

Acknowledgements

This report would not have been written, or this project even initiated, without the leadership, support, and direction provided by Joseph Laurance, Douglas County, Oregon Commissioner, and by Javier Golgorzoiiri, consulting forester, Resource Management Services, Roseburg, Oregon.

Authorization for my own participation in this project came directly from the Oregon Websites and Watersheds Project, Inc., (ORWW) Board of Directors, for whom I have been Program Manager since 1996. ORWW is a 501 c(3) educational nonprofit based in Philomath, Oregon. Particular assistance and direction was provided by Wayne Giesy, ORWW Board Member, and by long-time ORWW forest science research associate, Nana Lapham. Lapham participated in all field research and documentation for this project, including website development, and assisted with oral history interviews and transcription.

The majority of website and written report maps for this project were produced by the "GIS Team" at the Douglas County Surveyor's Office in Roseburg. The GIS Team did a wonderful job of catching errors and repairing field miscues during the course of this project and deserve full credit for the high quality maps and tables they have assembled from Surveyor's Office files, and project archival and field research data. Special thanks are due to Terrie Franssen, Jean Crawford, and Kathy Thompson for the great product quality and attention to detail represented by their work. Remaining errors and omissions are my own.

The Umpqua National Forest Supervisors Office, under the direction of Clifford Dils, contributed important time and resources to this study. Joyce E. Thompson, Planning and Products Staff Office, was very helpful at the beginning of the project, identifying key staff people who could provide technical assistance. Gregory Orton, Soil Scientist, devoted significant time and expertise in locating historical aerial photos for the study area, and having them duplicated for Internet display and analytical purposes. Debra Barner, Heritage and Tribal Relations Program Manager, and Molly Casperson, Archaeologist, were very helpful in locating and digitizing historical photographs of the study area. Wes Yamamoto, Forester and Engineer from the Tiller Ranger District, provided significant insights and historical details regarding livestock management of the area's shrublands and grasslands. Larry Broecker, retired Forest Geologist, provided excellent geological information for the South Umpqua headwaters basin.

The Cow Creek Band of the Umpqua Tribe of Indians also participated in this project, exchanging information and offering encouragement during the course of several meetings and consultations. Sue Shaffer was instrumental in providing Tribal direction at the beginning of the study; Steven Rondeau, Tribal Forester, offered encouragement and advice throughout the course of research; and Wayne Shammel, Tribal Legal Counsel, reviewed findings and documents and expressed strong Tribal interest in continuing participation in this study and during the course of any future activities that might result.

Particular credit is due Michael Dubrasich for the outstanding field work and analysis he performed for this project (Appendix B), invaluable assistance in defining the ca. 1800 vegetation patterns that are a key product of this study (see Chapters VI-VII), and for technical advice and editorial help on this report.

Additional thanks is given to Dr. Charles Kay, Wildlife Biologist, for editorial help, encouragement, and advice; Chuck Jackson, local historian and Cow Creek Tribal member for consultations and interview; Kathi Flynn, local historian, genealogist, and linguist, for historical consultations and transcription work; Terri Trosper, NW Maps Co., for website construction and panoramic photo processing; Alan Maul, retired forester, Oregon Department of Forestry Forest History Center for research assistance; the University of Oregon Libraries Archives and MAPRS departments for historical documents and aerial photographs; Tom Fields, Douglas Forest Protective Association for historical data; and Gardner Chappell, Director, and Karen Bratton, Research Librarian, Douglas County Historical Museum, for their leadership and assistance with oral history transcriptions.

Acronyms and Abbvs.

BLM	USDI Bureau of Land Management
Ch.	Surveyors chain (66-feet)
Cr.	Creek
E.	East; or East of the Willamette Meridian
FRCC	Fire Regime Condition Class
GLO	General Land Office
HBC	Hudsons Bay Company
L.O.	Fire Lookout
Mt.	Mountain
NF	National Forest
ODF	Oregon Department of Forestry
ORWW	Oregon Websites and Watersheds Project, Inc.
OSU	Oregon State University
P.L.S.	Public Land Survey
R.	Range
R.D.	Ranger District
RMS	Resource Management Services, LCC
Rng.	Range
S.	Section; South; or South of the Willamette Meridian
Sec.	Section
SWORC&D	Southwest Oregon Research and Conservation District
Tsp.	Township
T.	Township
UO	University of Oregon
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USFS	United States Forest Service
USGS	United States Geological Service
W.	West, or West of the Willamette Meridian
W.M.	Willamette Meridian
W.W.M.	West of the Willamette Meridian

Tiller Pre-Contact Reference Condition Study

Table of Contents

Executive Summary	<i>iii</i>
Acknowledgements	<i>xii</i>
Acronyms and Abbvs.	<i>xiii</i>
I. Introduction: Purpose, Background, and Setting	1
1. Project Purpose	
2. Project Background	
3. Location of the Study Area	
4. Research Time Period	
5. Climate	
6. Geology	
II. Research Methodology	8
1. Literature Review	
2. Living Memory	
3. Archival Research	
4. Field Research	
5. GIS Synthesis	
III. Human Use and Occupation	38
1. Ca. 1800 Trail Network	
2. Ca. 1800 Indian Populations	
3. Umpqua Takelma (Cow Creek, Nahankuotana)	
4. Umpqua Athapaskan (Upper Umpqua, Etnemitane)	
5. Umpqua Molalla (Southern Molalla)	
6. Latgawa (Rogue Takelma)	
7. Yoncalla Kalapuya (Calapooia; Calapooya)	
8. Eukshikni (Klamath)	
9. Metis (French Canadians)	
IV. Fire History, ca.1490 to 2010	52
1. Indian Burning History, ca. 1490 to 1856	
2. General Fire History, 1857 to 2010	
3. Catastrophic Wildfire History, ca. 1490 to 2010	
V. Native Wildlife: Plants and Animals	79
1. Native Plants and Fire	
2. Types of Plants Used by People	
3. Key Plant Species	
4. Native Animals and Fire	
5. Key Animal Species	

VI. Precontact Vegetation Types and Zones (ca. 1800)	104
1. Precontact Zones: Forest Types and Subtypes	
2. Oak Zone: Oak and Pine Savannas and Upland Grasslands	
3. Pine Zone: Pine Woodlands and Mixed Conifer Forestlands	
4. Douglas-fir Zone: Douglas-fir and Mixed Conifer Forestlands	
5. Subalpine Zone: True Fir and Hemlock Forestlands, Grasslands, and Shrublands	
VII. Subbasins: ca. 1800 Land Use Patterns	116
1. Black Rock Fork	
2. Boulder Creek	
3. Buckeye Creek	
4. Castle Rock Fork	
5. Jackson Creek	
6. Quartz Creek	
7. Zinc Creek	
VIII. Discussion, Conclusions & Questions	141
1. Discussion	
2. Conclusions	
3. Questions	
IX. References	149
Appendix A. Congressional Testimony of Joseph Laurance on July 15, 2010.	
Appendix B. Historical South Umpqua Stand Reconstructions by Mike Dubrasich, November 22, 2010.	
Appendix C. Forest Service Bulletin by F. L. Moravets, May 16, 1932.	

Figures

- Figure 2.01 Life-long Drew, Oregon residents Susan Nonta and great-grandson Chuck Jackson.
 Figure 2.02 Sample GLO bearing tree diagram from a section corner (Powell 2008: 2).
 Figure 2.03 Annotated GLO field notes, Tsp. 30 S., Rng. 2 E., August 6, 1937.
 Figure 2.04 Annotated aerial photograph of Abbott Butte area, November 16, 1939.
 Figure 2.05 Annotated Osborne photograph of SW view from Abbott Butte L.O., July 24, 1933.
 Figure 2.06 Change in Squaw Flat tree species' numbers, diameters, and ages, 1825-2010.
- Figure 3.01 Relict oak orchard with encroaching conifers near Coyote Point, May 25, 2010.
 Figure 3.02 Historical USFS trail marker near Fish Lake, July 30, 2010.
 Figure 3.03 1850 Lyman sketch: Umpqua Indian women digging camas (Beckham and Minor 1996: 107).
 Figure 3.04 Woodcut of 1841 sketch of Umpqua Indian girl by Alfred T. Agate (Wilkes 1845: 226).
- Figure 4.01 "Salting grounds, summit divide," ca. 1935, Rogue-Umpqua Divide (USFS collection).
 Figure 4.02 1946 aerial photo with 1910 GLO survey notations, Tsp. 28 S., Rng 1 W.
 Figure 4.03 1929 GLO Black Rock survey notes, Sec. 4 and Sec. 9 division, Tsp. 28 S., Rng. 3 E.
 Figure 4.04 Looking NE of Black Rock, across Sec. 4 and Sec. 9 divide of Tsp. 28 S., Rng. 3 E.
- Figure 5.01 Large canid signs along the South Umpqua – Rogue River watershed.
 Figure 5.02 January 17, 2010 Barnard article about Cascades wolf sightings (Barnard 2010)
- Figure 6.01 Late precontact pine woodland with invasive Douglas-fir and madrone, Squaw Flat, 2010.
 Figure 6.02 Old-growth relict pine and oak with invasive Douglas-fir, Pickett Butte, 2010.
 Figure 6.03 Old-growth relict pine and Douglas-fir on Black Rock Fork, 2010.
 Figure 6.04 Invasion of elderberry orchard by Douglas-fir, true fir, and pine, near Wolf Prairie, 2010.
 Figure 6.05 Old-growth cedar and cabin on perimeter of French Junction prairie, 2010.
- Figure 7.01 View NW to NE of Black Rock Fork subbasin from Little Black Rock L.O., 1936.
 Figure 7.02 View South to NW of Black Rock Fork subbasin from Black Rock L.O., 1933.
 Figure 7.03 View South to NW of Boulder Creek subbasin from Big Squaw Mountain L.O., 1933.
 Figure 7.04 View South to NW of Boulder Creek subbasin from Quartz Mountain L.O., 1933.
 Figure 7.05 View NE to South of Buckeye Creek subbasin from Acker Rock L.O., 1933.
 Figure 7.06 View South to NW of Buckeye Creek subbasin from Grasshopper Mountain L.O., 1933.
 Figure 7.07 View South to NW of Castle Rock Fork subbasin from Rattlesnake Mountain L.O., 1933.
 Figure 7.08 View NW to NE of Castle Rock Fork subbasin from Grasshopper Mountain L.O., 1933.
 Figure 7.09 View South to NW of Jackson Creek subbasin from Collins Ridge L.O., 1933.
 Figure 7.10 View NW to NE of Jackson Creek subbasin from Pickett Butte L.O., 1936.
 Figure 7.11 View NE to South of Quartz Creek subbasin from Quartz Mountain L.O., 1933.
 Figure 7.12 View NW to NE of Quartz Creek subbasin from Acker Rock L.O., 1933.
 Figure 7.13 View NE to South of Zinc Creek subbasin from Clayton Point L.O., 1938.
- Figure 8.01 GLO Surveyor Norman Price and wife, ca. 1940.
 Figure 8.02 Example of FRCC 3: Aftermath of Boze Fire, July 12, 2010.
 Figure 8.03 Example of FRCC 3: Fish Lake Creek large woody debris, July 30, 2010.
 Figure 8.04 Example of FRCC 3: Black Rock Lookout, July 13, 2010.

Maps

- Map 1.01 Location of the study area boundaries in relation to Douglas County, Oregon.
 Map 1.02 Legal boundaries of project study area, named creeks, and Areas of Special Interest.
 Map 1.03 Geology of South Umpqua headwaters (Kays 1970: 9).
- Map 2.01 Annotated 1938 GLO survey plat, Tsp. 30 S., Rng. 2 E.
 Map 2.02 1933-1938 Osborne panoramic photo index, with 1936 USDA vegetation patterns.
 Map 2.03 Fragment of 2010 USGS Predictive Field Map, developed from historical sources.
 Map 2.04 GIS-generated map of GLO Bearing Trees and understory vegetation, Tsp. 30 S., Rng. 2 E.
 Map 2.05 GIS-generated map of 2010 documentary photograph locations, Tsp. 30 S., Rng. 2 E.
 Map 2.06 GIS-generated map of ca. 1800 vegetation patterns and Indian trails, Tsp. 30 S., Rng. 2 E.
- Map 3.01 Roads, trails and destination points in the South Umpqua River headwaters, 1936.
 Map 3.02 Principal ca. 1800 Indian trails through South Umpqua River headwaters.
- Map 4.01 Transcribed 1910 GLO locations of “Burns” and “Old Burns,” Tsp. 29 S., Rng. 1 W.
 Map 4.02 2002 Tiller Complex Fire boundaries and severity (Morrison et al 2003: 14).
 Map 4.03 Annotated Black Rock portion of 1929 GLO map, Tsp. 28 S., Rng. 1 E.
 Map 4.04 Annotated USGS Black Rock field map, with Sec. 4 and Sec. 9 divide, Tsp. 28 S., Rng. 3 E.
 Map 4.05 Boze Fire and Rainbow Creek Fire daily burning progression, September 15-28, 2009.
- Map 6.01 Douglas-fir bearing trees, as located and measured from 1856 to 1937.
 Map 6.02 GLO Non-Douglas-fir bearing trees, as located and measured from 1856 to 1937.
 Map 6.03 GLO Understory vegetation types, as located and measured from 1856 to 1937.
 Map 6.04 Ca. 1800 land use patterns: vegetation zones and primary foot-trails network.
- Map 7.01 Index of South Umpqua study area subbasins and Areas of Special Interest.
 Map 7.02 GLO bearing trees and understory vegetation of the Black Rock Fork subbasin.
 Map 7.03 Ca. 1800 forest type and land use patterns of the Black Rock Fork subbasin
 Map 7.04 GLO bearing trees and understory vegetation of the Boulder Creek subbasin.
 Map 7.05 Ca. 1800 forest type and land use patterns of the Boulder Creek subbasin.
 Map 7.06 GLO bearing trees and understory vegetation of the Buckeye Creek subbasin.
 Map 7.07 Ca. 1800 forest type and land use patterns of the Buckeye Creek subbasin.
 Map 7.08 GLO bearing trees and understory vegetation of the Castle Rock Fork subbasin.
 Map 7.09 Ca. 1800 forest type and land use patterns of the Castle Rock Fork subbasin.
 Map 7.10 GLO bearing trees and understory vegetation of the Jackson Creek subbasin.
 Map 7.11 Ca. 1800 forest type and land use patterns of the Jackson Creek subbasin.
 Map 7.12 GLO bearing trees and understory vegetation of the Quartz Creek subbasin.
 Map 7.13 Ca. 1800 forest type and land use patterns of the Quartz Creek subbasin.
 Map 7.14 GLO bearing trees and understory vegetation of Zinc Creek subbasin.
 Map 7.15 Ca. 1800 forest type and land use patterns of the Zinc Creek subbasin.
- Map 8.01 GIS-generated ca. 1800 vegetation pattern and 2010 USGS and Landfire FRCC 3 patterns.

Tables

Table 1.01 Typical geological formations of the South Umpqua headwaters study area.

Table 2.01 Historical map details, study area 1900-1936.

Table 2.02 1936 USDA Vegetation Type Map Legend.

Table 2.03 List of 25 Areas of Special Interest, with legal descriptions and acreage figures.

Table 2.04 Selection of 2010 field photographs showing eight research Areas of Special Interest.

Table 2.05 Historical and documentary photographs of Abbott Butte prairie lands, 1899-2010.

Table 4.01 Western Oregon Indian burning practices, pre-1857.

Table 4.02 South Umpqua basin precontact seasonal burning patterns.

Table 4.03 2002 Tiller Complex “burn intensity by stand type” (Carlson 2005: 54).

Table 4.04 Boze and Rainbow Creek fires, September 22, 2009 (www.inciweb.org/incident/1893/).

Table 4.05 South Umpqua headwaters wildfire aftermath patterns, 2010.

Table 5.01 Important native food and fiber plants of the South Umpqua River headwaters, ca. 1800.

Table 5.02 Selection of persistent native plants documented in the study area in 2010.

Table 5.03 Important native food animals of South Umpqua headwaters.

Table 5.04 Native animals and animal signs of the South Umpqua headwaters, 2010.

Table 7.01 Legend to GLO bearing trees and understory vegetation types for maps in this chapter.

Table 7.02 Legend for ca. 1800 forest and land use patterns for maps in this chapter.