



Forest Restoration & Wildfire Risk

Why Public Land Surveys Are So Critical

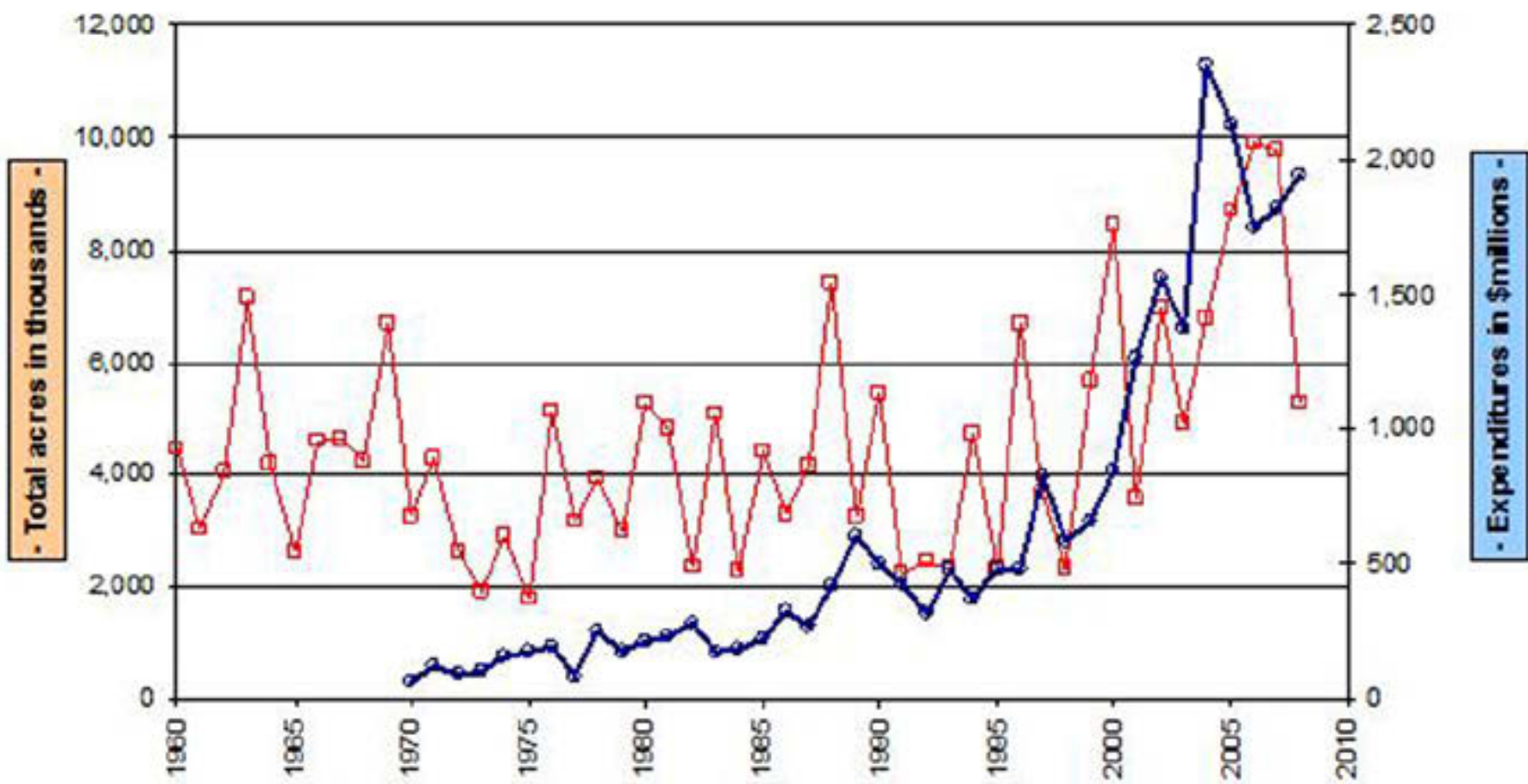
Presentation by Dr. Bob Zybach

Professional Land Surveyors of Oregon

Umpqua Chapter - Roseburg, Oregon

April 9, 2012

Total US Wildfire Acres 1961-2008, and USFS Fire Expenditures 1970-2008



2010 Upper South Umpqua Headwaters Precontact Reference Conditions Study

Project Creators

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Archival Research and Field Documentation

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Mapping and GIS

Douglas County Surveyor's Office "GIS Team"
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*Upper South Umpqua Headwaters Precontact Reference Conditions Study:
Methods & Objectives*

The purpose of this study is to produce a reliable landscape-scale description of precontact (pre-1826) forest conditions for the eastern portion of present-day Tiller Ranger District of the Umpqua National Forest in Douglas County, Oregon which will be used to update Community Wildfire Protection Plans.

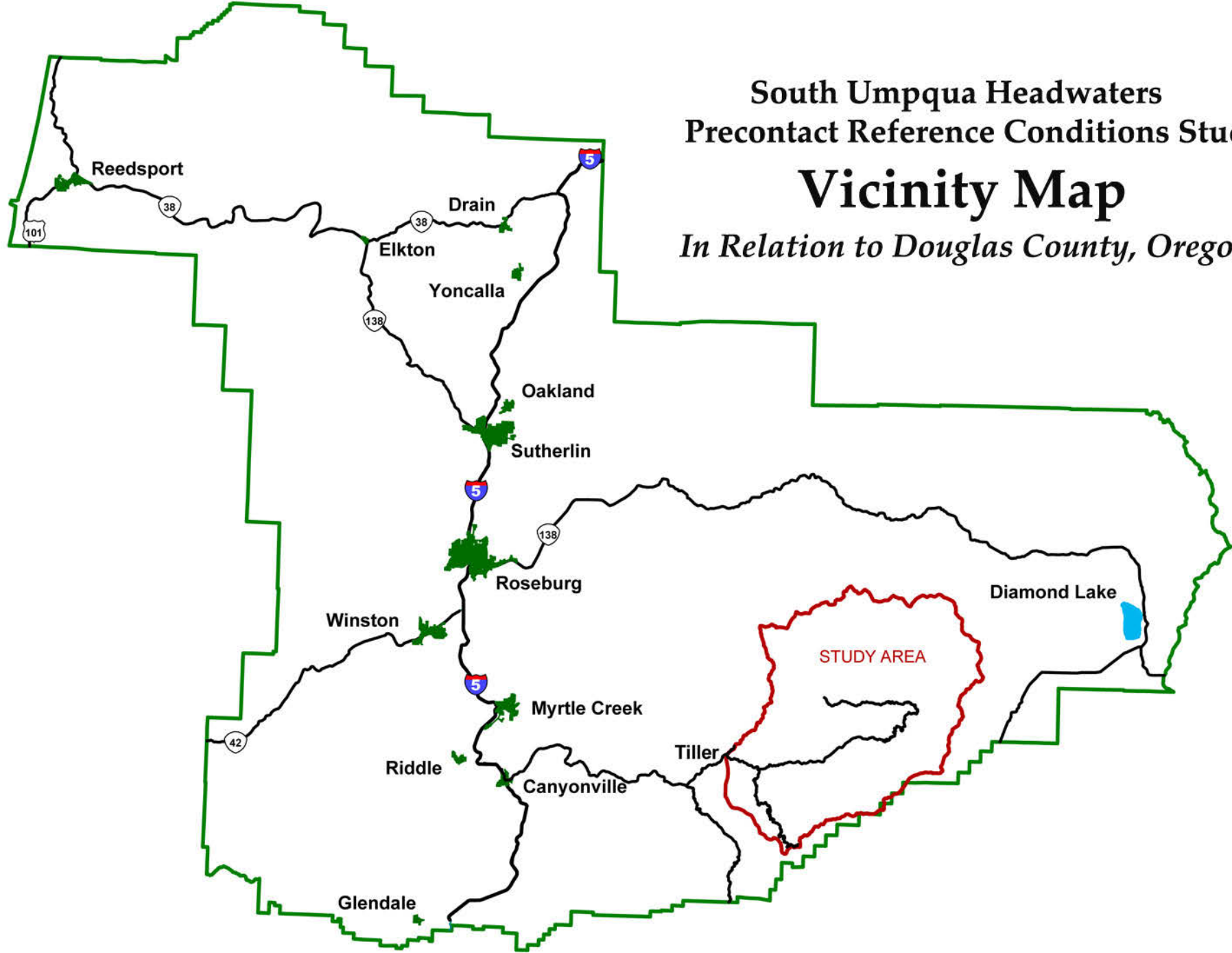
The description will be assembled from a comprehensive range of cultural, historical, and contemporary sources of information and results will be displayed in a wide variety of formats -- including maps, texts, tables, photographs, video, GIS layers, and Internet -- in order to reach the broadest possible audience over time and to encourage optimum uses of these resources.

-- Report Prepared for SW Oregon Resource Conservation & Development
January 19, 2010, Roseburg, Oregon

South Umpqua Headwaters
Precontact Reference Conditions Study

Vicinity Map

In Relation to Douglas County, Oregon

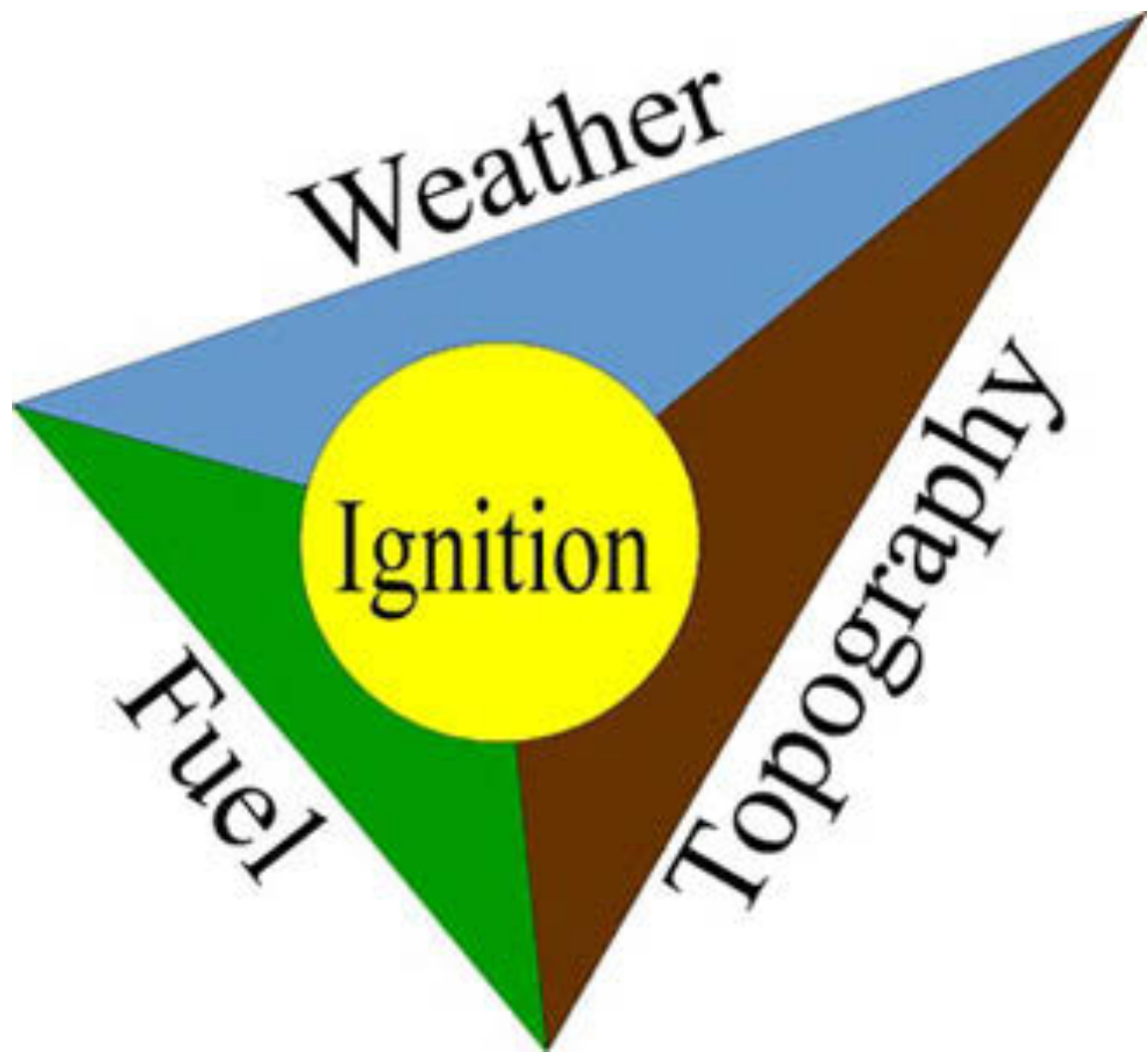


FRCC (Fire Regime Condition Class)

A measure of departure from reference (pre- settlement or natural or historical) ecological conditions that typically result in alterations of native ecosystem components. *These ecosystem components include attributes such as species composition, structural stage, stand age, canopy closure, and fuel loadings.*

FRCC 3 is defined as:

Greater than 66 percent departure: Fire regimes have been substantially altered. Risk of losing key ecosystem components is high. Fire frequencies may have departed by multiple return intervals. *This may result in dramatic changes in fire size, fire intensity and severity, and landscape patterns.* *Vegetation attributes have been substantially altered.*

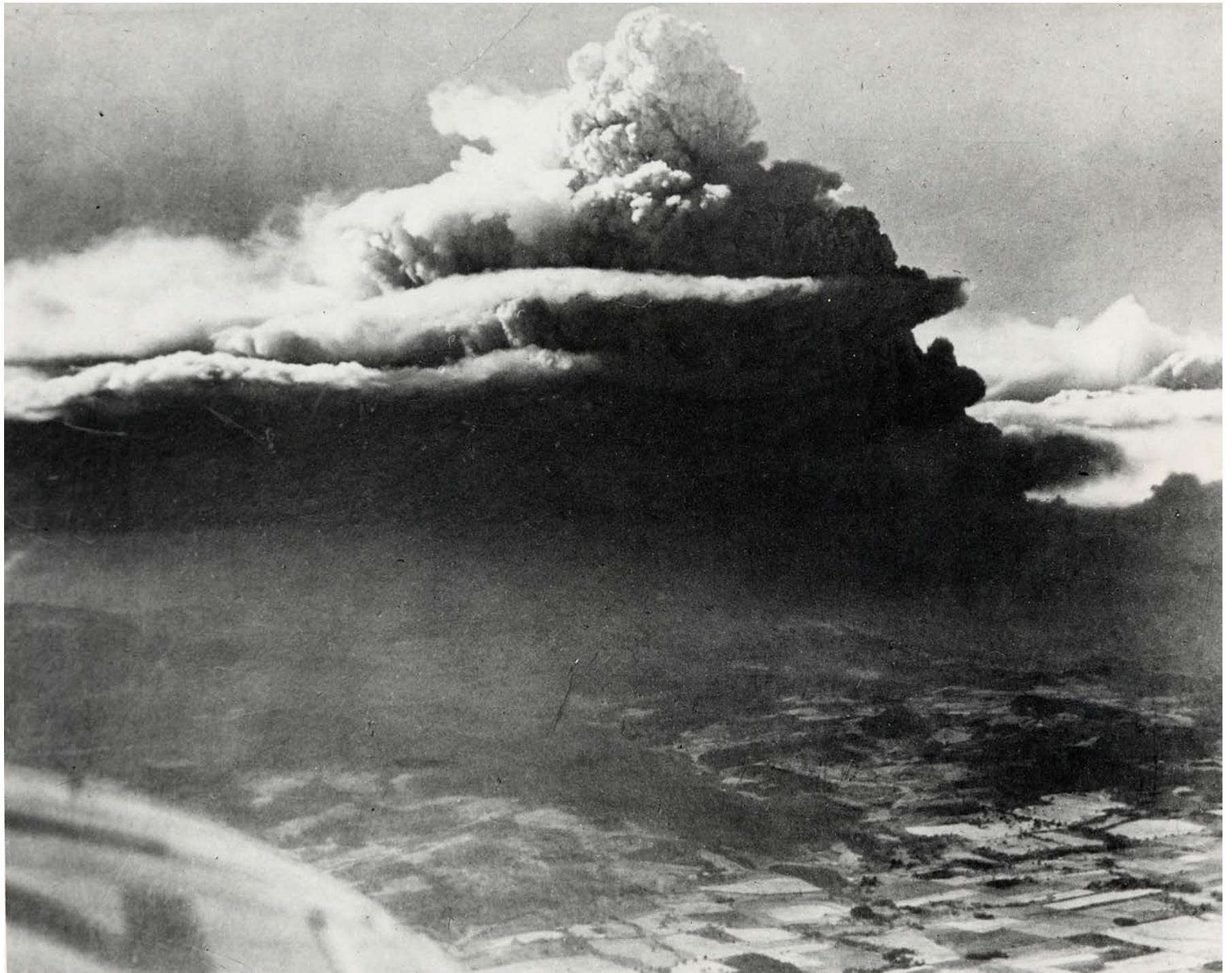




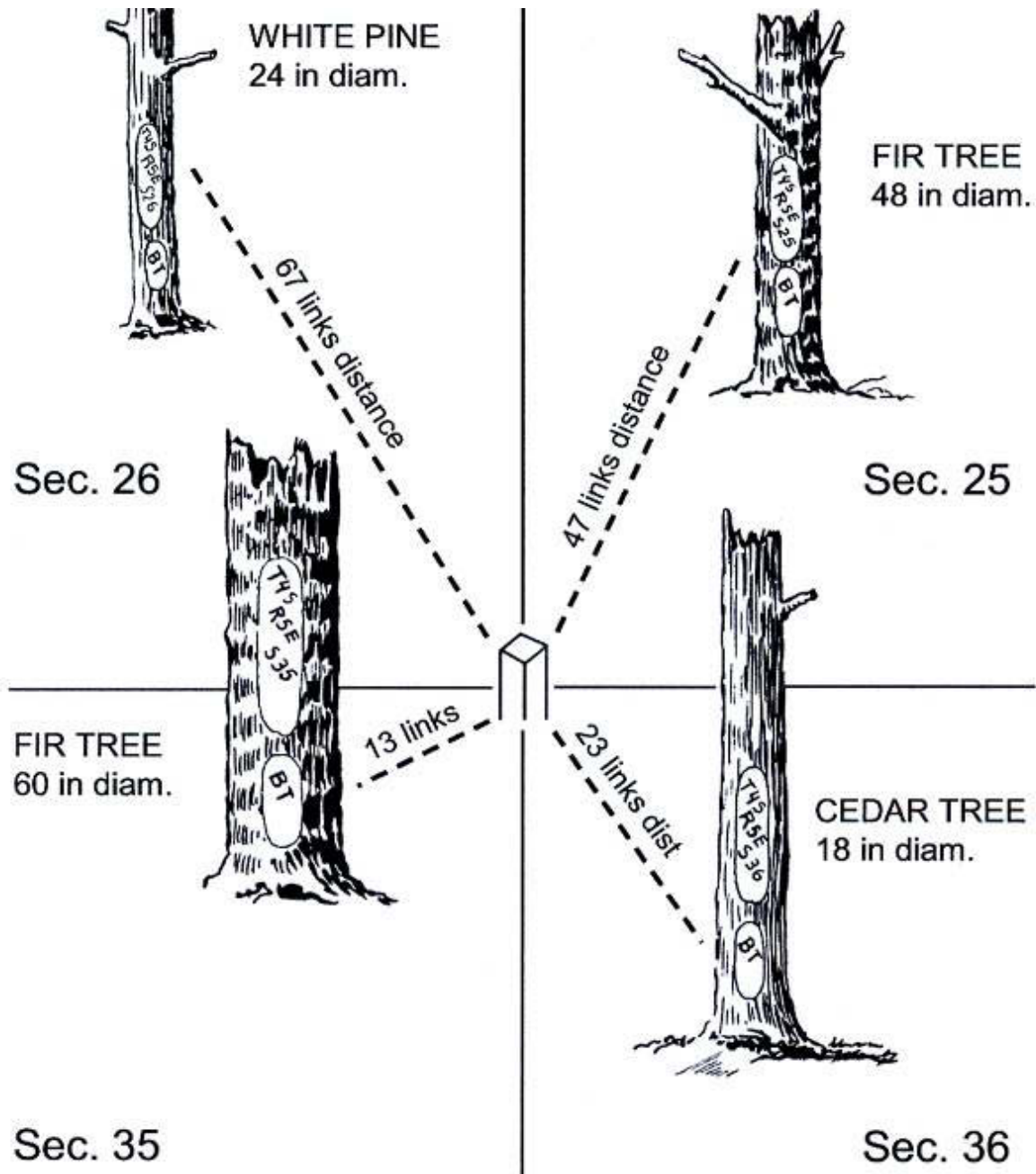
Dead Wood



Wildfire

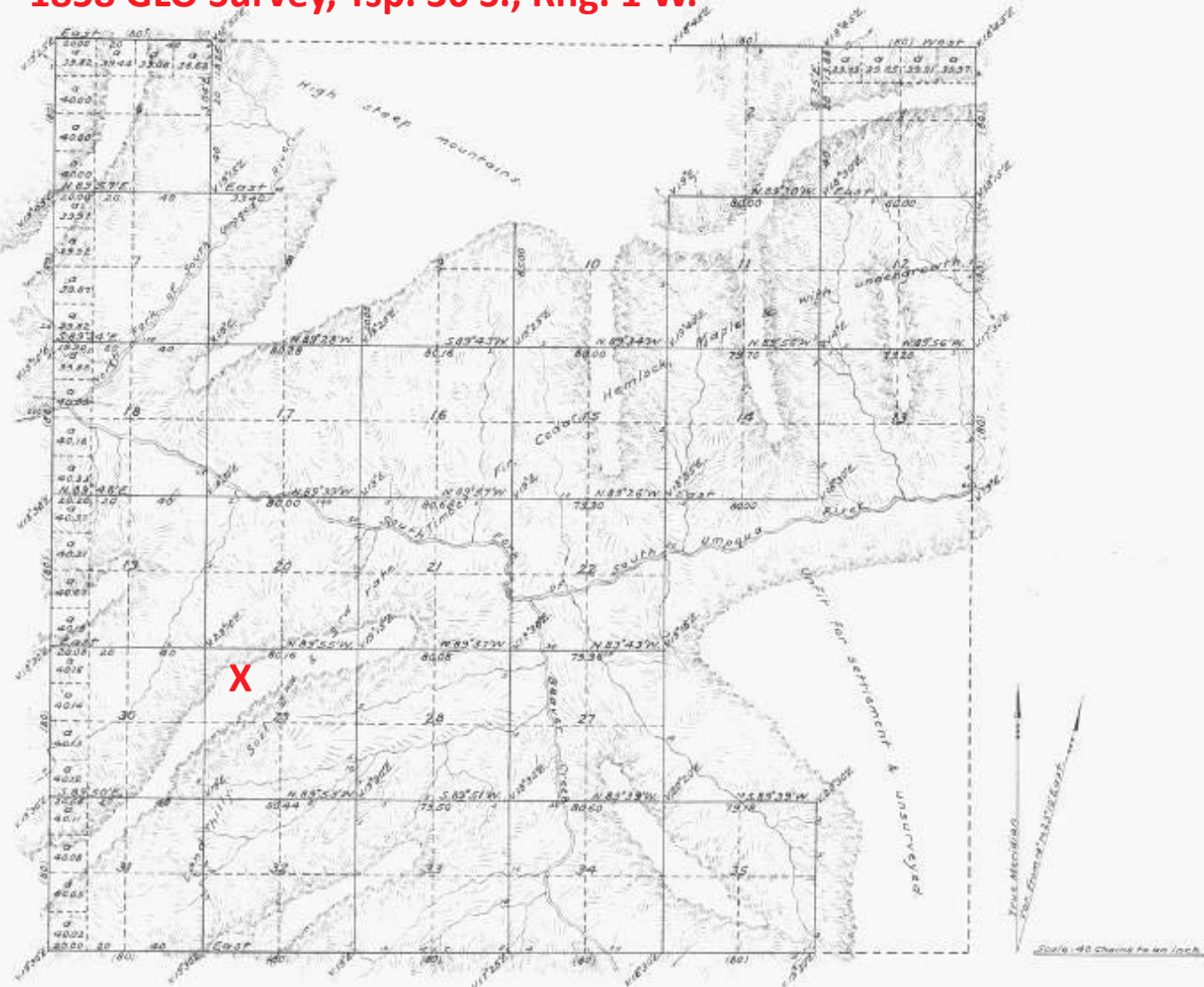






GLO Survey Methods (Powell 2008: 2)

Township No. 30 South, Range No. 1 West, Willamette Meridian, Oregon.
1858 GLO Survey, Tsp. 30 S., Rng. 1 W.



Surveys designated	By whom surveyed	Contract		Acre of Surveys			When Surveyed
		No.	Date	Miles	Chains	Links	
Township Lines	Dennis Hathorn	73	June 8 th 1857	11	00	00	February 20 th 1858
Subdivisions	Dennis Hathorn	73	June 8 th 1857	47	37	01	February 20 th 1858
Total number of Acres				16,158.45			

The above Map of Fractional Township No. 30 South, of Range No. 1 West, of the Willamette Meridian, Territory of Oregon, is strictly conformable to the field notes of the survey thereof on file in this office which have been examined and approved.
 Surveyor General's Office,
 Salem, February 20th, 1858. (Signed) John S. Zieher,
 Sur. Gen. of Oregon.

Public Survey Office,
 Portland, Oregon,
 September 3, 1855.
 I certify this to be a correct
 copy of the original plat on file in
 this office.
 Joseph A. Galloway
 Office Cadastral Engineer.

The whole district is heavily timbered with the exception of some pine openings in sec. 28, and in places where the timber has been destroyed by fire, denuded tracts called "burns". These burns are timberless but are covered with dense undergrowth in the greater part of their extent. The Big Burn is some two miles long and a mile wide, embracing portions of secs. 18, 19, 20, 29 and 30.

The Horseshoe Burn is about a mile long and a half mile wide and lies in secs. 28 and 29.

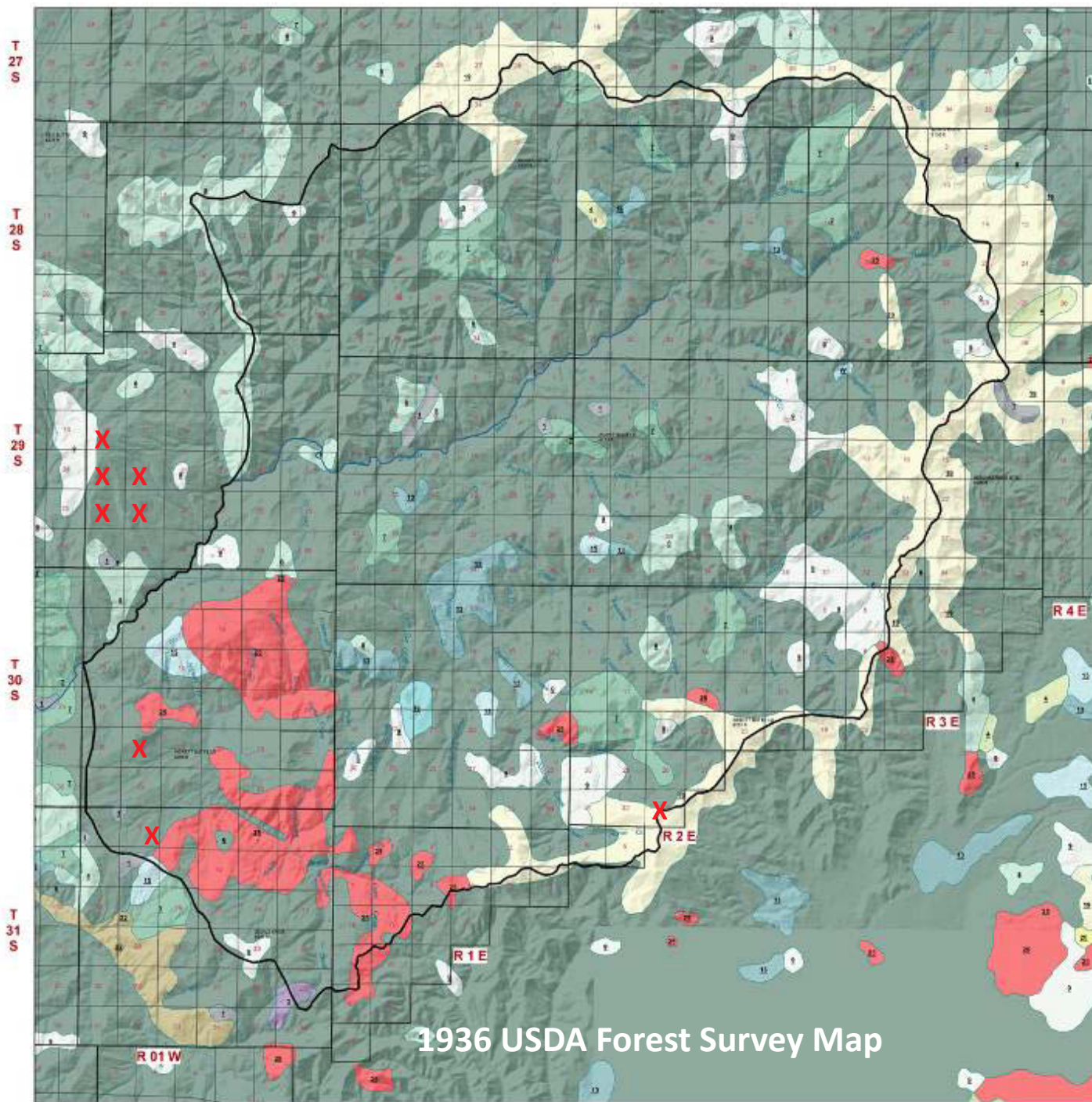
The timber includes red and white fir, sugar and yellow pine, cedar, hemlock and laurel. Of these the red fir is most abundant, white fir second. There are no considerable growths of pine timber. The yellow pine grows sparsely on the lower south slopes while the sugar pines are scattered here and there among the fir forests. Many of the red firs and sugar pines are magnificent trees, some of them attaining a diameter of eight feet.

Excerpt from GLO "General Description, T. 29 S., R. 1 W.
Fred Mensch, U. S. Deputy Surveyor, 1902

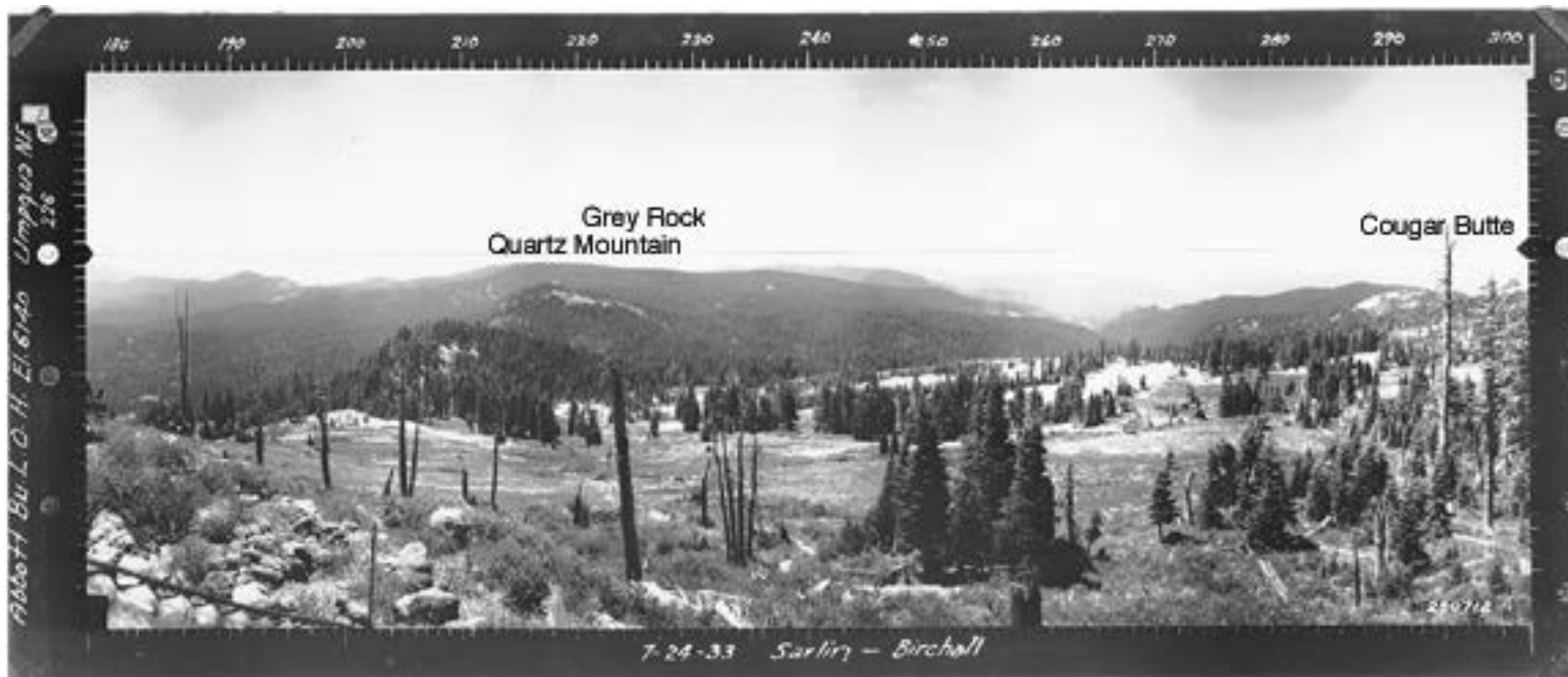
Bald Ridges Fire Lookout, Tiller Ranger District, 1923.

*Courtesy Umpqua National Forest Supervisor's Office
Roseburg, Oregon*





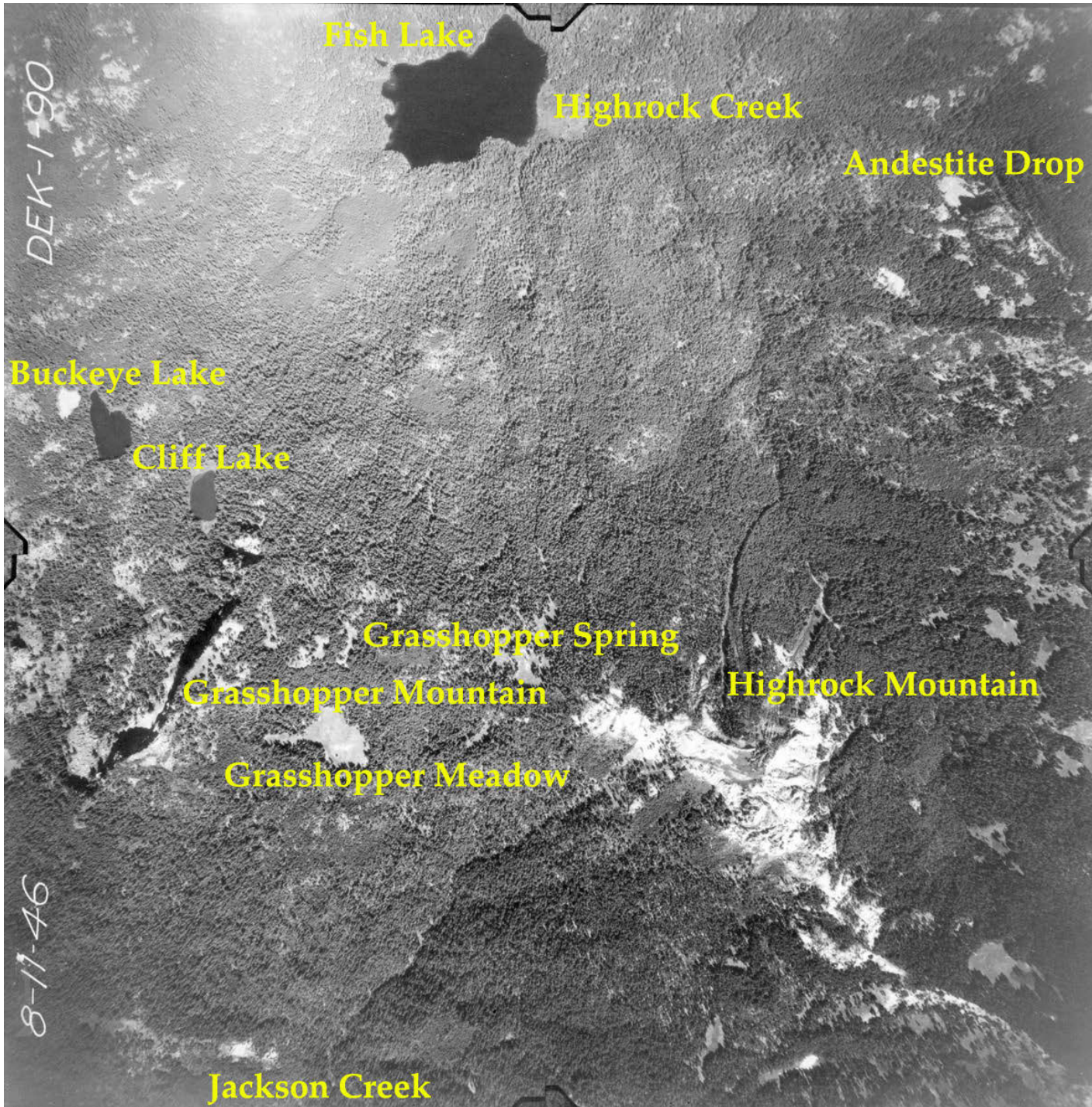
1936 USDA Forest Survey Map



Abbott Butte Lookout, July 24, 1933



Pickett Butte Lookout, August 7, 1936



Fish Lake

Highrock Creek

Andestite Drop

Buckeye Lake

Cliff Lake

Grasshopper Spring

Grasshopper Mountain

Highrock Mountain

Grasshopper Meadow

Jackson Creek

DEK-1-90

8-11-46

Dennis Hathorn, August 18, 1855

Subdivisions of T. 30 S. R. 9 W. W. W.

CHAINS		
	North on random bet. secs. 3 and 4.	
	Va. 19°E.	
40.00	Set temp. $\frac{1}{2}$ sec. post.	
78.90	Intersect N boundary, 97 lks. E of cor.	
	S.0°42'E., on true line bet. secs. 3 and 4.	
28.55	Old Indian trail, course E and W.	level
32.30	"Clickatat trail", course E and W.	level
38.90	Set $\frac{1}{2}$ sec. post, from which	-15
	A Fir, 8 ins. diam., bears N.64°E., 11 lks. dist.	
	A Fir, 6 ins. diam., bears N.46°W., 10 lks. dist.	
57.25	Branch, 2 lks. wide, course SE.	-100
78.90	To cor.	-150
	Land undulating.	
	Soil 2nd rate.	
	Timber principally fir, with some cedar, laurel and hem-	
	lock.	
	Undergrowth, laurel, hazel, sallal, etc.	
	Aug. 18th, 1855.	
<p>This township is mostly very hilly and mountainous, generally timbered with fir, cedar, hemlock, laurel and oak.</p>		
<p>Soil 2nd and 3rd rate.</p>		
<p>Several tributaries of the middle fork of Coquille head in this township and the main fork runs through it, but the valleys are very narrow. Only about $\frac{1}{2}$ the Eastern and Northeastern portion were deemed fit for settlement and cultivation.</p>		
<p>There are no settlers in the township.</p>		

INDIAN BURNING



It would be difficult to find a reason why the Indians should care one way or another if the forest burned.

It is quite something else again to contend that the Indians used fire systematically to "improve" the forest.

Improve it for what purpose?

Yet this fantastic idea has been and still is put forth time and again because somebody's grandfather said that is what happened.

--C. Raymond Clar 1959: 7.

California Government and Forestry: From Spanish Days until the Creation of the Department of Natural Resources in 1927.

**Division of Forestry, Department of Natural Resources,
State of California, Sacramento, California: 623 pp.**



Figure 8.01 GLO Surveyor Norman Price and wife, ca. 1940.

Price helped survey much of the study area in the late 1930s (e.g., Price et al. 1929). His observations regarding his survey of Tsp. 34 S., Rng. 8 W. to the southwest of the South Umpqua River are relevant to the findings of this research:

“Most of the township is covered with such a dense growth of buckthorn, manzanita, lilac, madrona, chinquapin, and sweet acorn that no grasses can thrive. A small area on what is known as Peavine Mountain, in sec. 21, sustains a growth of native peavine sufficient to graze a few head of cattle for about six weeks. It is an historical fact that in the days immediately following the occupation of this country by the Indians this country was all covered with a fine growth of native grasses and practically no underbrush. The Indians accomplished this by setting fire to the vegetation on one side of the river one year and the other side the next year. Thus they kept the country open and clean and were never in danger of a forest fire.”







...complete ... cattle

Blazers
sign Roy,
All: 1

no walks in his 31st career complete game.
The Angels won their season-best fifth straight, while the

this season," Colon said through a translator. "I've got a sense of responsibility."
Colon was 21:8 with a 3.48 ERA

ing up in the ninth.
"He was still fresh," Scioscia said.
The Angels scored all their runs



with a 7-2 record on a road trip.
The 33-year-old forward is seventh in the league with 10 goals since he was traded from the Red Wings in June. He has scored in six of his last seven games.



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Aldridge and guard Brandon Roy. Terms of the contracts were not disclosed.

Portland picked up Roy from the Chicago Bulls and drafted Viktor Khryapa from the Washington Wizards. Thomas, the fourth pick, is a guard, 6-foot-11, who averaged 14.3 points and 8.2 rebounds in his sophomore season.

Roy, at 6-foot-6, played four seasons at Washington, averaging 14.3 points, 8.2 rebounds and 1.8 assists per game. Named Pacific Northwest the Year his senior year, he is the Huskies' 10th all-time leading scorer.

"These two represent a strong part of the change in culture we are striving to achieve in Portland and we are looking forward to the future of them being part of the Blazers uniform."

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Vision for the Future





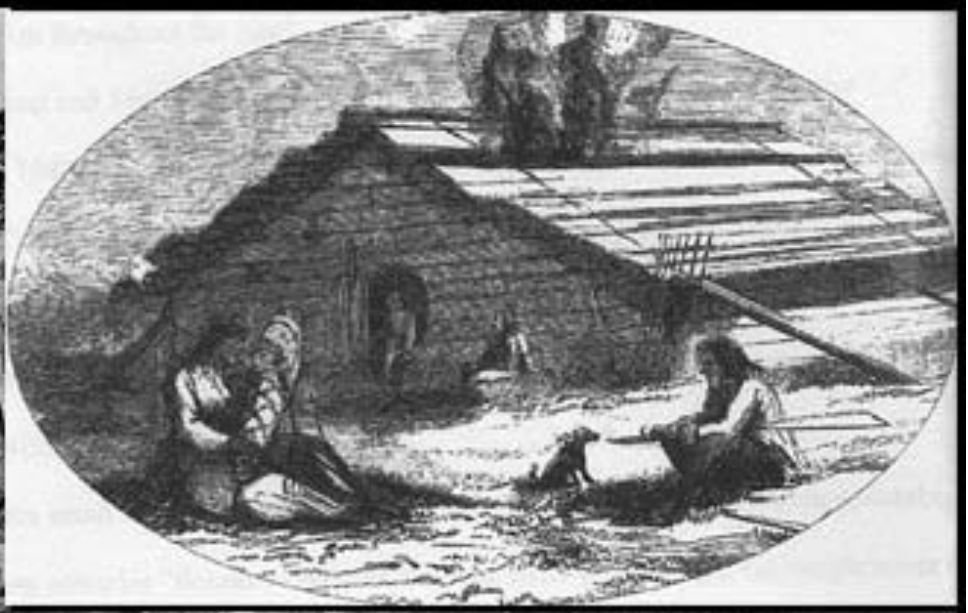
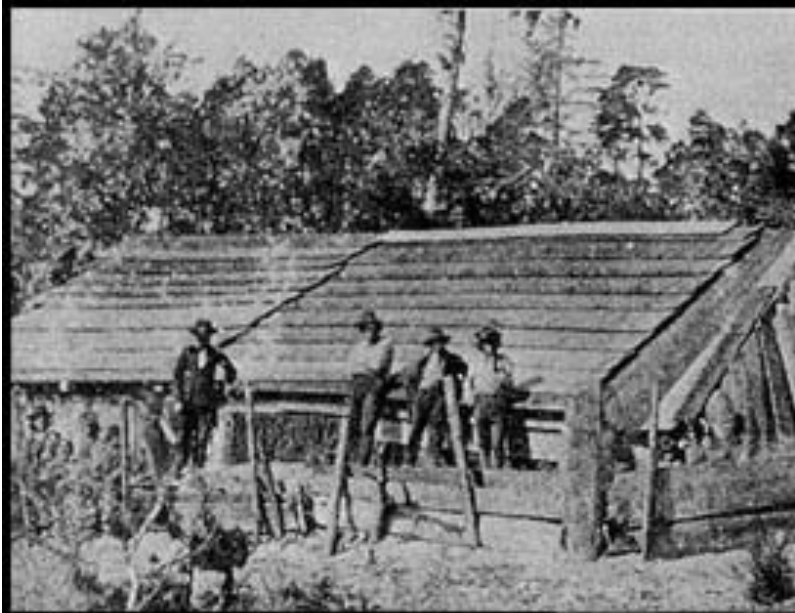


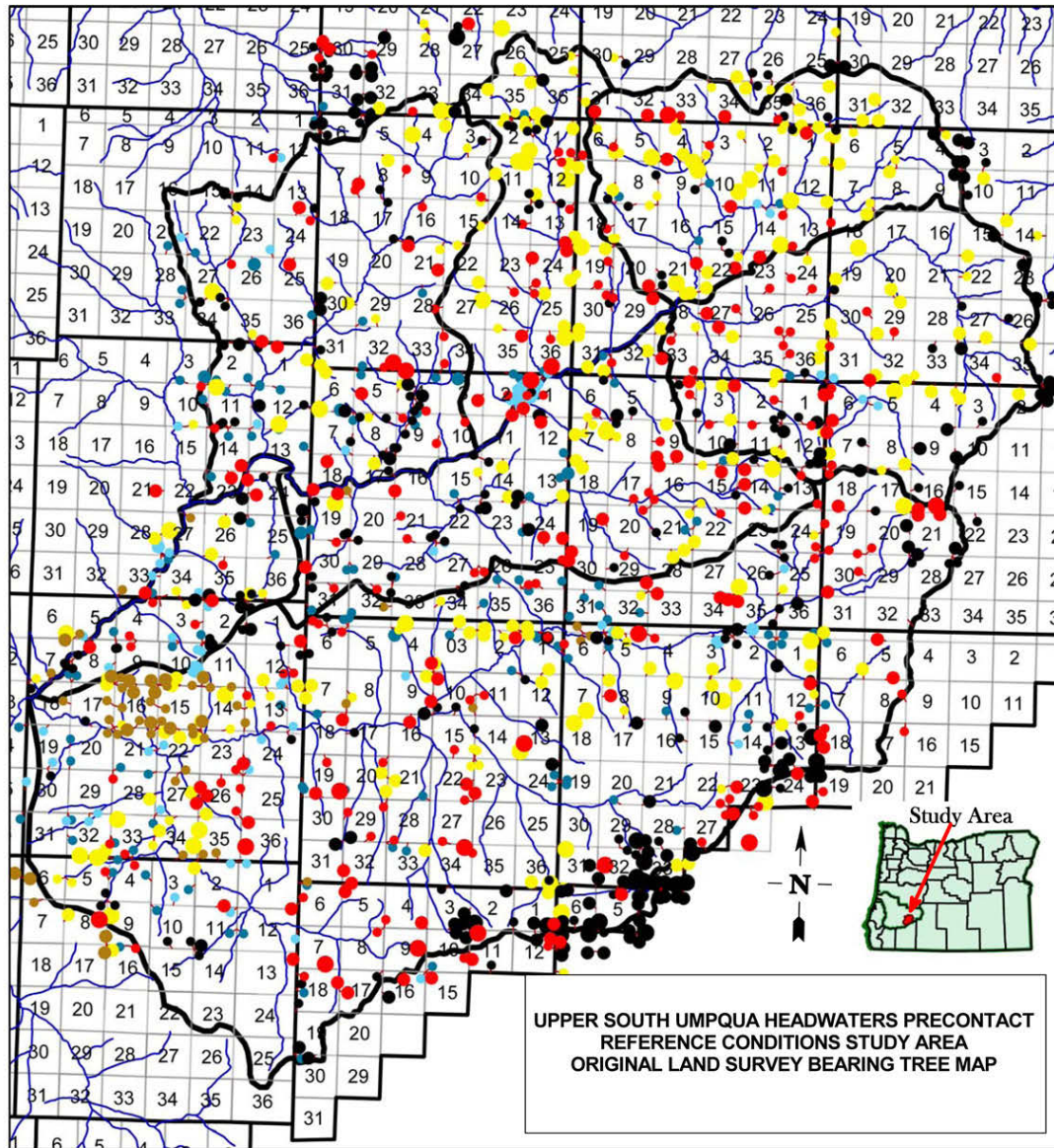




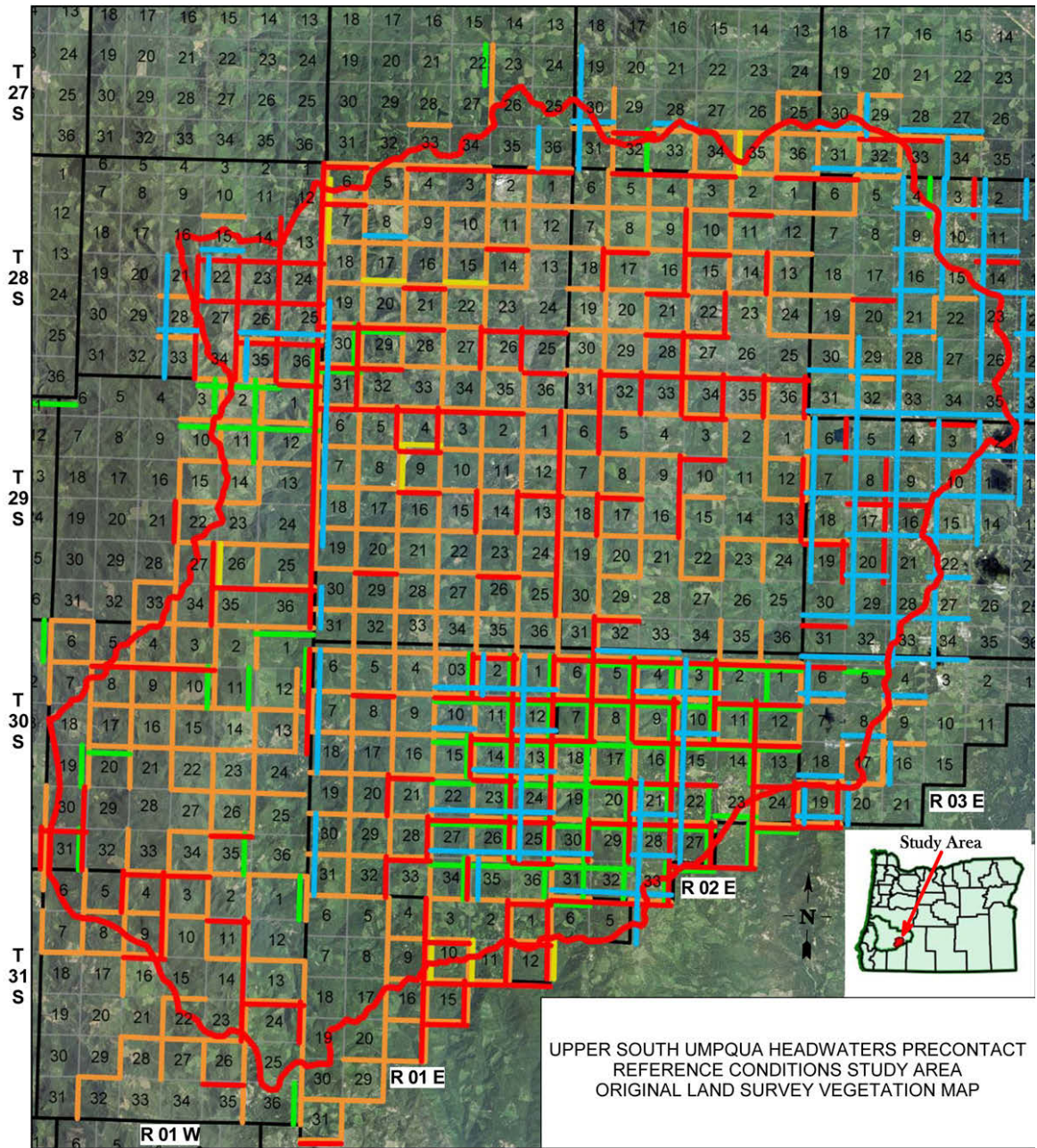
Traditional Foods





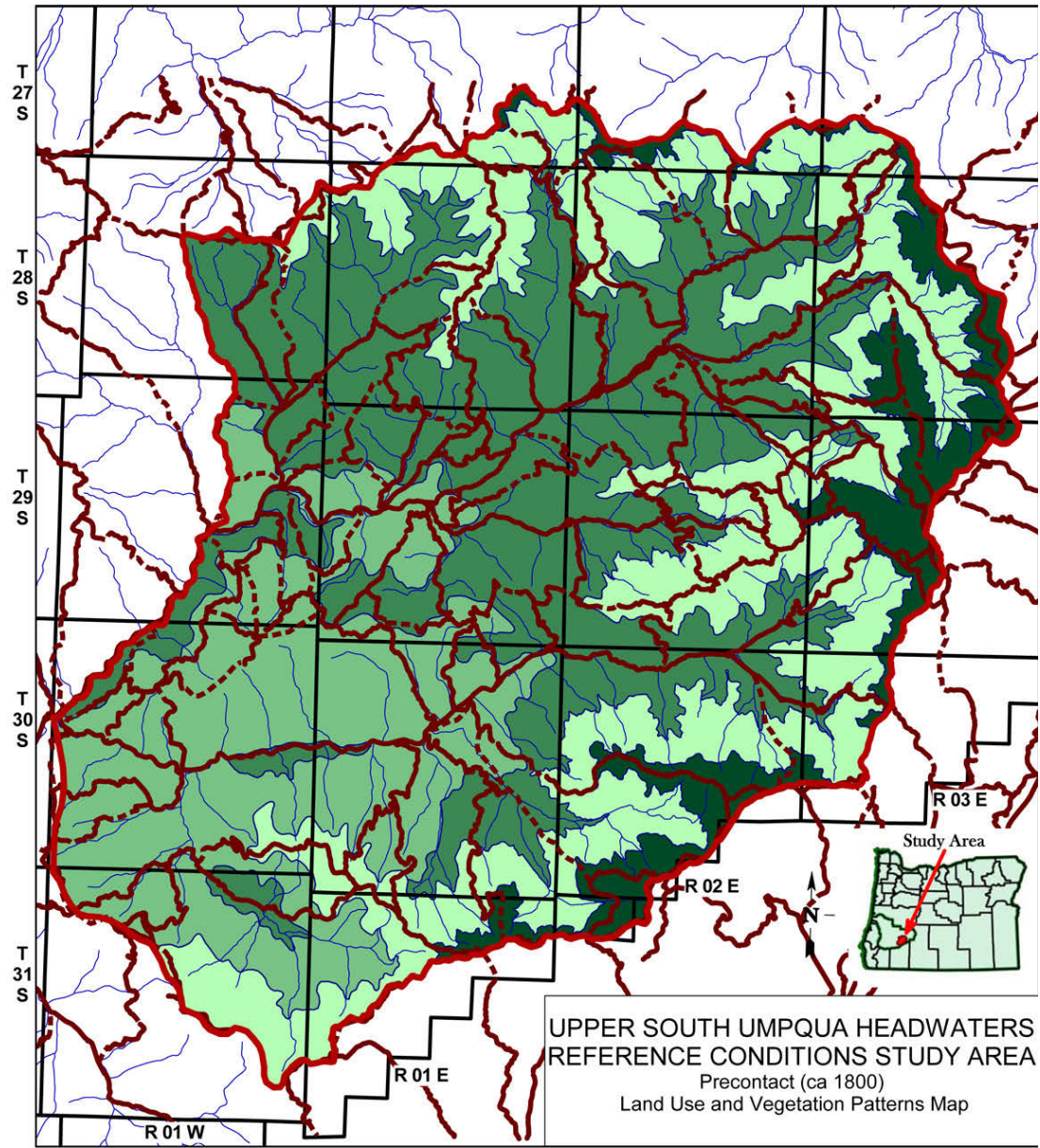


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|--------------------|-------------------|------------------------------|-----------------------------|
| ● Cedar Under 18 | ● Hem-Fir Over 36 | ● Pine 18 to 36 | ● Upland Hardwoods Under 18 |
| ● Cedar 18 to 36 | ● Oak Under 18 | ● Pine Over 36 | ● Upland Hardwoods 18 to 36 |
| ● Cedar Over 36 | ● Oak 18 to 36 | ● Riparian Hardwood Under 18 | ● Upland Hardwoods Over 36 |
| ● Hem-Fir Under 18 | ● Oak Over 36 | ● Riparian Hardwood 18 to 36 | ▭ Subbasins |
| ● Hem-Fir 18 to 36 | ● Pine Under 18 | ● Riparian Hardwood over 36 | |
- 1 = Boulder Subbasin** **3 = Black Rock Subbasin** **5 = Buckeye Subbasin** **7 = Jackson Subbasin**
2 = Quartz Subbasin **4 = Zinc Subbasin** **6 = Castle Rock Subbasin**

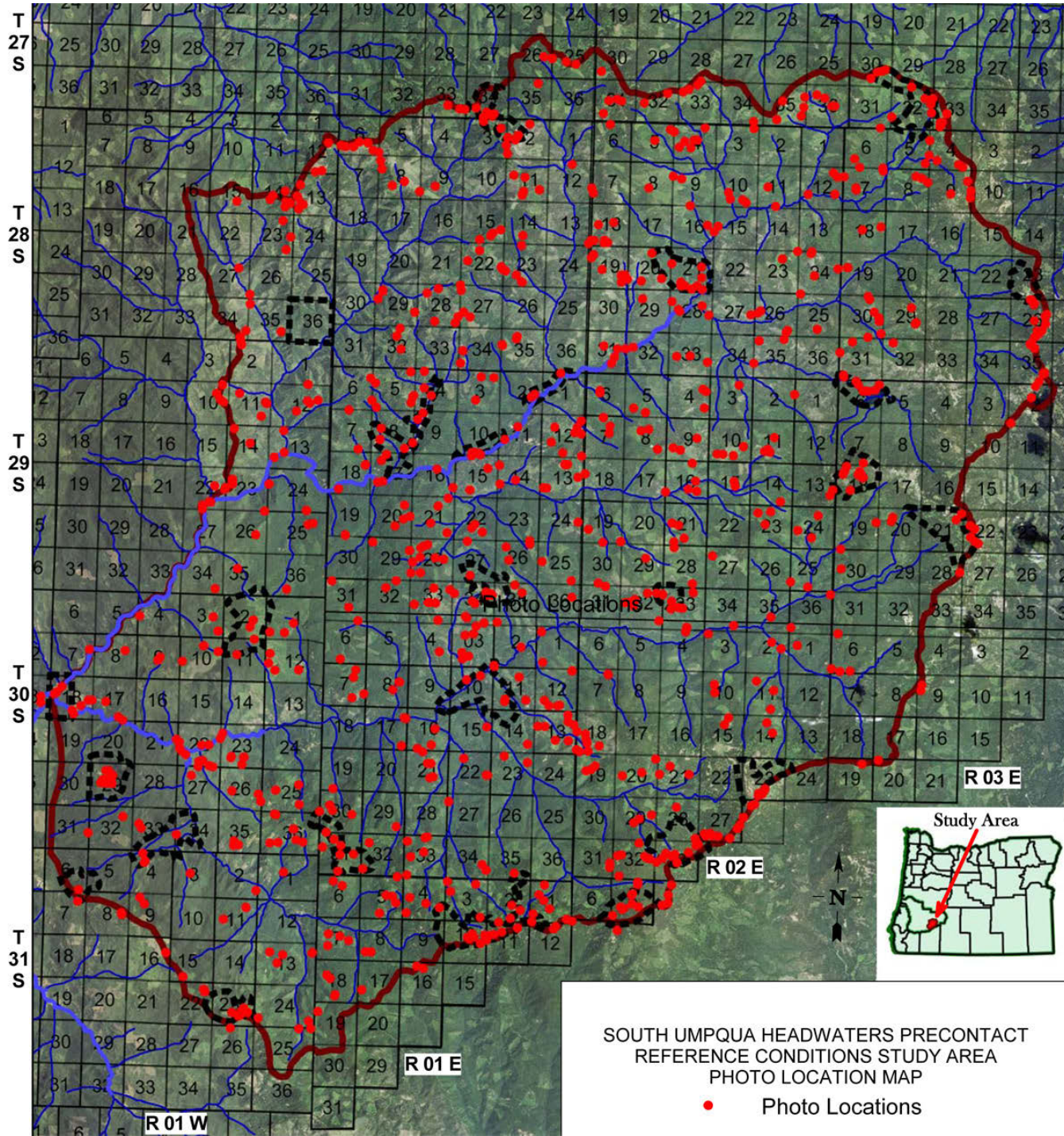


UPPER SOUTH UMPQUA HEADWATERS PRECONTACT
 REFERENCE CONDITIONS STUDY AREA
 ORIGINAL LAND SURVEY VEGETATION MAP

- | | | | | | |
|--|------------------------|--|-----------------------|--|---------------------|
| | Understory Huckleberry | | Understory Salal | | Study Area Boundary |
| | Understory Evergreen | | Understory Hardwoods | | Section Lines |
| | | | Understory Nut-Shrubs | | 2009 Aerial Flight |



FRCC-1



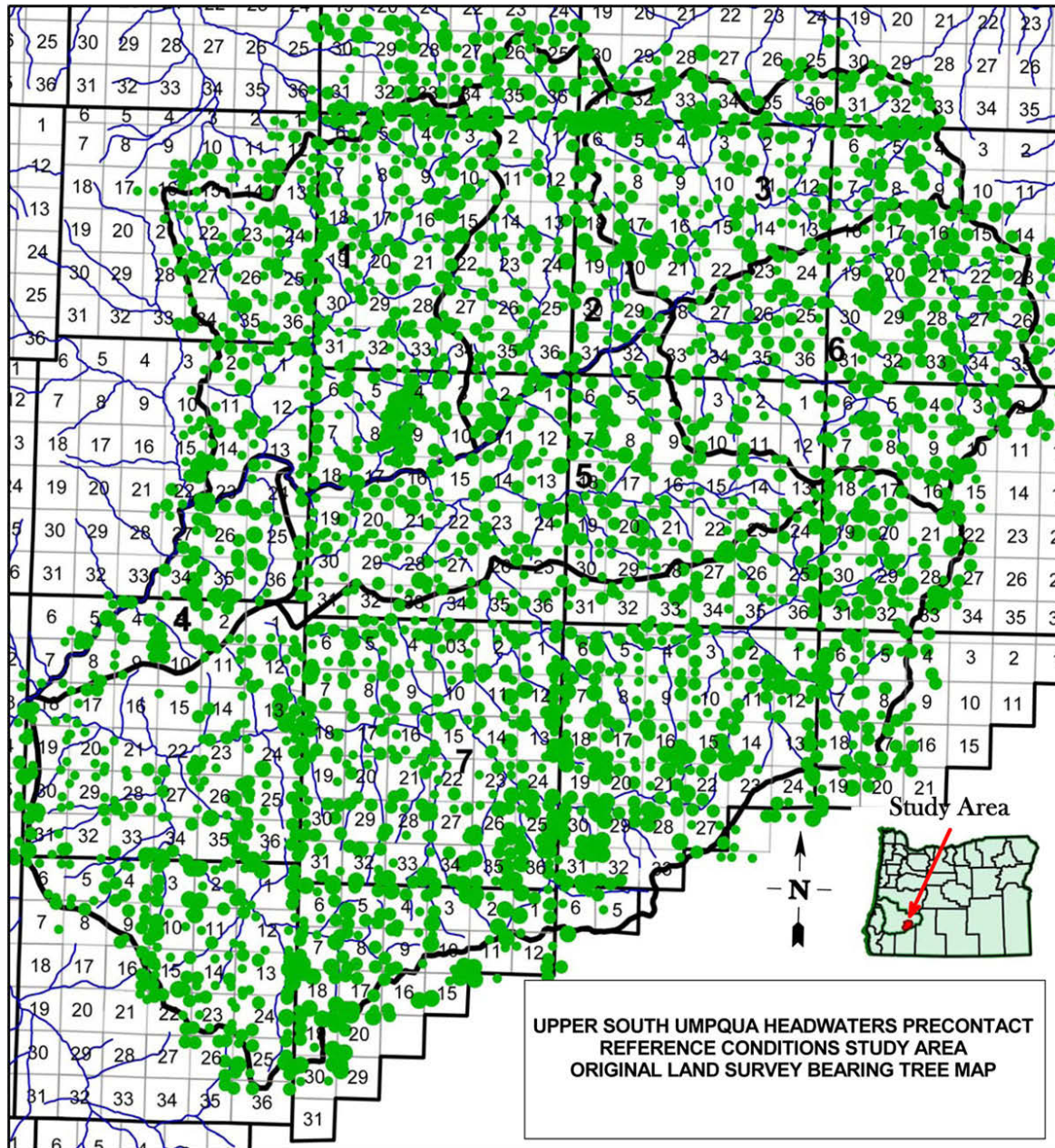






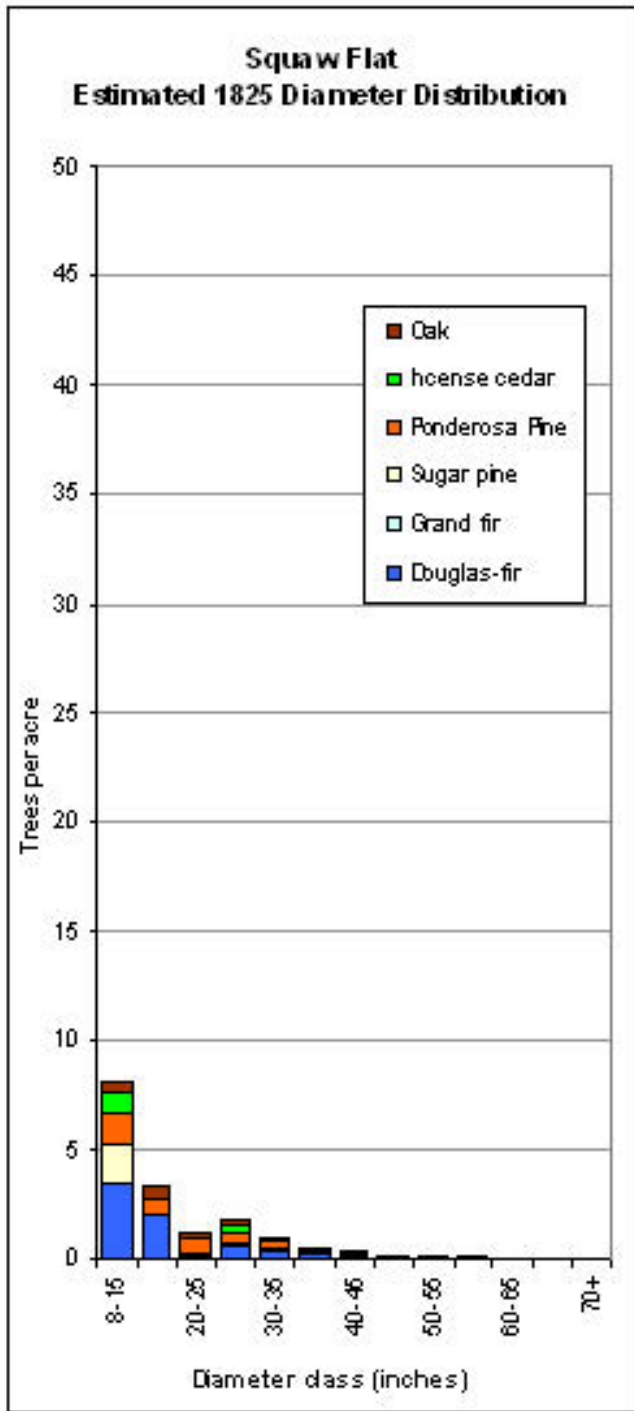




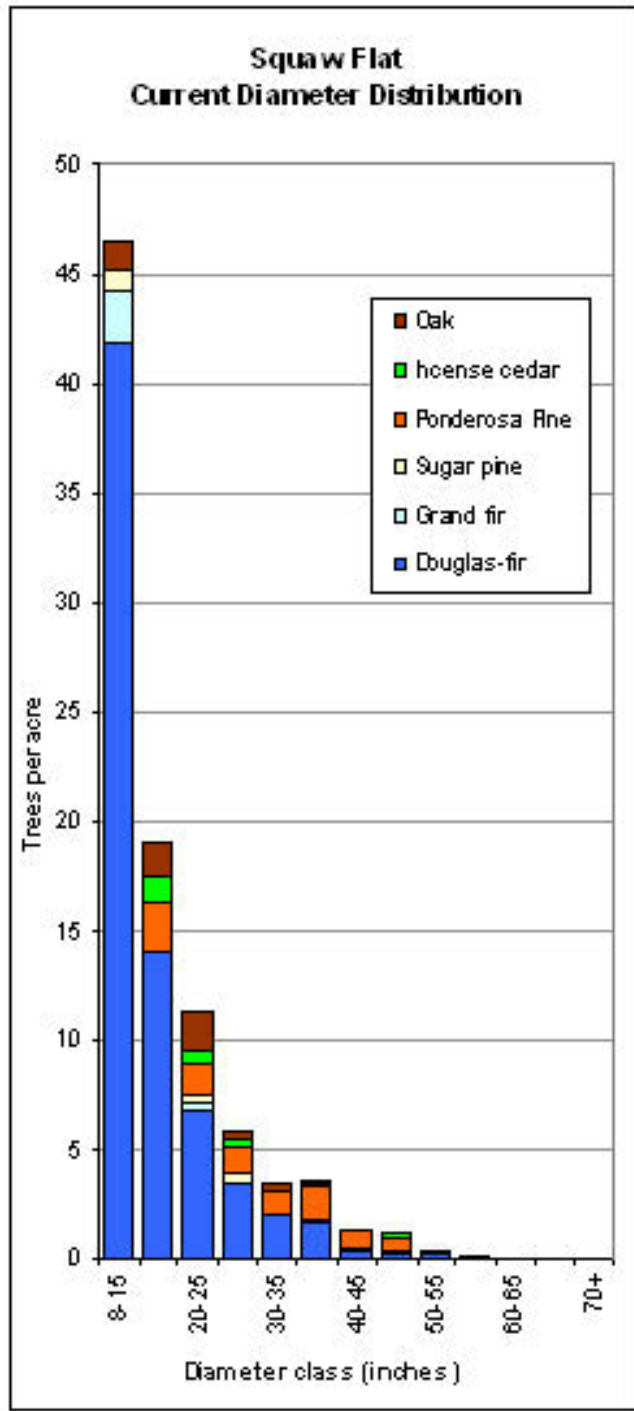


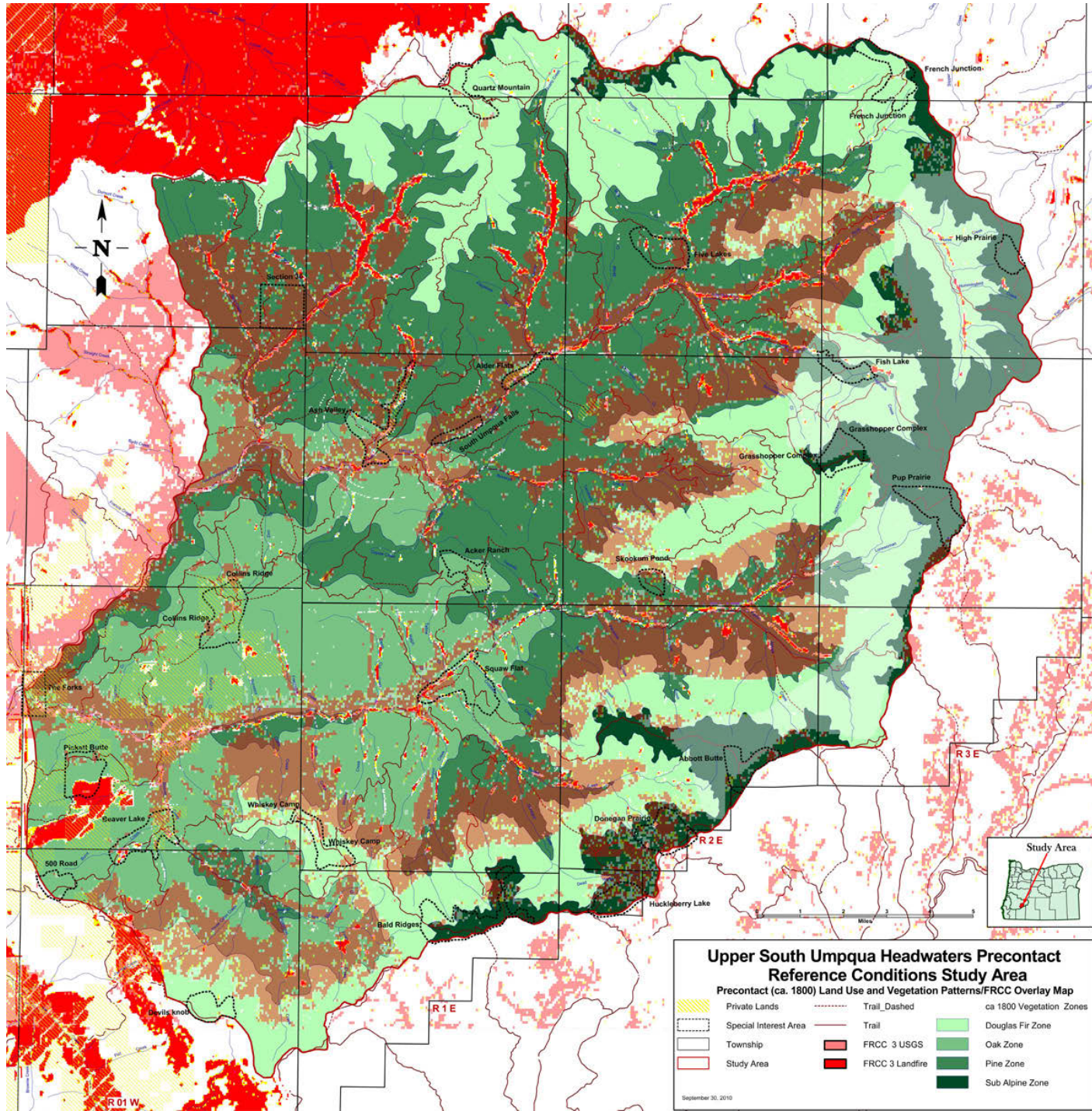
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|---------------------|----------------------|-------------------------|--------------------------|
| ● Doug-Fir Under 18 | ▭ Subbasins | 3 = Black Rock Subbasin | 6 = Castle Rock Subbasin |
| ● Doug-Fir 18 to 36 | 1 = Boulder Subbasin | 4 = Zinc Subbasin | 7 = Jackson Subbasin |
| ● Doug-Fir over 36 | 2 = Quartz Subbasin | 5 = Buckeye Subbasin | |

1825



2010

















Tsp. 31 S., Rng. 1 W., Sec. 7 (500 Rd.), January 10, 2010





09/22/2009







Gordon Meadows

Conclusions

- 1. Catastrophic-scale wildfires are deadly, costly, and destructive.**
- 2. Regular landscape-scale prescribed fires -- as exemplified by historical Indian burning practices -- can significantly reduce the likelihood and severity of modern wildfire risks.**
- 3. Fuel levels must first be greatly reduced before prescribed fires can be safely and effectively reintroduced into the environment.**
- 4. Removing dead trees and shrubs and invasive conifers from forests and grasslands allows the safe and effective reintroduction of prescribed fire.**
- 5. *“Landscape restoration” means restoring people to the landscape, including (maybe especially) children.***

Future Generations



Oregon Websites and Watersheds Project, Inc.



www.ORWW.org

Internet Communications