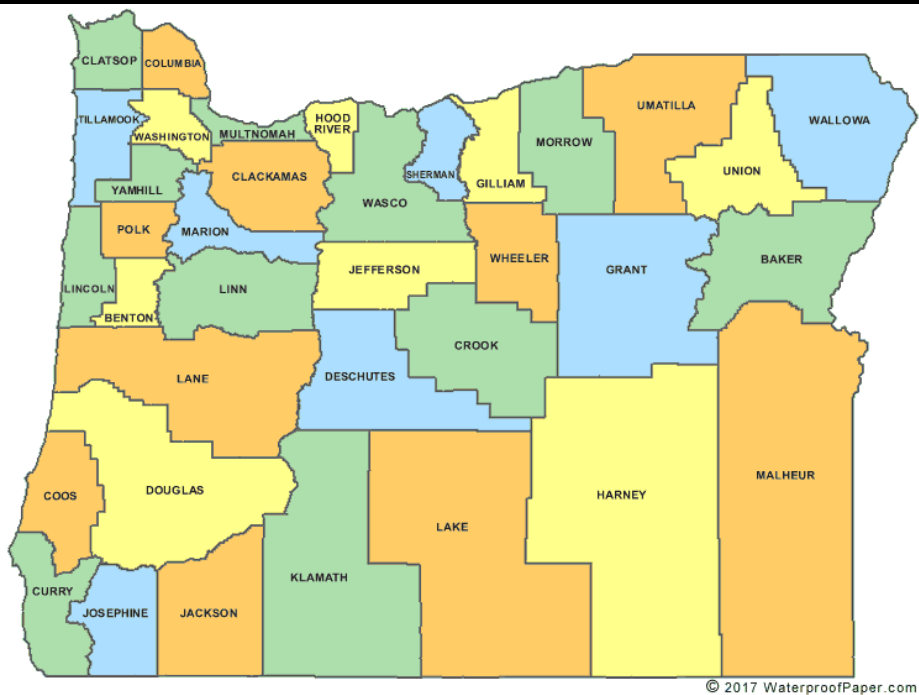
KLFHP Mission:

To facilitate restoration projects on public and private forestland in Klamath and Lake Counties through education, outreach and diverse partnerships.

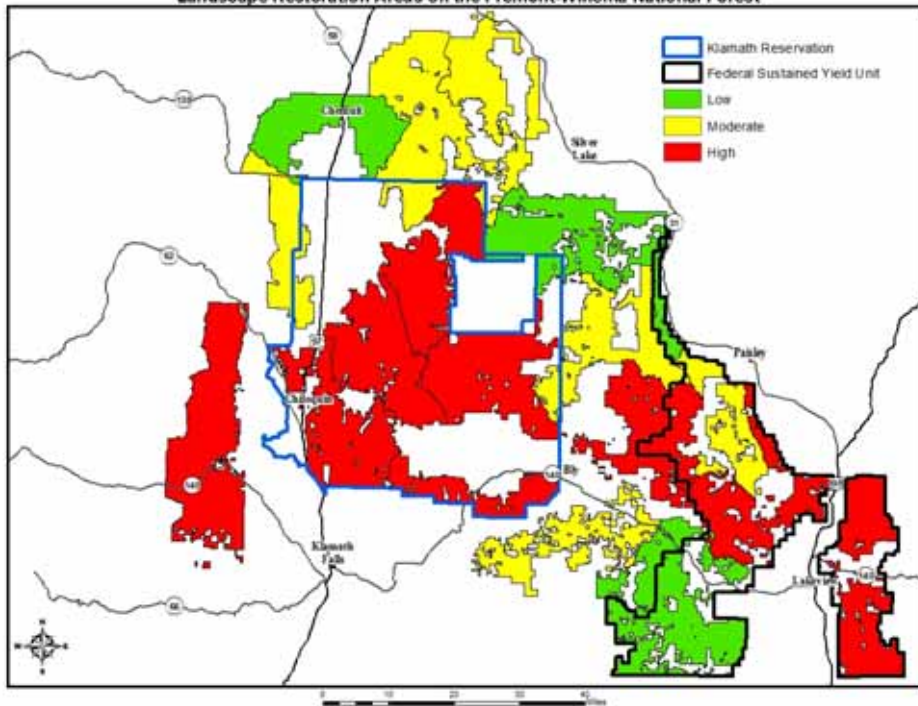
Our local forestry and fire professionals can work with you to enhance and protect your property!



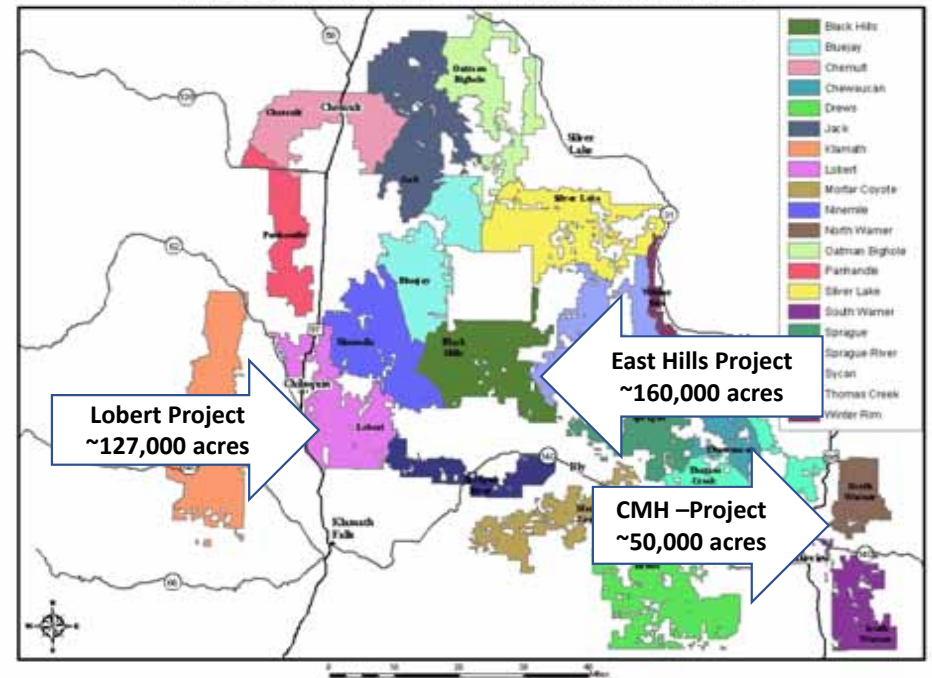
IDENTIFICATION OF A LANDSCAPE



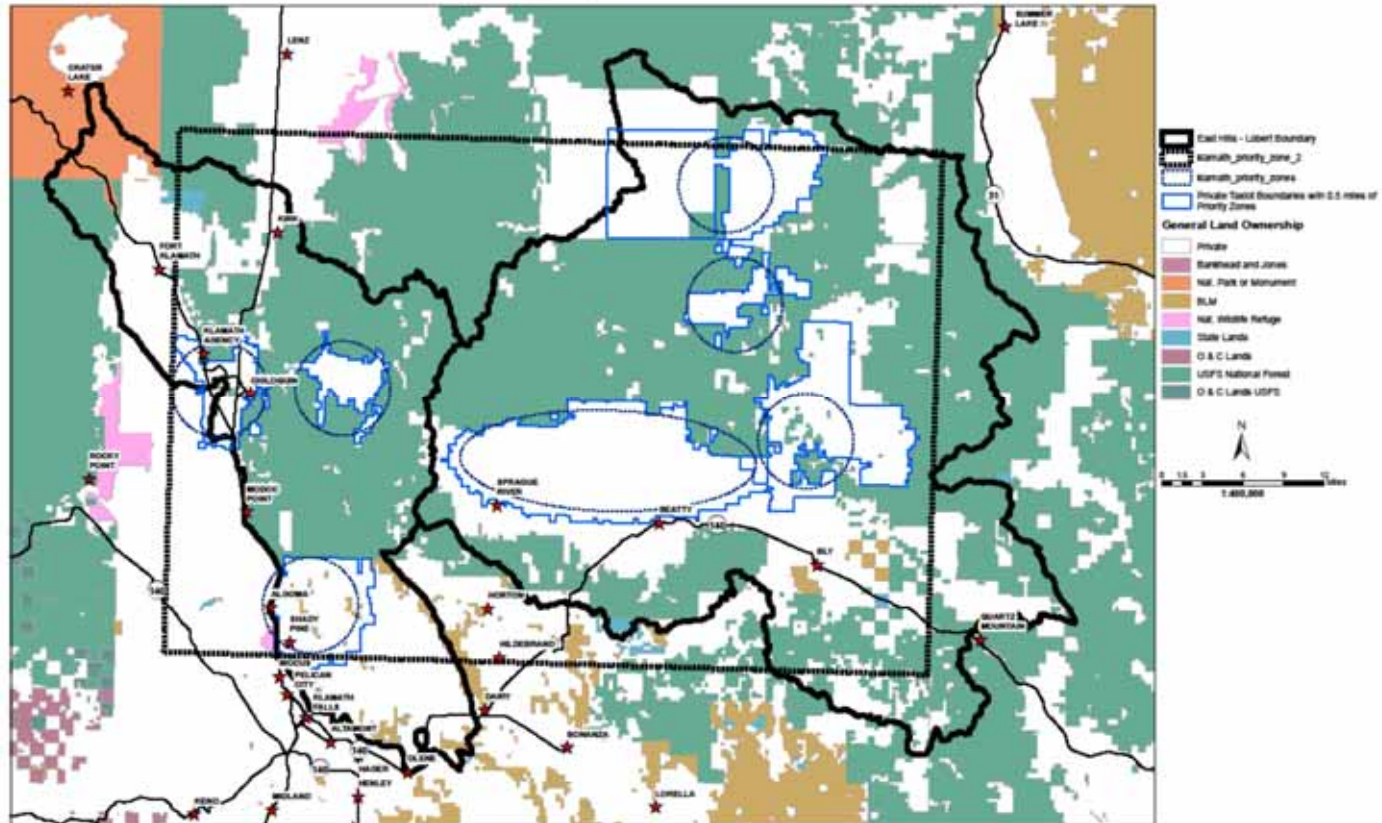
Priority for Restoration
Landscape Restoration Areas on the Fremont-Winema National Forest



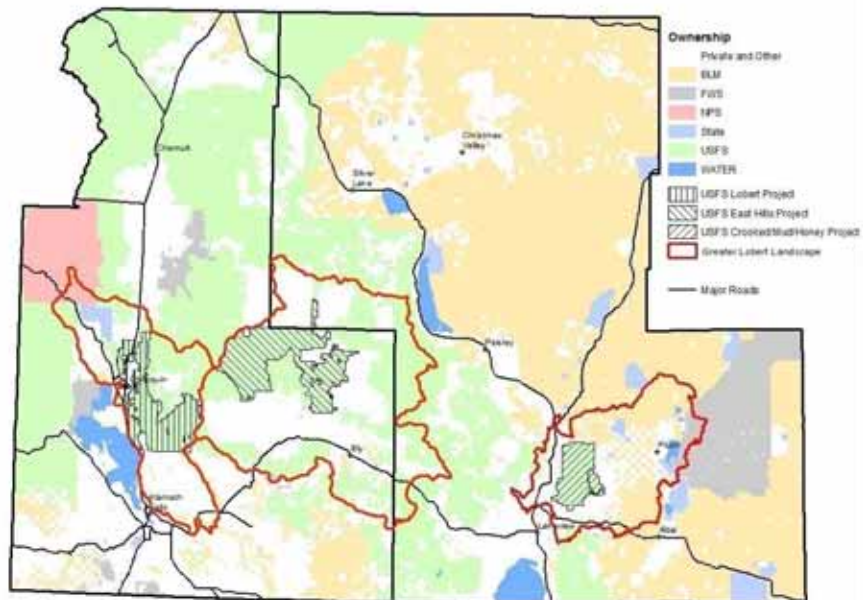
Landscape Restoration Areas on the Fremont-Winema National Forest



East Hills - Lobert Landscape Restoration Plan: General Land Ownership



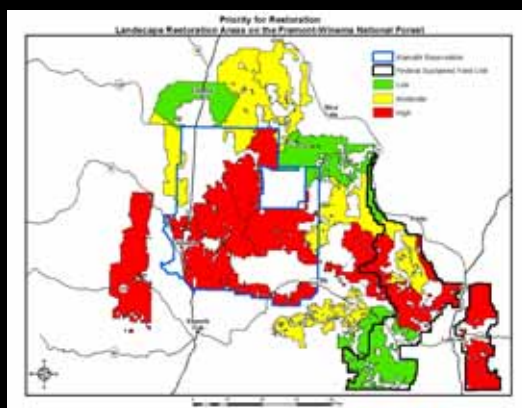
GREATER LOBERT RESTORATION PROJECT IN KLAMATH AND LAKE COUNTIES



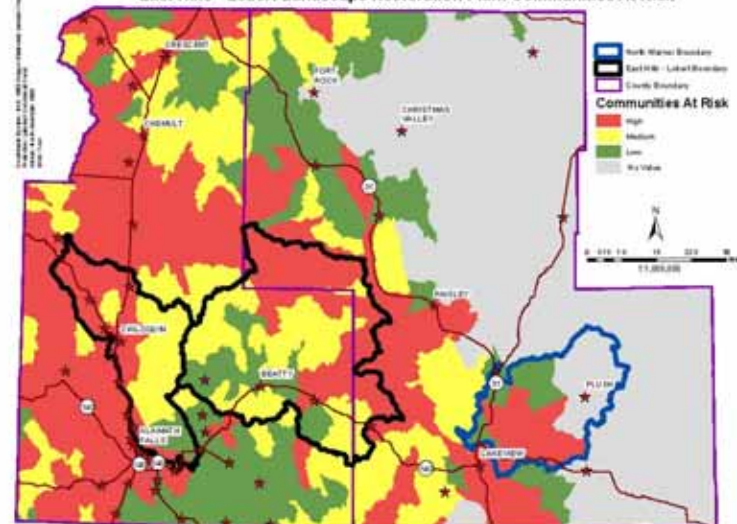
Klamath County Community Wildfire Protection Plan 2016 update



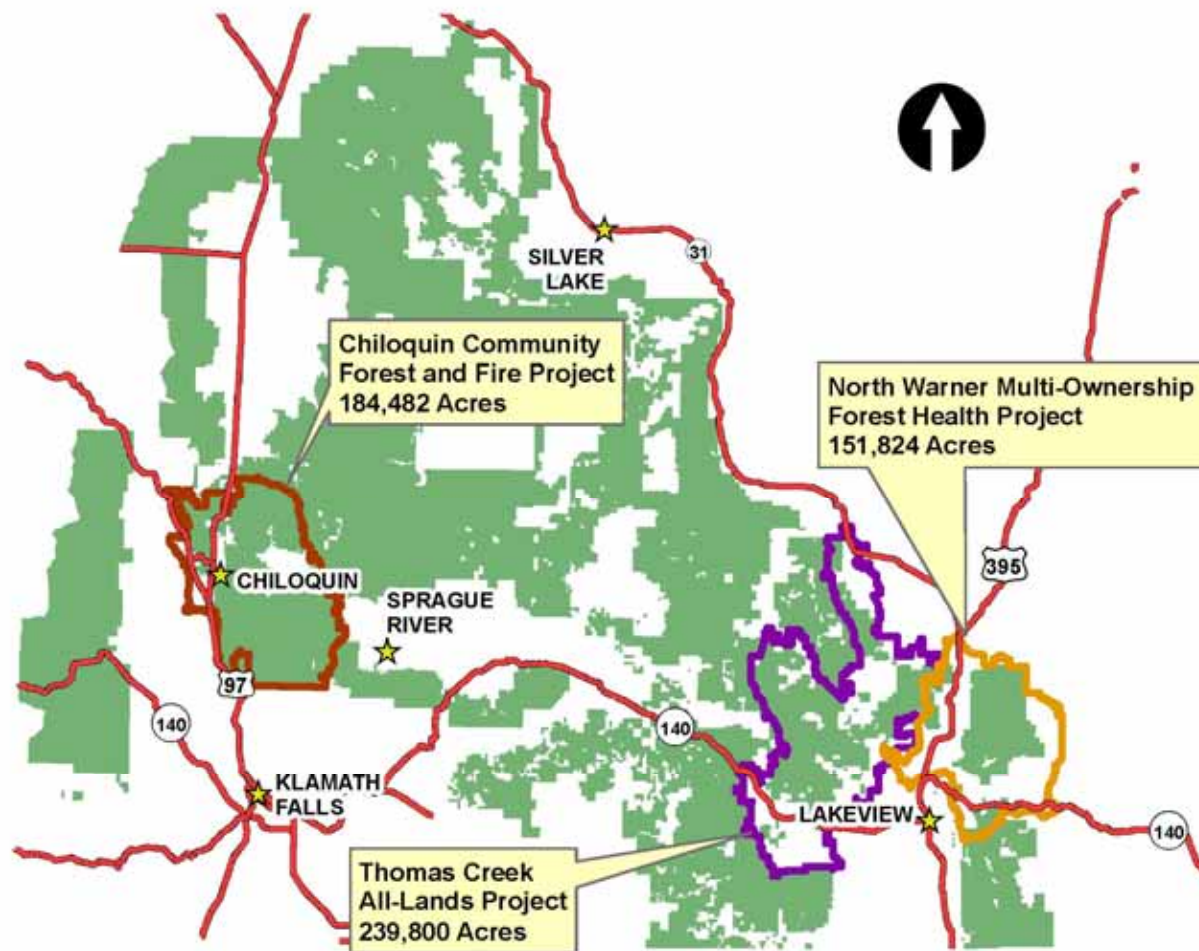
Prepared by Dave Rogers
Wildland Fire Technologies, Inc.
Albany, Oregon
December 5, 2015



East Hills - Lobert Landscape Restoration Plan: Communities At Risk



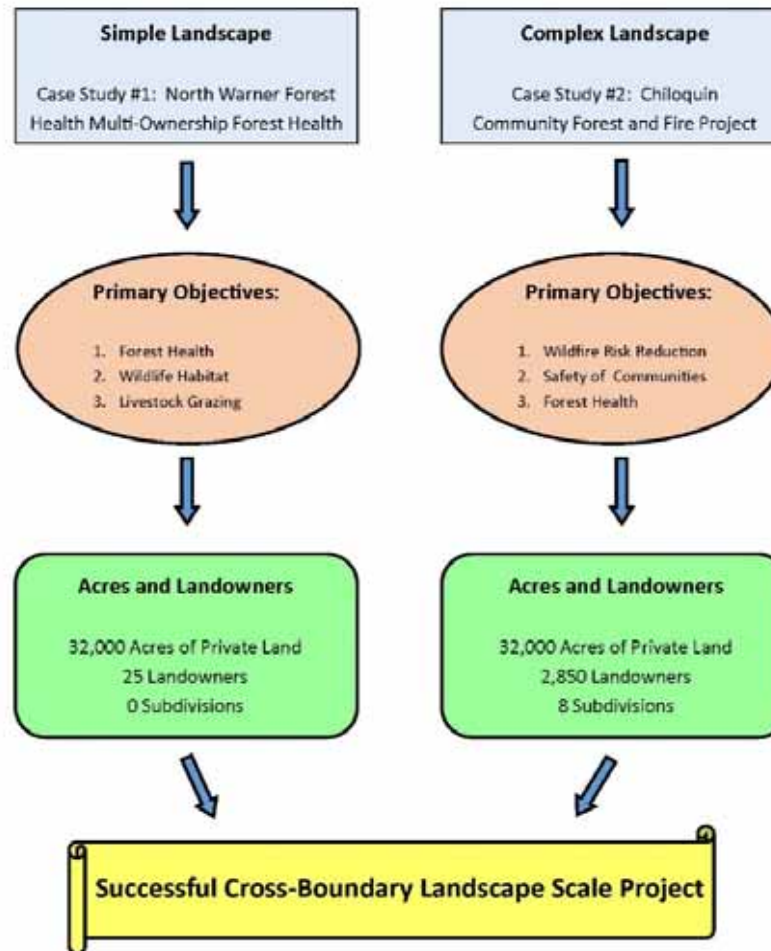
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North Warner Forest Health Multi-Ownership Forest Health Project



A Process that Works for Simple to Complex Projects

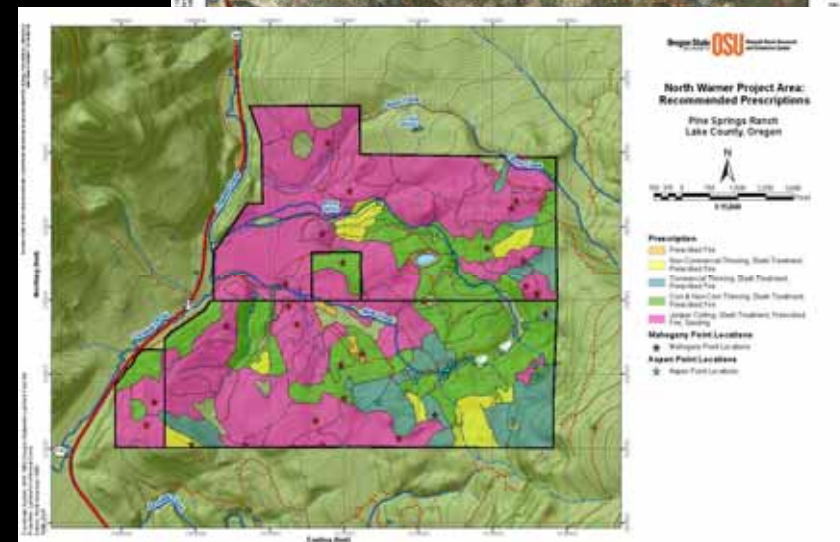
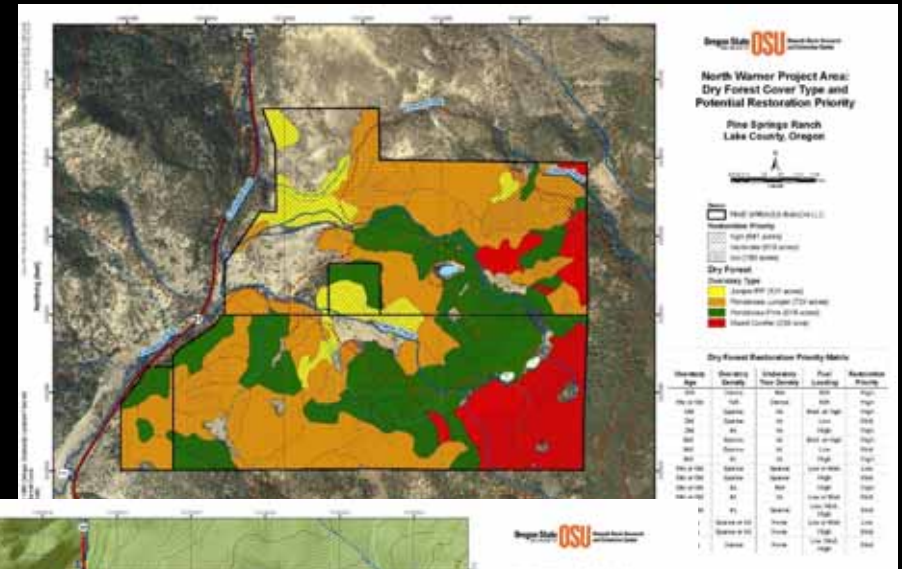
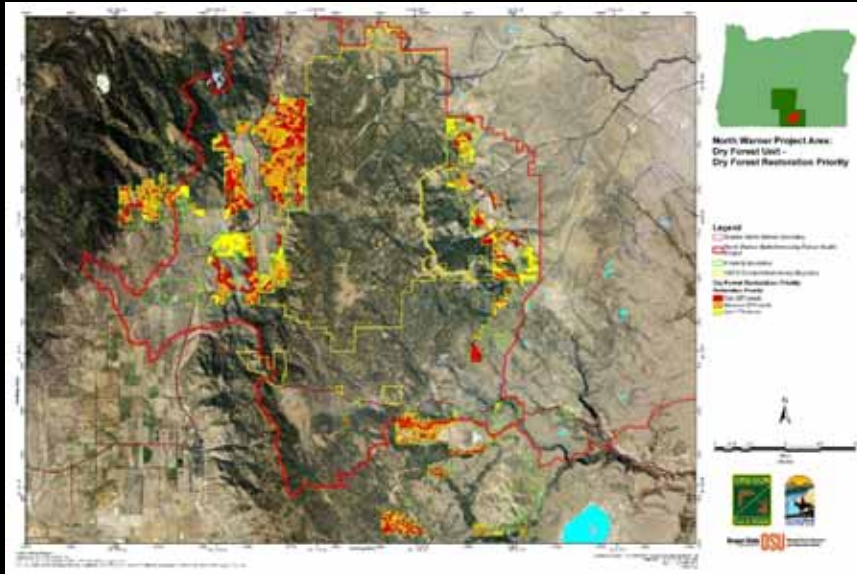


Chiloquin Community Forest and Fire Project



PRIVATE LAND MAPPING, ASSESSMENT, AND WILDFIRE RESPONSE PLAN

- Forest health inventory
- Ancillary data (e.g. weeds, aspen)
- Wildfire risk assessment
- Wildfire response pre-plan



The first stage to quantifying resources is to compile publicly available datasets from State and Federal GIS Clearinghouses

- Elevation Data (10m resolution Digital Elevation Model)
- 1m resolution Satellite Imagery (NAIP-2014)
- Places (Tax Lot Parcels, Cities, Locations of note)
- Transportation Network (from Highways to unnamed two-tracks & railroads)
- The National Hydrographic Dataset (lakes, rivers, streams, springs, & swamps)
- Mapped Wetlands and Wetland Soils
- USDA Soil Maps (SUUGRO-2015)
- Oregon Geologic Data (2015)
- Canopy Cover % (The Nature Conservancy, 2014-no Klamath County)

The second stage to quantifying resources is to create a custom data layer that defines vegetation at a small scale (high resolution), data that is not publicly available

- LD13** Disturbance interacts with environmental variables slope, elevation, aspect, wind patterns, precipitation, and terrain to shape succession modifications of vegetation structure and composition. All living things have some traits that are adaptations to disturbances and constraints of their environments. Disturbances include physical and biological disturbances, of which fire is one.

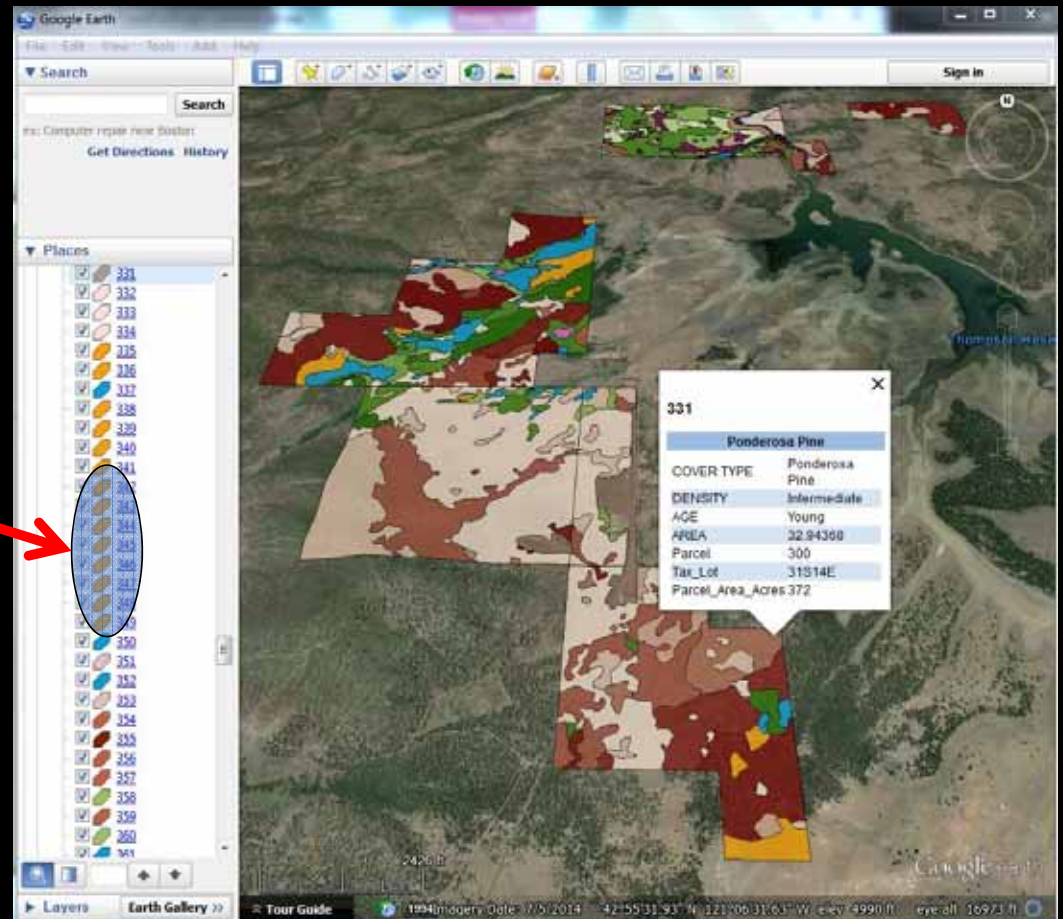
Leavell, Daniel, 3/25/2017

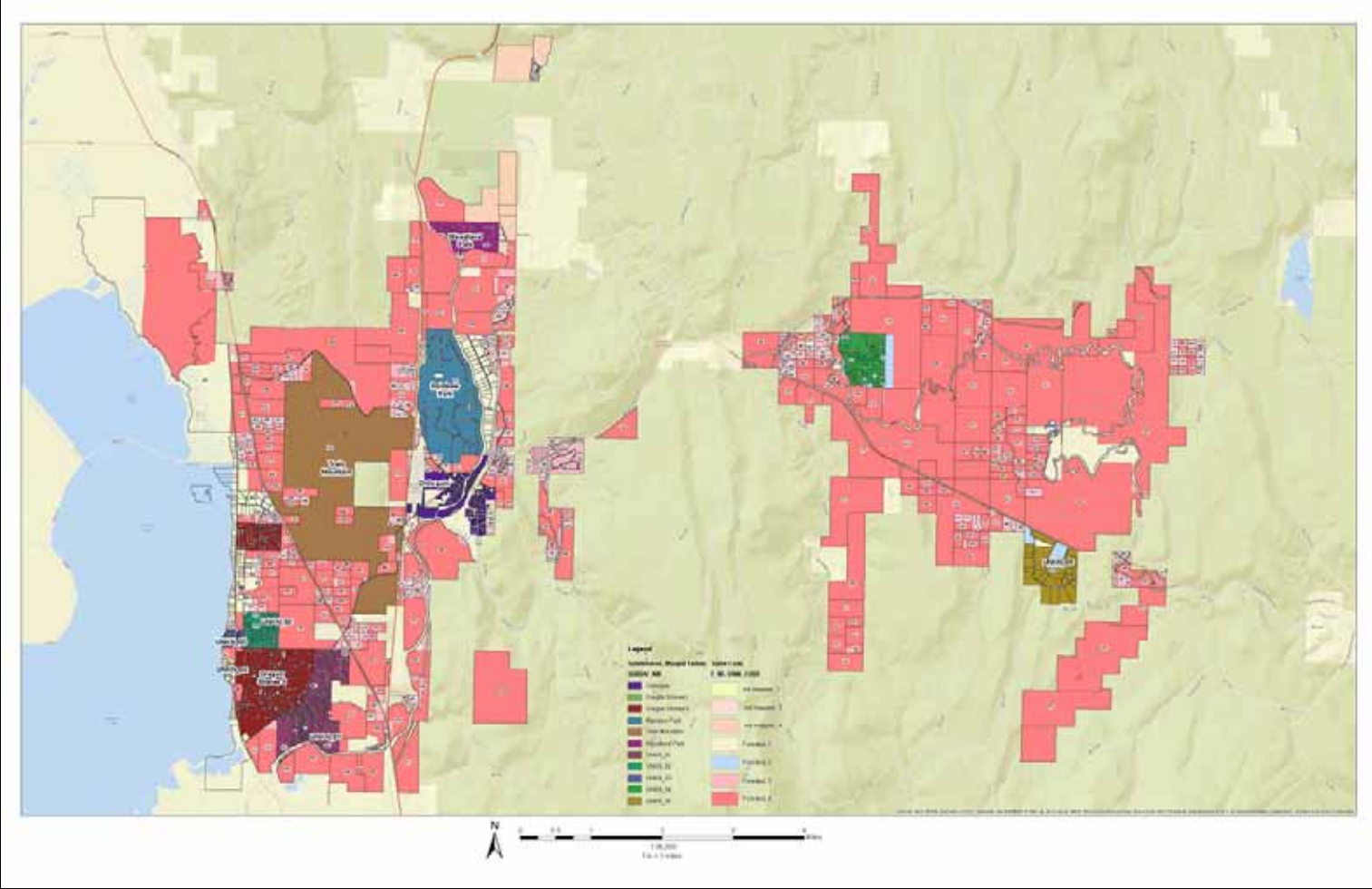
Google Earth is free software that is essentially a digital globe allowing for some degree of viewing and manipulation of spatial information. Good for viewing, very good satellite imagery.

Excel Spreadsheet

Tax_Lot	Parcel	Parcel (acres)	Cover Type	Density	Age	Cover Area (Acres)	Parcel Veg. (% Cover)	Object ID
29S13E	1500	118	Ponderosa Pine	Sparse	Interspersed	13.86	11.74	1
29S13E	1500	118	Lodgepole Pine	Dense	Interspersed	1.07	0.91	2
29S13E	1500	118	Wet Meadow			7.53	6.38	3
29S13E	1500	118	Ponderosa Pine	Sparse	Interspersed	6.66	5.64	4
29S13E	1500	118	Ponderosa Pine	Sparse	Young	8.72	7.39	5
29S13E	1500	118	Ponderosa Pine	Dense	Interspersed	0.16	0.13	6
29S13E	1500	118	Ponderosa Pine	Sparse	Interspersed	0.82	0.69	7
29S13E	1500	118	Dry Meadow			4.85	4.11	8
29S13E	1500	118	Aspen	Dense	Young	0.18	0.15	9
29S13E	1500	118	Aspen	Dense	Young	0.22	0.18	10
29S13E	1500	118	Wet Meadow			2.34	1.98	11

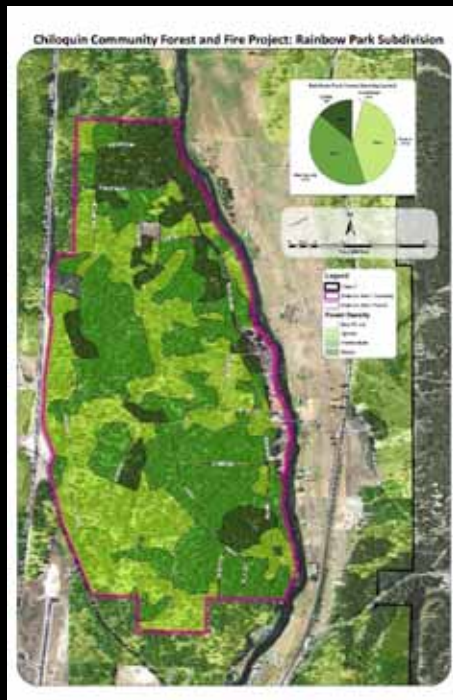
Both datasets referenced to the same Object ID



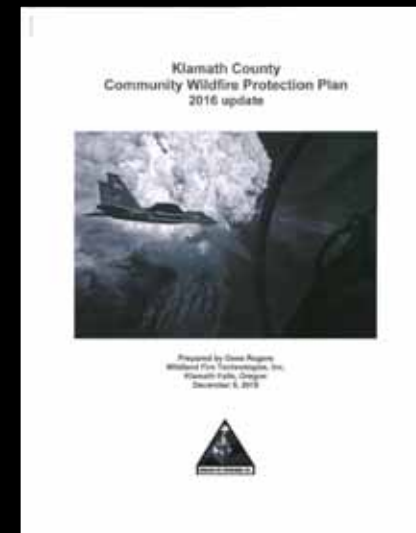
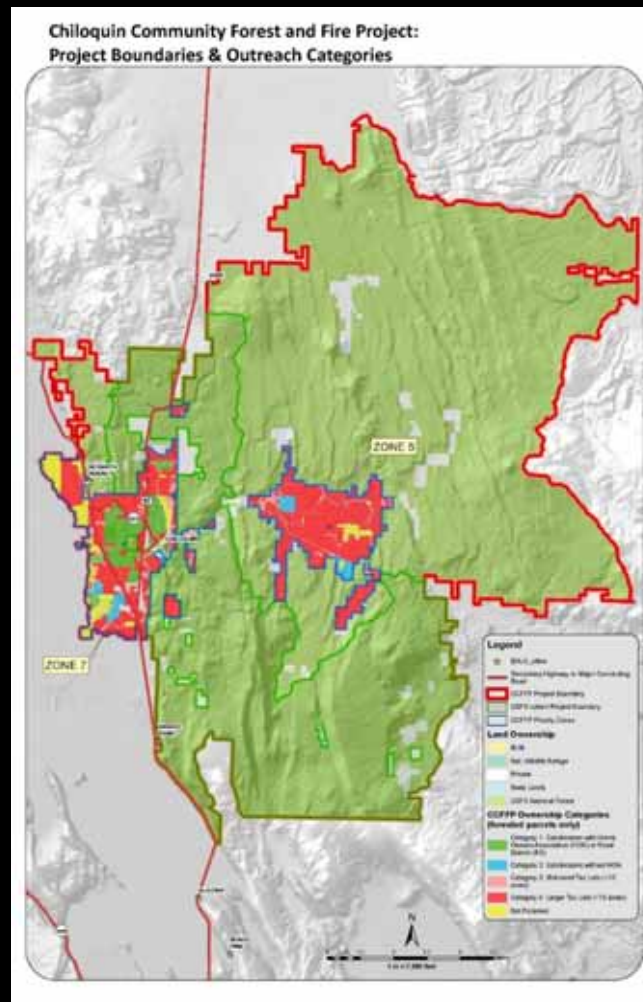


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Leavell, Daniel, 3/25/2017



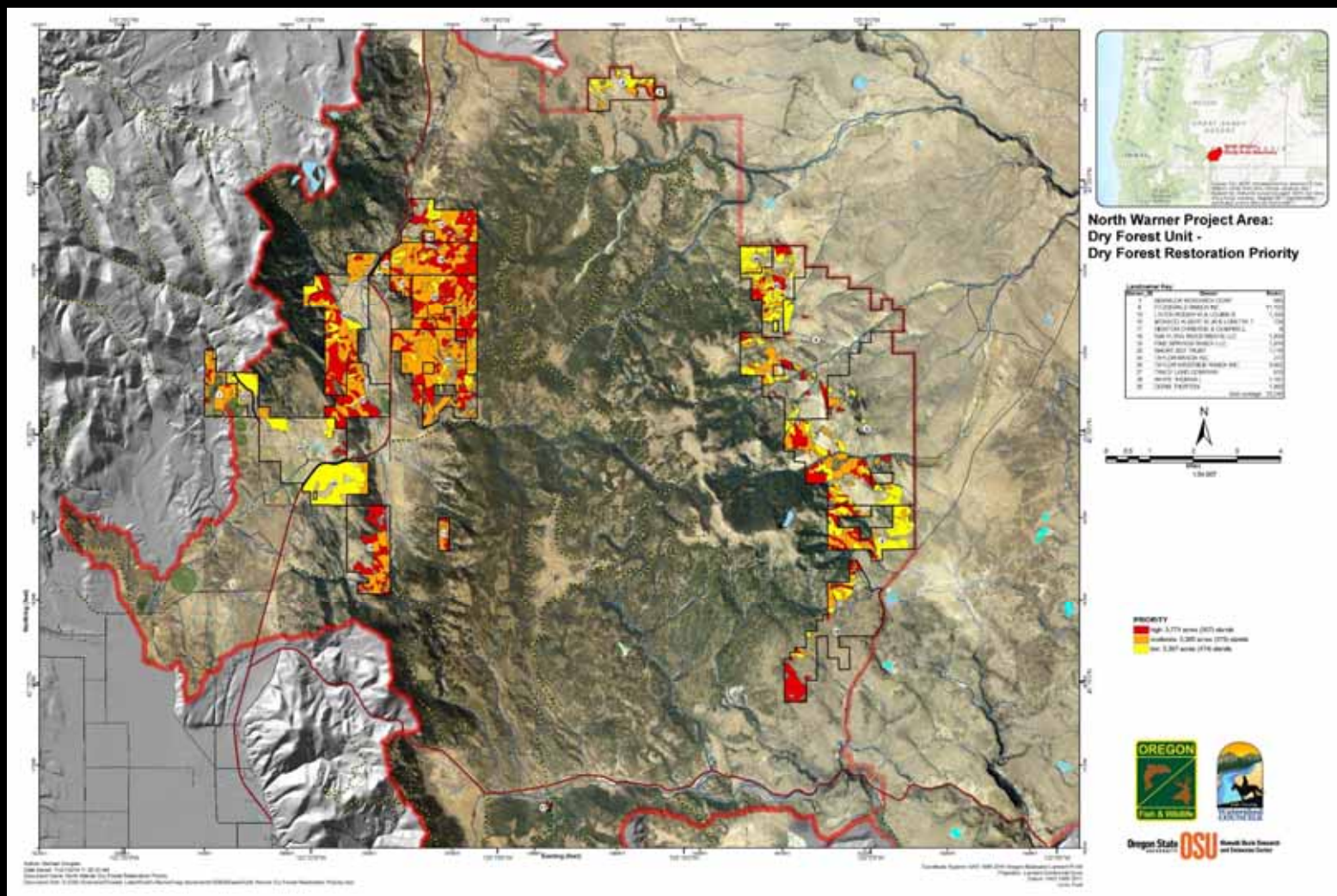
FIRE RESPONSE



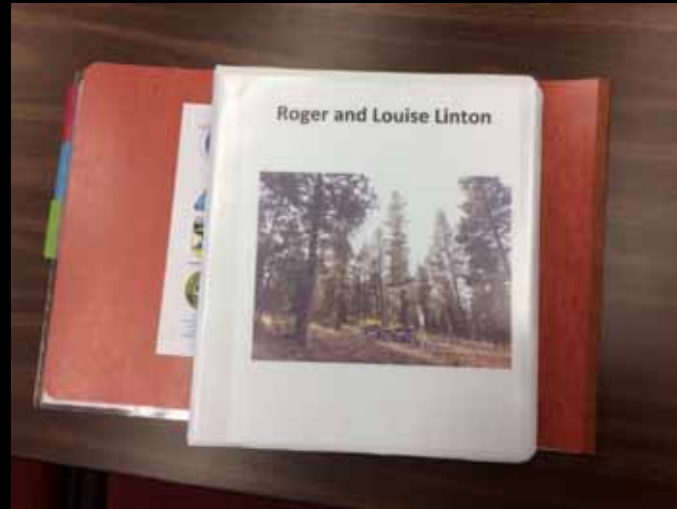
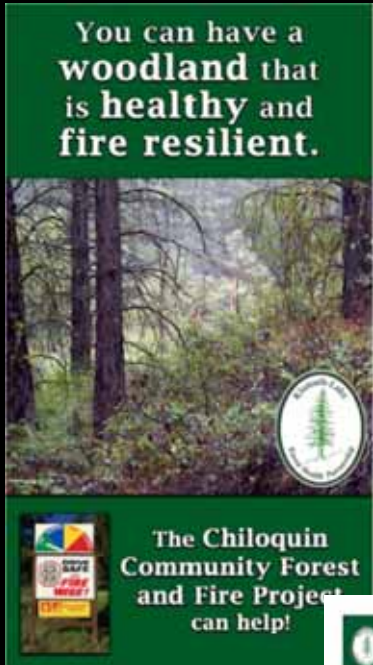
Start with the CWPP:

1. Fire Hazard and Occurrence
2. WUI Hazard Rating
3. Protection Resources
4. Structure Risk Assessment





LANDOWNER OUTREACH AND EDUCATION

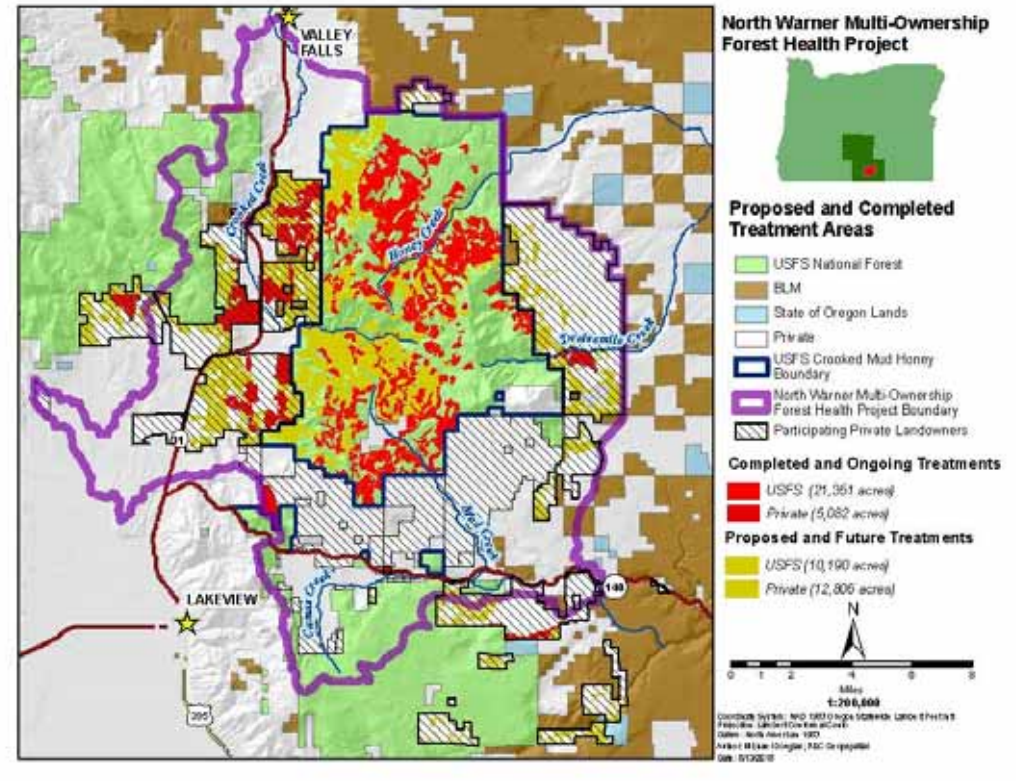
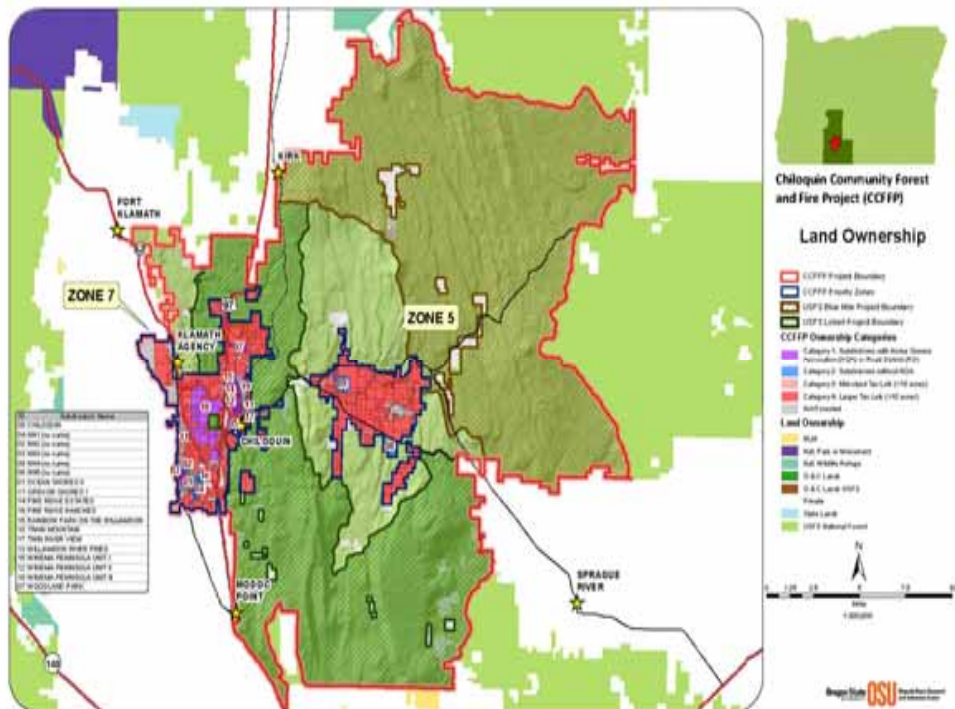


PROOF OF CONCEPT

\$4 million acquired

150,000 acres

32,000 acres



150,000 acres

32,000 acres

\$4 million acquired

2017 & 2018 Completed: 20,000 acres
public and 25,000 acres private

GRANT WRITING FOR IMPLEMENTATION

North Warner

	Private Land	Forest Service
Joint Chiefs	\$796,199	\$353,084
	\$700,000	\$1,499,750
Fuels Supplemental		\$2,095,000
Title II/RAC	\$42,500	\$50,000
OWEB	\$537,000	
	\$537,000	
FS Sage Grouse Funding	\$125,000	
	\$50,000	
FS State and Private	\$250,000	
	\$86,500	
Total	\$3,124,199	\$3,997,834

Chiloquin

	Private Land	Forest Service
Joint Chiefs – 2019 only	\$1,090,000	\$627,588
NRCS EQIP – Conservation Implementation Strategy	\$49,682	
	\$1,200,000	
OWEB	\$18,156	
	\$33,058	
	\$537,878	
Western States Fire (WSF)	\$23,000	
FS State and Private	\$300,000	
Klamath County Community Assistance Grant	\$3,000	
USFS	50,000	
Total	\$3,304,774	\$627,588

AGREEMENTS

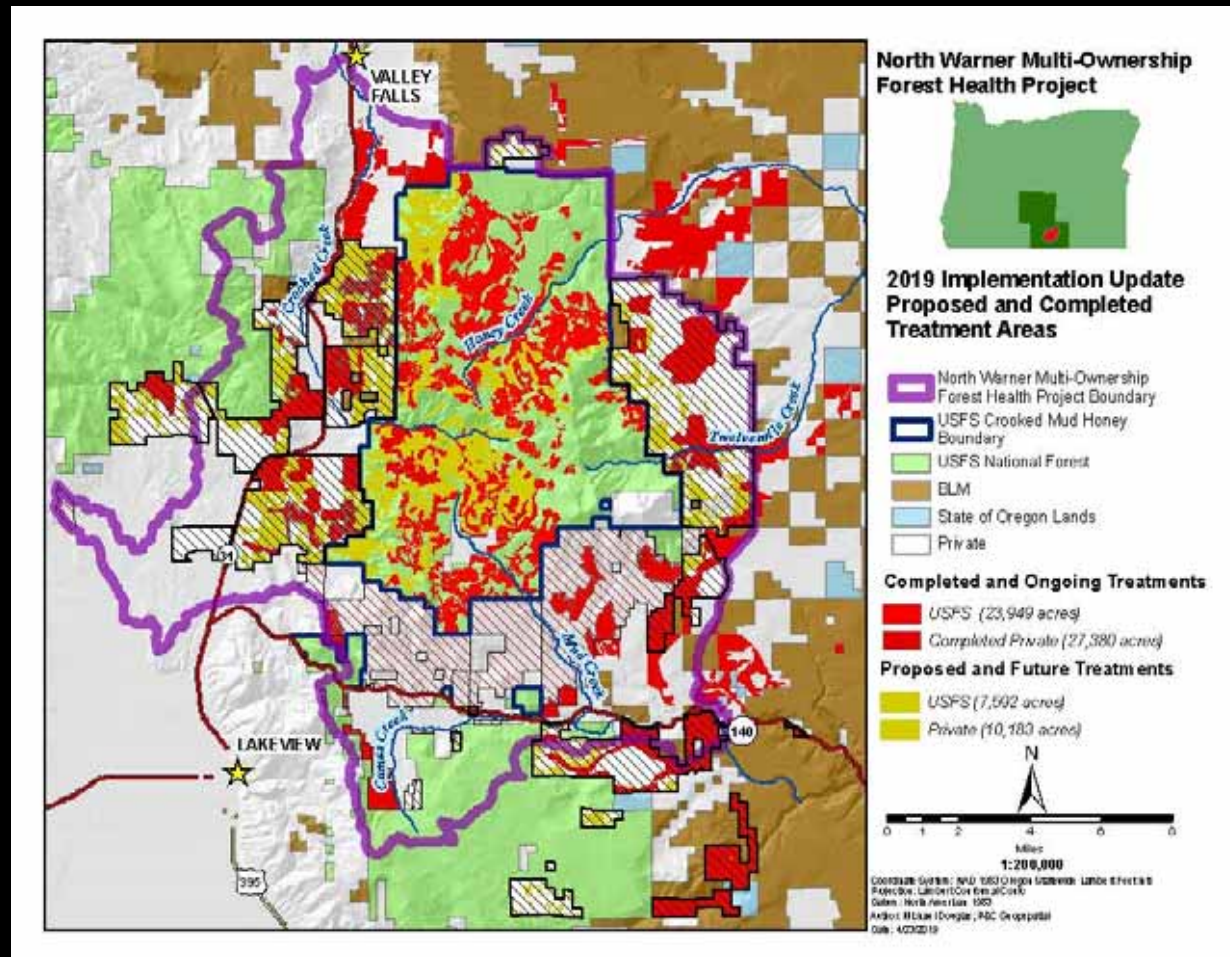
Organization	Mechanism	Purpose
NRCS	Joint Chiefs Funding Fiscal Administration	Private Land – Project Treatment Funding
NRCS - ODF	Utilization of Joint Chiefs Funding for Planning & Implementation Assistance	Landowner Outreach, Private Land Restoration Prescriptions & Treatments
ODF	Landowner Outreach, Grant Funding, Grant Administration, Planning, Contracting	Forest Health Treatments and Implementation on Private Lands
ODF - USFS	ODF Assistance to USFS	Forest Health Prescriptions & Restoration Treatments
ODF - WSC	ODF Assistance to WSC	Forest Health Prescriptions & Treatments
WSC	Landowner Outreach, Grant Writing, Fiscal Administration, Planning, Contracting	Forest Health Implementation on Private Land
Private Land Agreements	Watershed Councils, NRCS and ODF	Agreements for Implementation & Funding
Contractor Agreements	Watershed Councils	Direct Contracts for Mapping, Survey, CR & Implementation

NRCS and ODF Cooperative Agreement



ODF Forester works with NRCS across federal and private fences while also serving as a Stewardship Forester..... sometimes in the same day

ASSISTANCE TO LANDOWNERS AND IMPLEMENTATION



ECOLOGIC, SOCIAL, ECONOMIC BENEFITS



Planning and Implementing Cross-boundary, Landscape-scale Restoration and Wildfire Risk Reduction Projects

A Guide to Achieving the Goals of the National Cohesive Wildland Fire Management Strategy

Daniel Leavell, Amy Markus, Craig Blenz, Kellie Carlsen, Emily Jane Davis, Michael Douglas,
David F. Ferguson, Lee Fledderjohann, Kasey Johnson, Ned Livingston, Jason Pettigrew,
Gene Rogers, Marci Schreder, Dan Shoun, and Leigh Ann Vradenburg



Oregon State University - University of Idaho - Washington State University
PNW 707 • October 2018

<https://catalog.extension.oregonstate.edu/pnw707>

Landscape Scale Cross-Boundary Projects – A Step by Step Process

- 1. Form a Partnership**
- 2. Identification of a Landscape (NEPA-ready)**
- 3. Landowner Outreach and Education**
- 4. Mapping and Inventory**
- 5. Support to Private Landowners**
- 6. Grant Writing for Implementation**
- 7. Agreements**
- 8. Implementation**
- 9. Ecological, Social, and Economic Benefits**

CONCURRENT EFFORTS/IMPROVEMENTS

1. Prescribe burn program
2. State liability
3. Biomass conversion/use
4. Refine pre-plan for risk mitigation
5. Support to Private Landowners
6. Grant Writing for Implementation
7. Agreements
8. Implementation
9. Ecological, Social, and Economic Benefits