

10,000 Years of Occupation & Use:

Forest History of the
Pacific Northwest

At the Time of Lewis & Clark

Presented June 20, 2005 at Skamania Lodge, Stevenson, WA
Association of Consulting Foresters of America



BOB ZYBACH

NW MAPS CO., ALBANY, OREGON



Wind Mt., 1910



H. of the neck $7\frac{1}{2}$ inches; Do. of body exclusive of the tail 3 inches; Do. of leg

The eye
is a part of
the pupil

black and occupies
the diameter of the
is a part of the
eye is uncovered



3 inches. Diameter

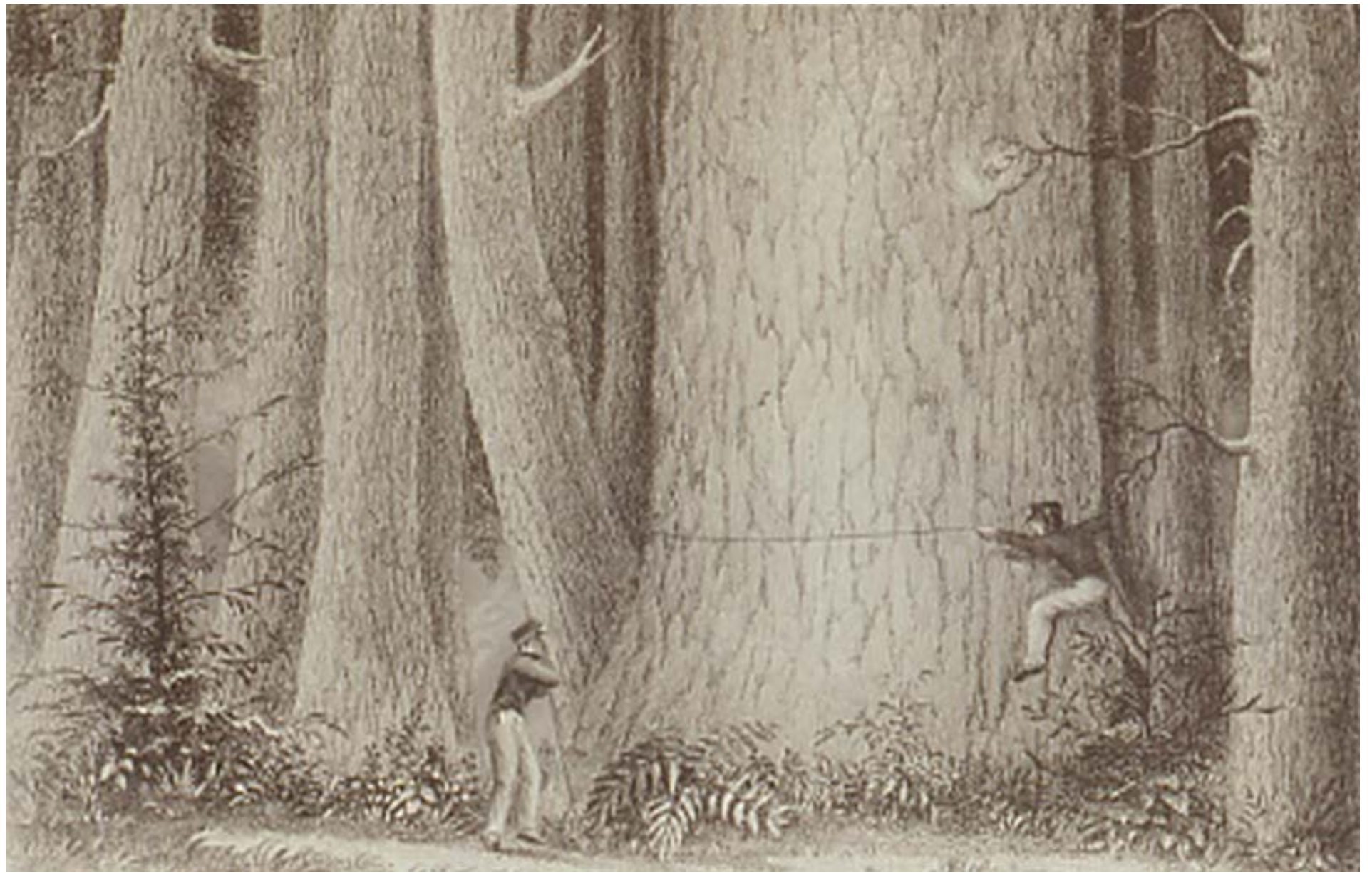
$4\frac{1}{4}$ / 10th of an in

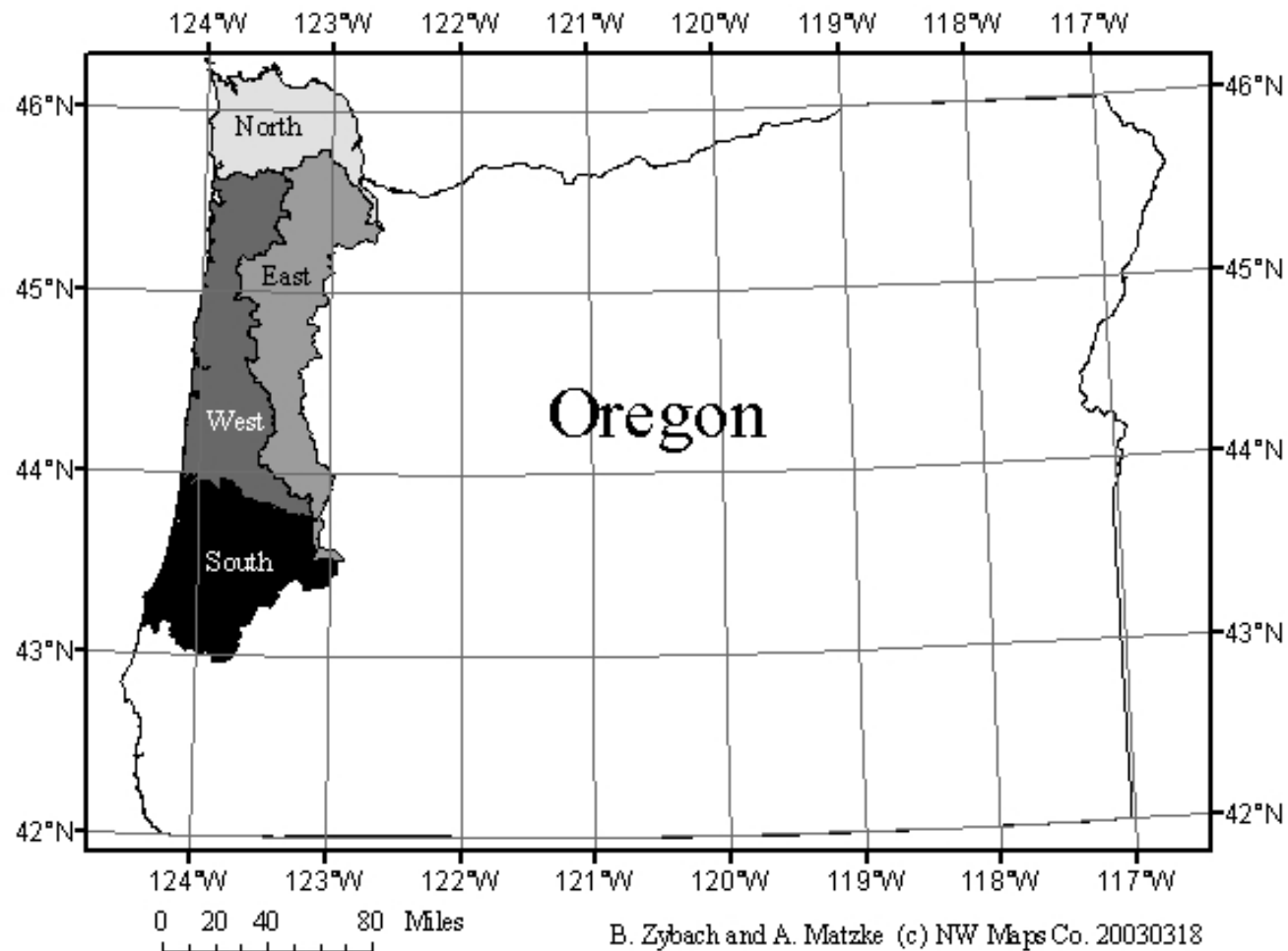
a pale scarlet
of deep magenta
about one the
eye. The head
neck is low and
with feathers.

pl That portion of it represented by dots (see list)
tail is composed of 12 feathers of equal length
inches. The legs are $4\frac{3}{4}$ inches in length and of a dark

Mt. St. Helens, 1847







Oregon Coast Range in relation to State of Oregon, USA

They were armed with bows and arrows they had allso spears but would part with none of them they had both Iron and stone knives which they allways kept in there hands uplifted in readiness to strike we admitted one of them onboard but he would not come without this weepen two or three of our visitors were much pitted with the small pox

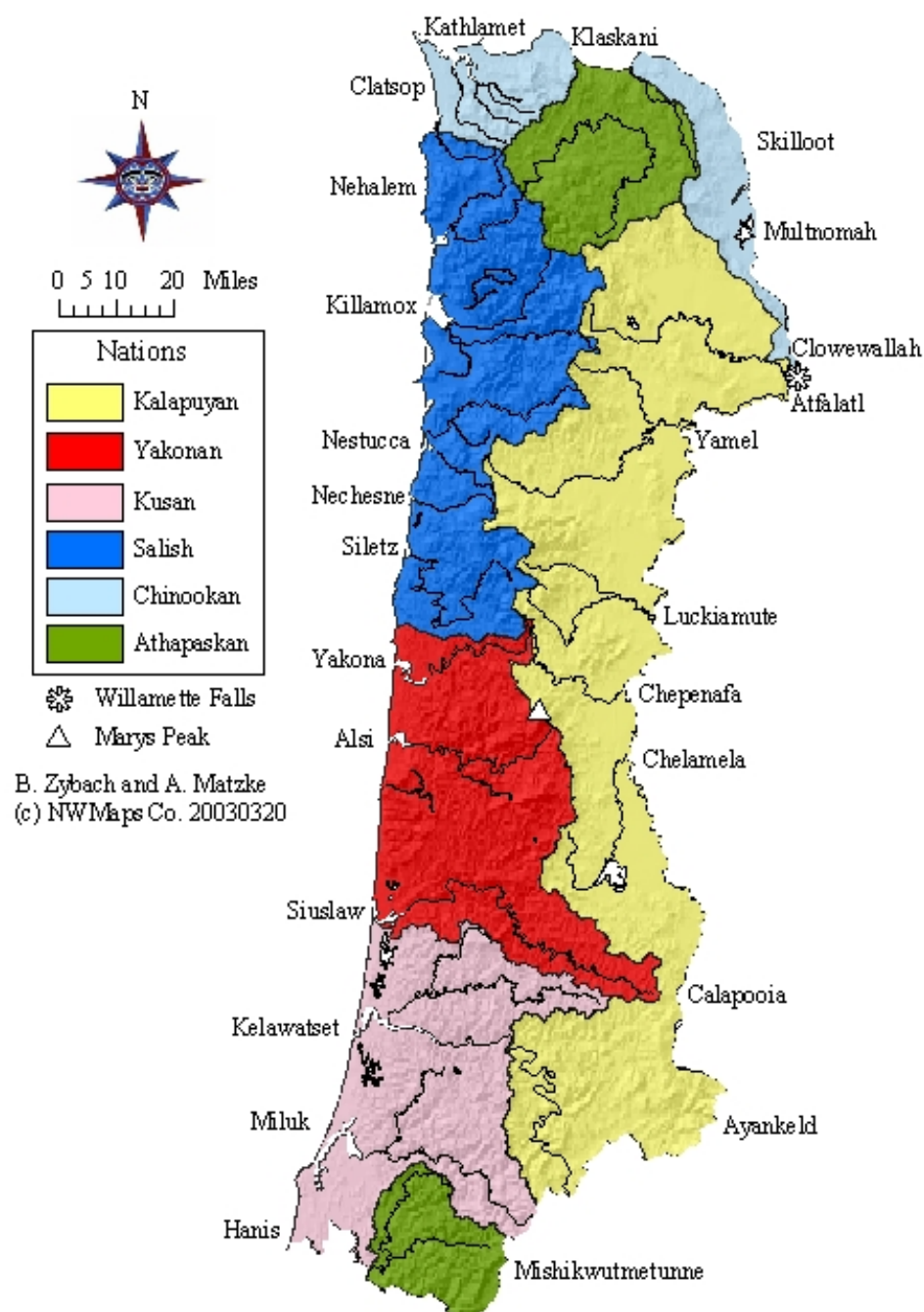
--Robert Haswell, Oregon Coast, 1788

back of this house I observe the wreck of 5 house remaining of a very large village, the houses of which had been built in the form of those we first saw at the long narrows of the E-lute Nation with whome those people are connected. I endeavored to obtain from those people of the situation of their nation, if scattered or what had become of the nativs who must have peopled this great town. an old man who appeared of some note among them and father to my guide brought forward a woman who was badly marked with the Small Pox and made signs that they all died with the disorder which marked her face, and which she was verry near dieing with when a girl. from the age of this woman this Disruptive disorder I judge must have been about 28 or 30 years past, and about the time the Clatsops inform us that this disorder raged in their towns and distroyed their nation

--Meriwether Lewis, Columbia River, 1806

The Kalawatsets and Coos indians . . . subsist chiefly on fish, berries, roots, and seeds, but are fond of whales and seals . . . the Indians of these Tribes have at one time been very numerous, the number of [people] and varieties of habitations showing that every stream and nook was once populated.

--Dr. John Milhau, Coos Bay, 1856

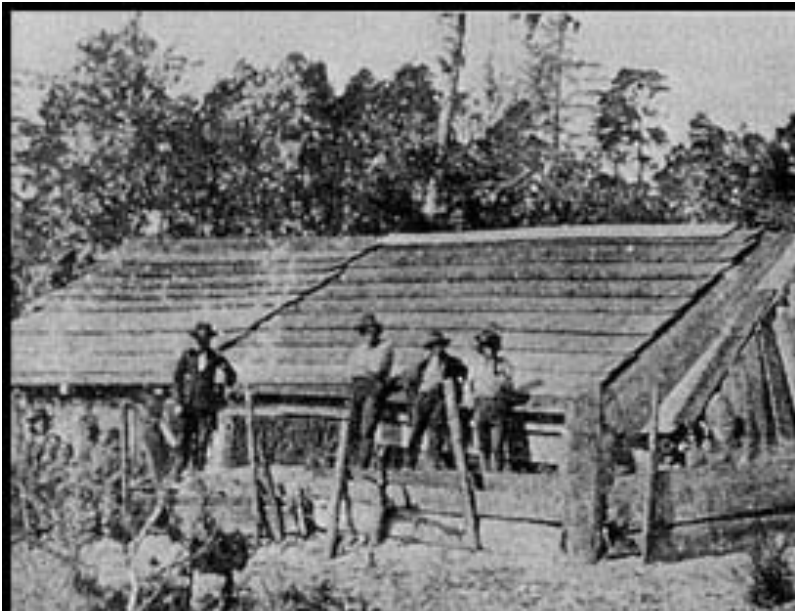


Tribe	Language	River
<u>Northern</u>		
Clowewallah	Chinookan	Willamette
Multnomah	Chinookan	Willamette
Kathlamet	Chinookan	Columbia
Clatsop	Chinookan	Youngs
Klaskan	Athapaskan	Clatskanie
Nehalem	Salish	Nehalem
<u>Eastern</u>		
Atfalatl	Kalapuyan	Tualatin
Yamel	Kalapuyan	Yamhill
Luckiamute	Kalapuyan	Luckiamute
Chepenafa	Kalapuyan	Marys
Chelamela	Kalapuyan	Long Tom
Calapooia	Kalapuyan	Willamette
<u>Western</u>		
Killamox	Salish	Tillamook
Nestucca	Salish	Nestucca
Nechesne	Salish	Salmon
Siletz	Salish	Siletz
Yakona	Yakonan	Yaquina
Als	Yakonan	Alsea
Siuslaw	Yakonan	Siuslaw
<u>Southern</u>		
Ayankeld	Kalapuyan	Umpqua
Kelawatset	Kusan	Umpqua
Hanis	Kusan	Coos
Miluk	Kusan	Coquille
Mishikwutmetunne	Athapaskan	Coquille

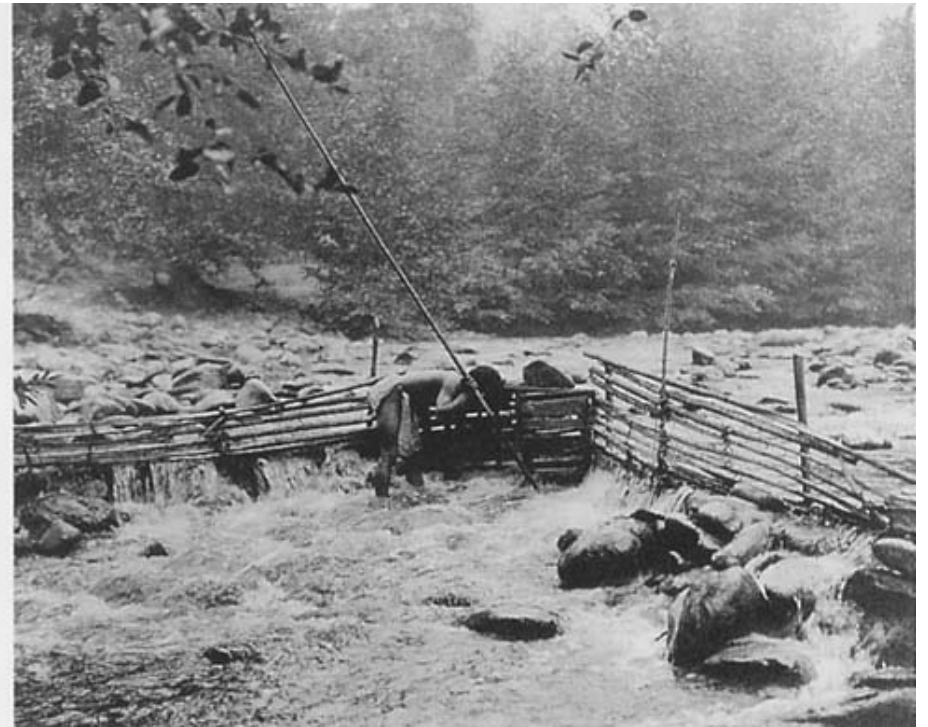
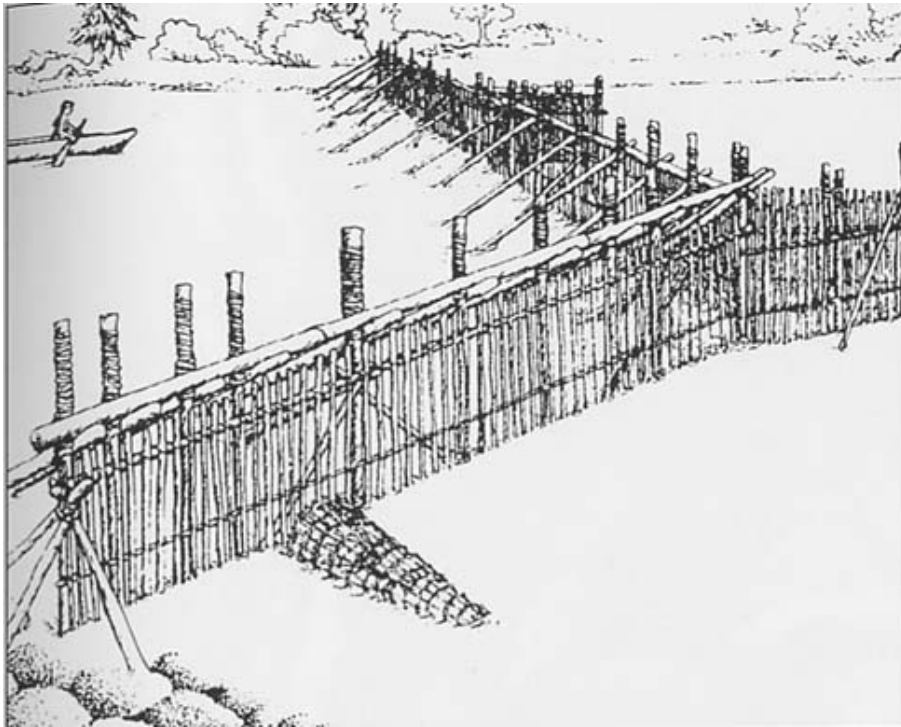


YAGUINA RAY—INDIANS' FULL DRESS.





|A single large house may have required as much as 70,000 board feet of lumber: One such structure near Portland, Oregon, was used continuously for 400 years and would have required between 500,000 and 1 million board feet of lumber during that period for maintenance and repair. And that is just one house, 55 feet wide and 120 feet long, home to forty-five to sixty people. (Suttles and Ames 1997: 273).



3,000 year old fish weir
Yaquina Bay, Oregon



Willamette Valley, Oregon 1845



The leading features of the Willamette Valley and Tualatin plains were peculiar and strange to me as compared with any other country I had seen. Among the striking peculiarities was the entire absence of anything like brush or undergrowth in the forests of fir timber that had sprung up in the midst of the large plains, looking at a distance like green islands here and there dotting the vast expanse of vision. The plains covered with rich grasses & wild flowers looking like our vast cultivated fields, and where the rolling foothills approached the level valley these spurs would be sprinkled with low spreading oak trees, frequently with a seeming regularity that would seem unlike nature's doing, and at a distance like orchards of old apple trees.

--James Neall, Willamette Valley, 1845





All the oak timber was owned by well-to-do families and was divided off by lines and boundaries as carefully as the whites have got it surveyed today. It can be easily seen by this that the Indians have carefully preserved the oak timber and have never at any time destroyed it.

The Douglas fir timber they say has always encroached on the open prairies and crowded out the other timber; therefore they have continuously burned it and have done all they could to keep it from covering the open lands. Our legends tell when they arrived in the Klamath River country that there were thousands of acres of prairie lands, and with all the burning that they could do the country has been growing up to timber more and more.

--Che-na-wah Weitch-ah-wah, Klamath River, 1915

The country in the southern part of the Willamette Valley, stretches out into wild prairie-ground, gradually rising in the distance into low undulating hills, which are destitute of trees, except scattered oaks; these look more like orchards of fruit trees, planted by the hand of man, than groves of natural growth, and serve to relieve the eye from the yellow and scorched hue of the plain. The meanderings of the streams may be readily followed by the growth of trees on their banks as far as the eye can see.

--Charles Wilkes, Willamette Valley, 1841





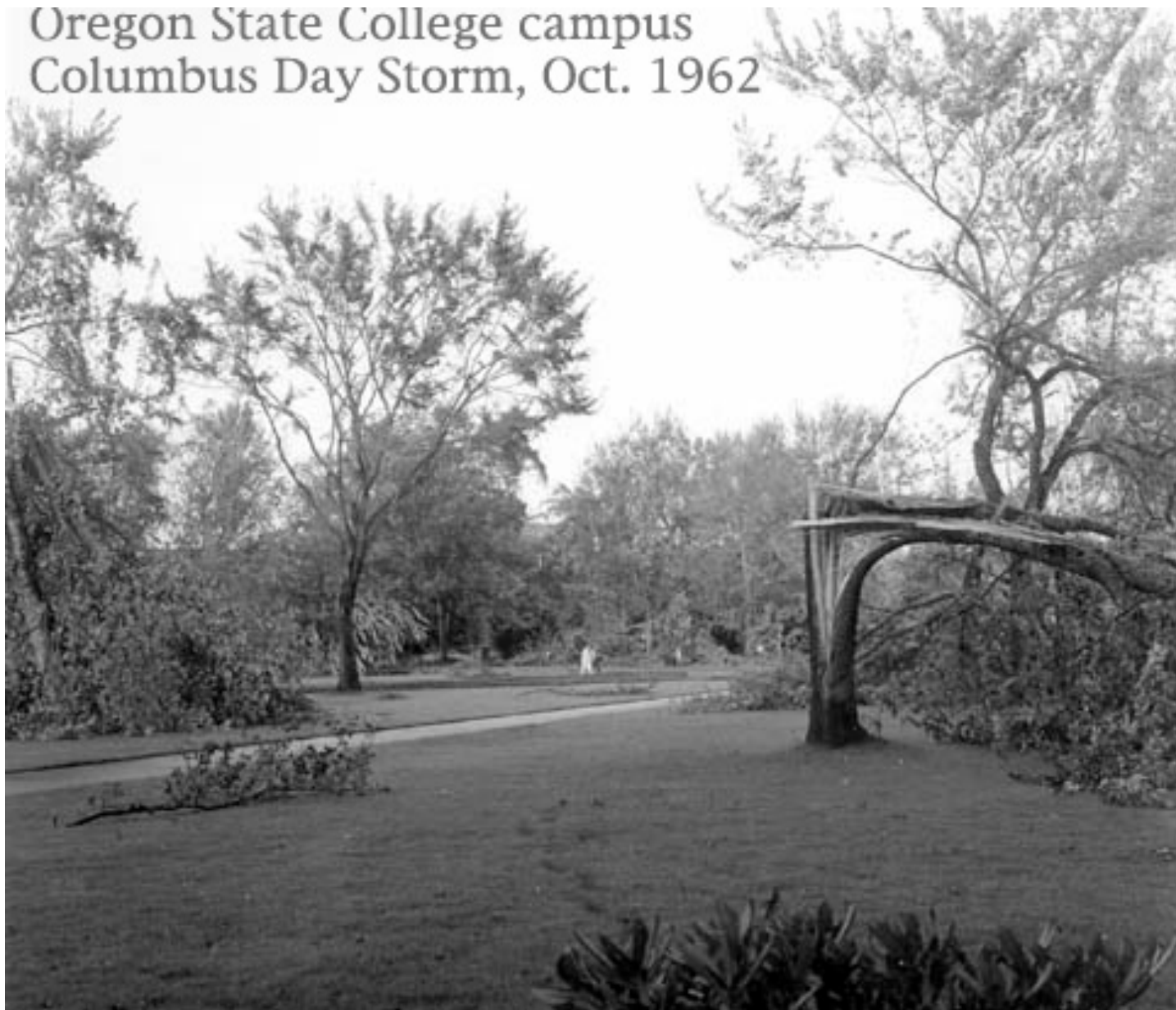


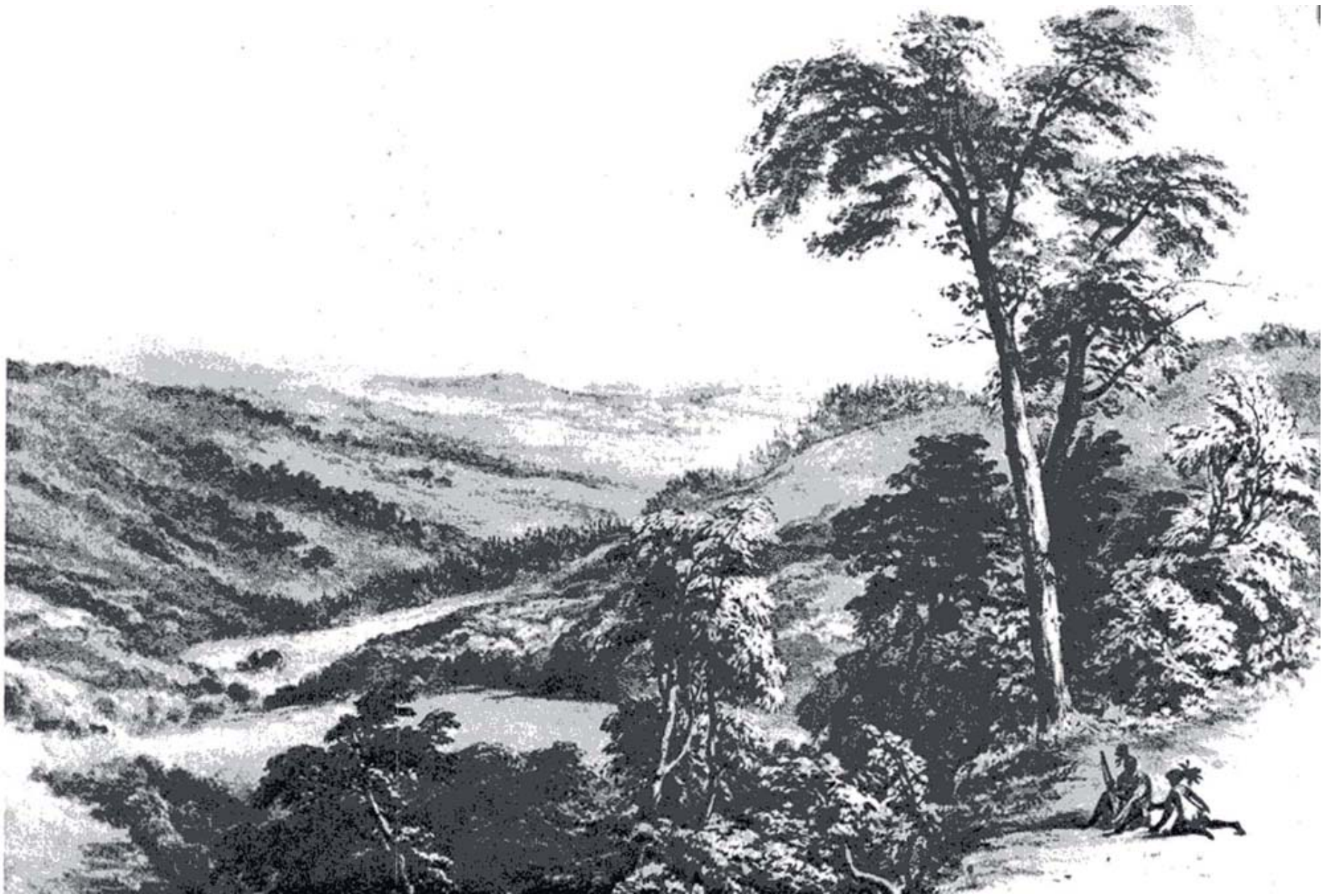
Notice the Willamette Valley in the Foreground of the 8 mile high mushroom cloud rising from the August, 1933 fire.

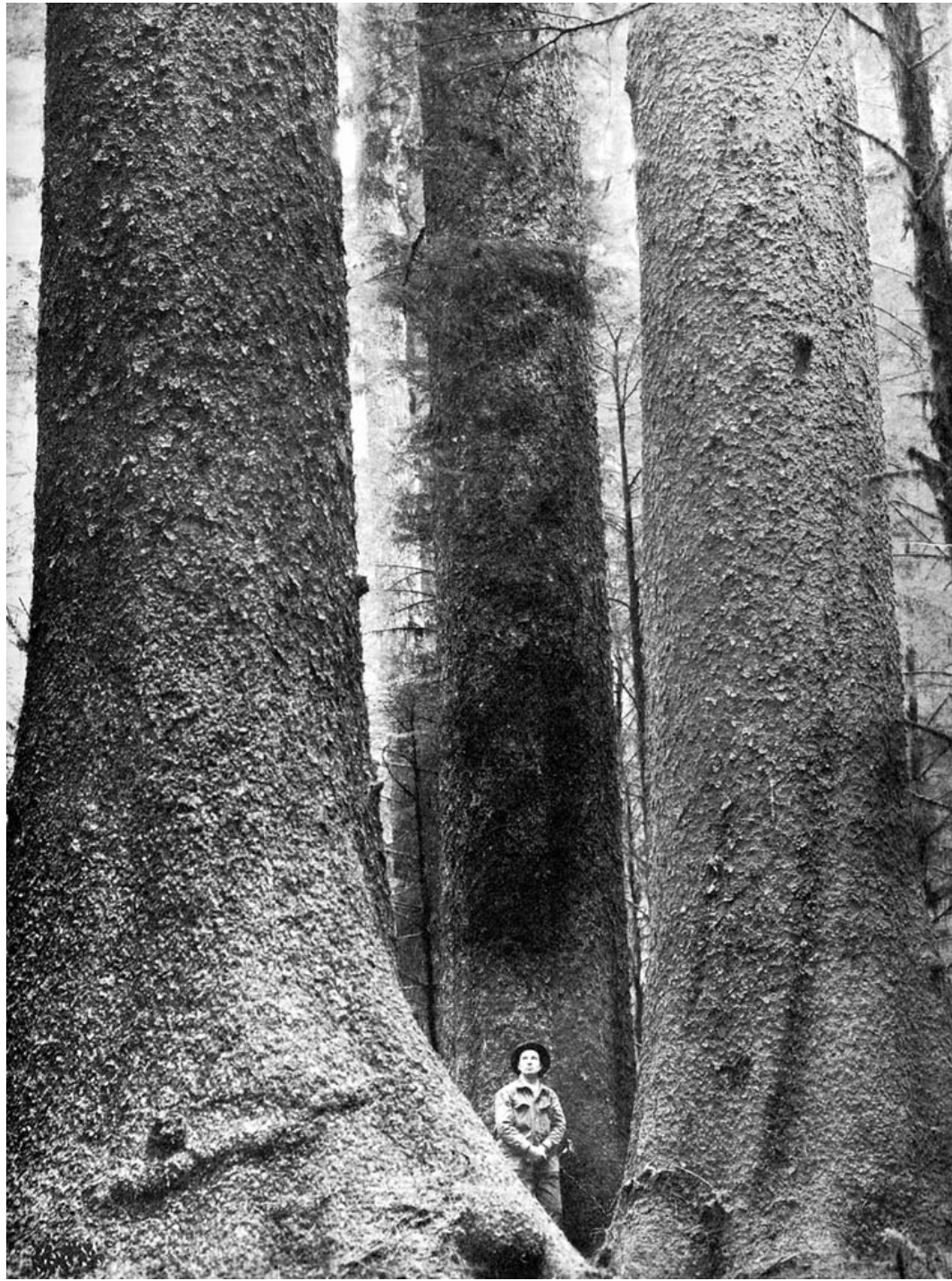


Elk Creek landslide forming Gould's Lake
in 1894

Oregon State College campus
Columbus Day Storm, Oct. 1962





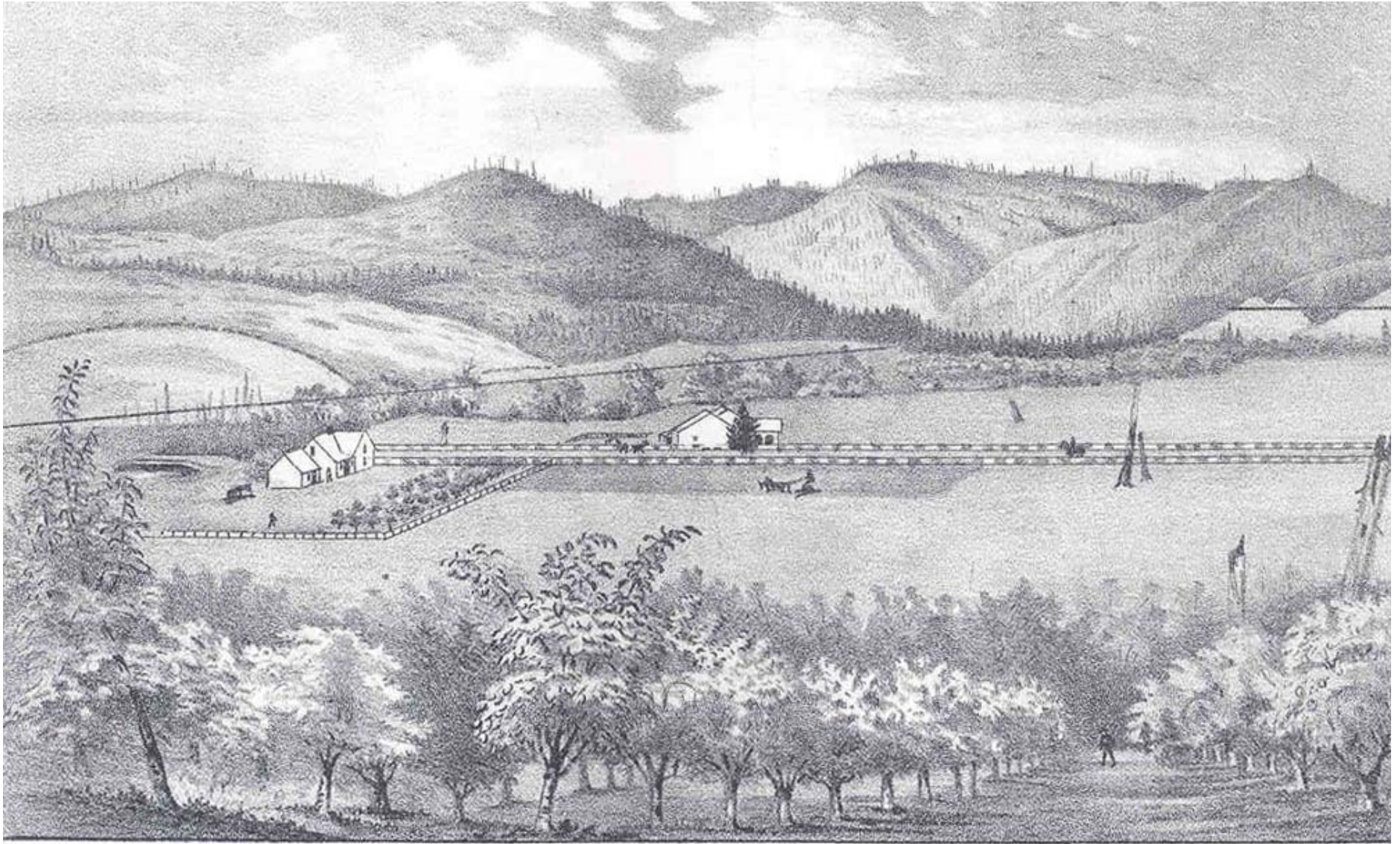




Historical Maps



Historical Drawings & Photographs



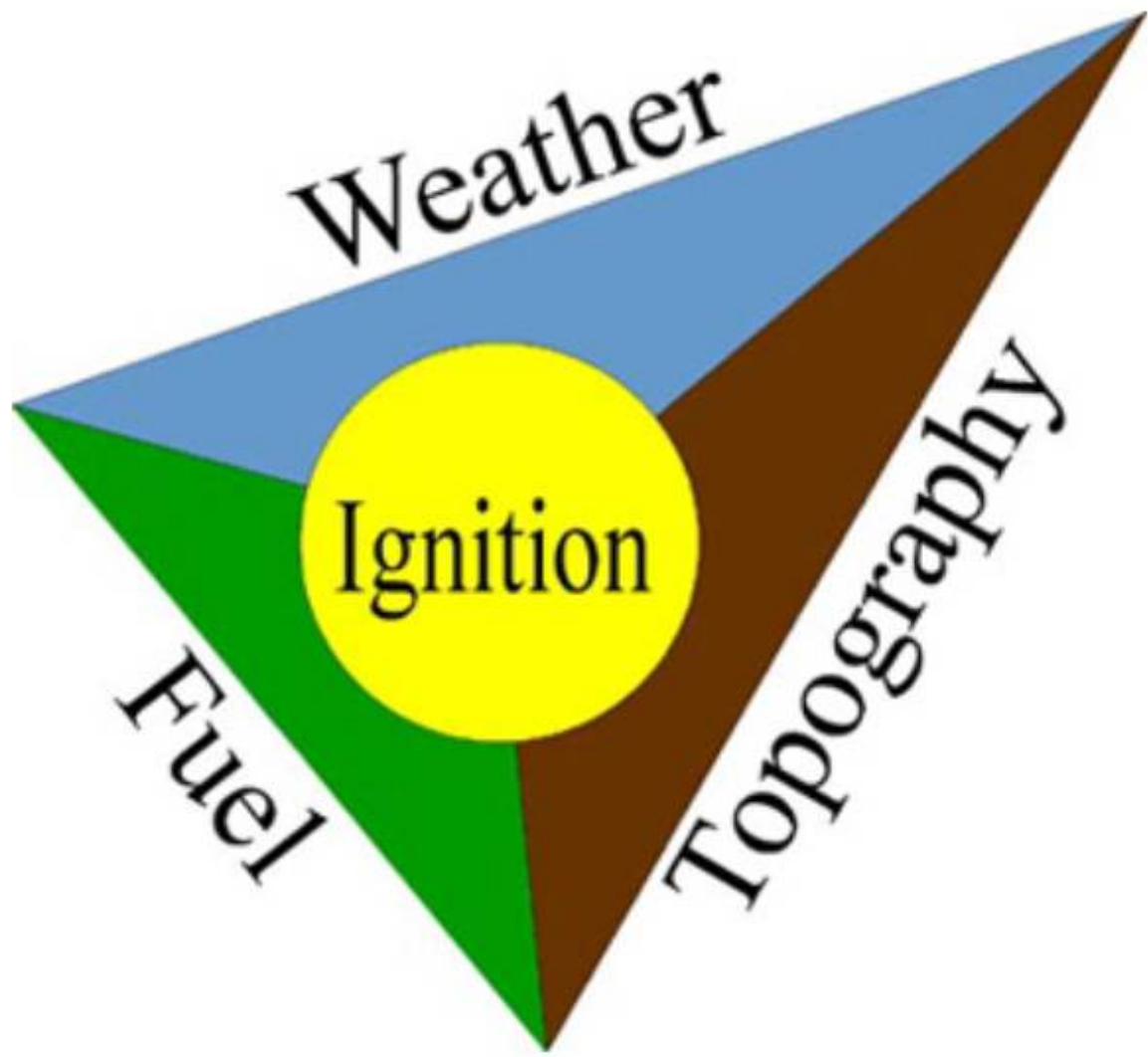
A. G. Walling, Lith. Portland, Or.

*FARM AND RESIDENCE OF ERNEST AND CLAUDE WARREN,
Nashville, Benton County, Oregon.*



B. THE GREAT YAQUINA BURN.





OREGON COAST RANGE

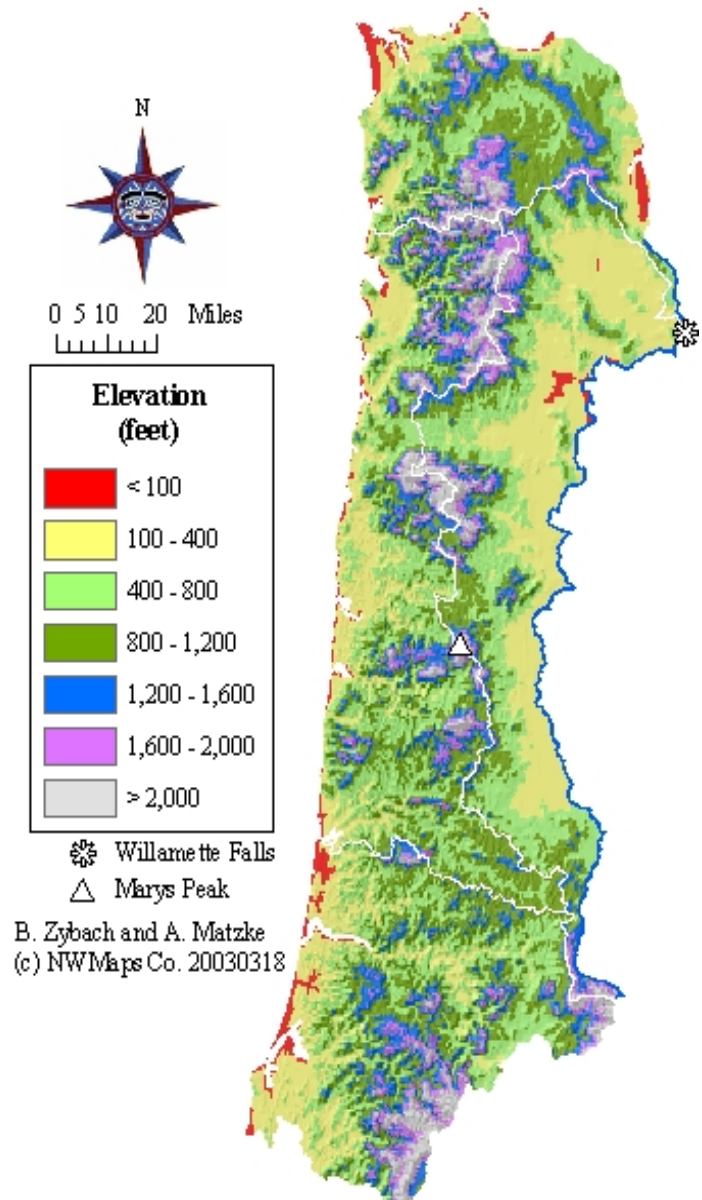
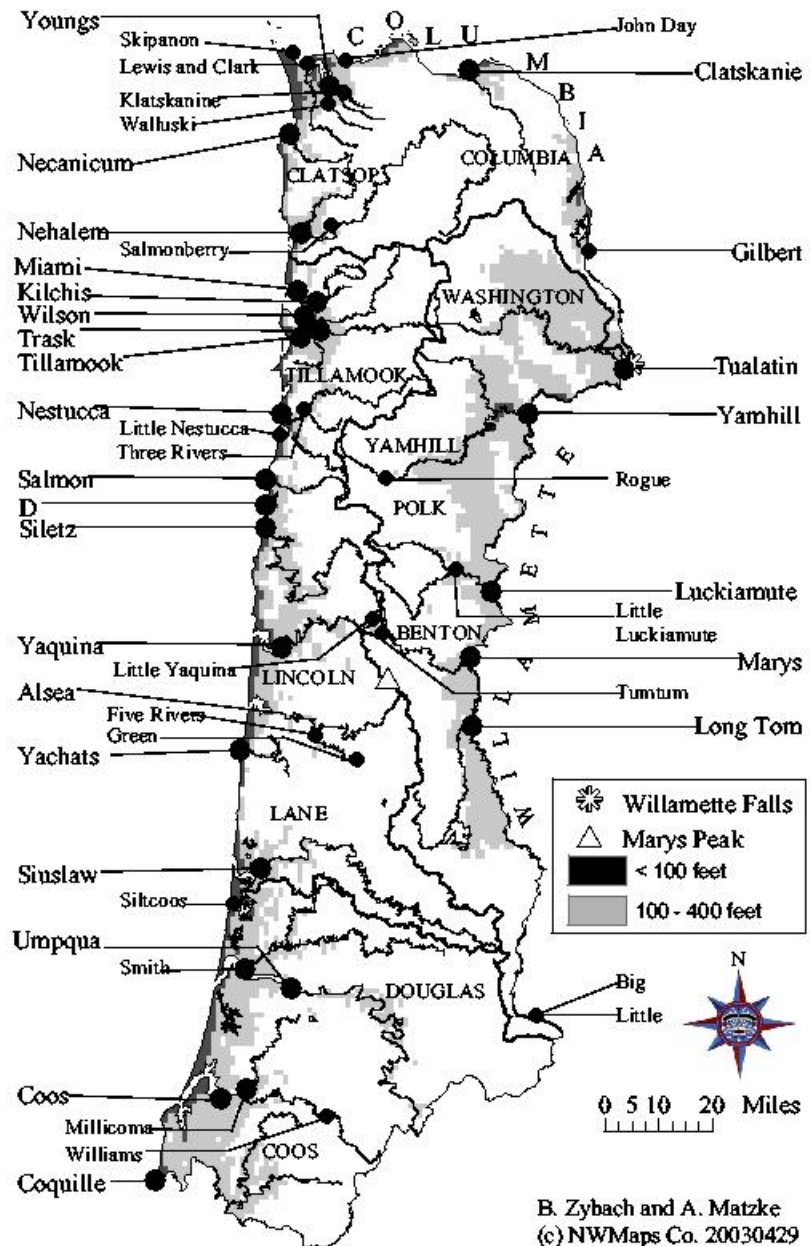
Seasonal Burning Patterns, ca. 1600-1848

Mo.	Season	Weather	Temperature	Plant Fuels	Burning
Jan.	Winter	Wet	Freezing	Dormant	Firewood
Feb.	Winter	Wet	Freezing	Dormant	Patches
Mar.	Spring	Wet	Freezing	Budburst	Patches
Apr.	Spring	Mixed	Cool	New Growth	Patches
<i>May</i>	<i>Transition</i>	<i>Mixed</i>	<i>Warming</i>	<i>Growing</i>	<i>Projects</i>
Jun.	Summer	Dry	Warm	Growing	Firewood
Jul.	Summer	Dry	Warmest	Growing	Firewood
Aug.	Late Summer	Dry	Warmest	Dormant	Broadcast
Sep.	Late Summer	Dry	Warm	Dormant	Broadcast
<i>Oct.</i>	<i>Transition</i>	<i>Mixed</i>	<i>Cooling</i>	<i>Fall Growth</i>	<i>Patches</i>
Nov.	Fall	Wet	Freezing	Dormant	Firewood
Dec.	Fall	Wet	Freezing	Dormant	Firewood

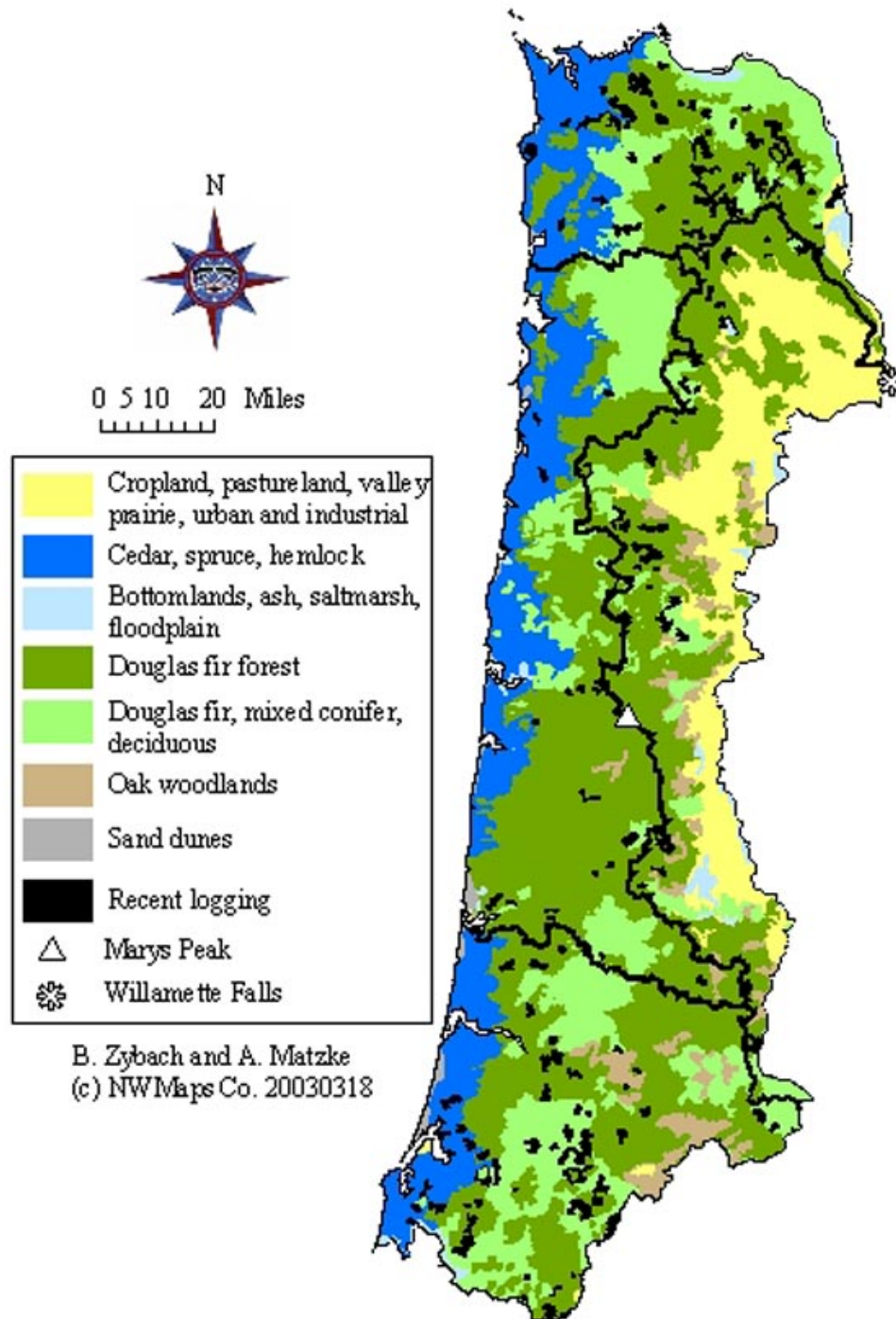
Oregon Coast Range

Named Rivers

Elevations



Oregon Coast Range Fuels



*Spruce/hemlock

*Douglas-fir

*Oak grasslands

Passed over some beautiful farming lands low
grumbling thunder heard at a distance and I think
this is the third time I have heard thunder in the
Territory as thunder and Lightening is vary rare
From what cause I cannot tell it may be possibly
on account of the lowness of the clouds which rest
on the mountains and in fact on the earth even in
the vallies

---James Clyman, June 4, 1845

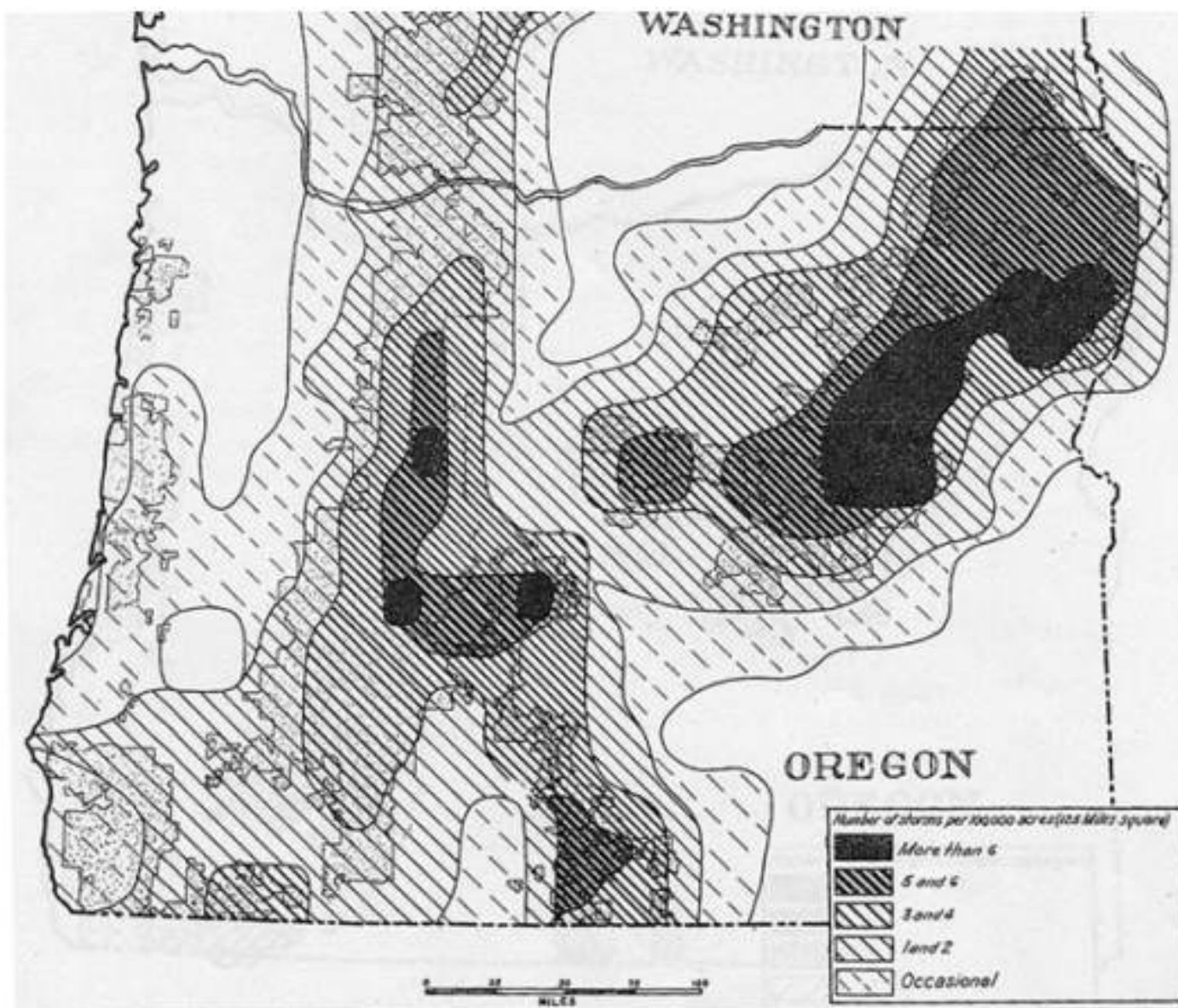


FIGURE 13.--Zones of average yearly lightning storm distribution in the vicinity of the national forests of Oregon and Washington as determined from more than 2600 storms reported by national forest fire lookouts during the 7-year period from 1925 to 1931.

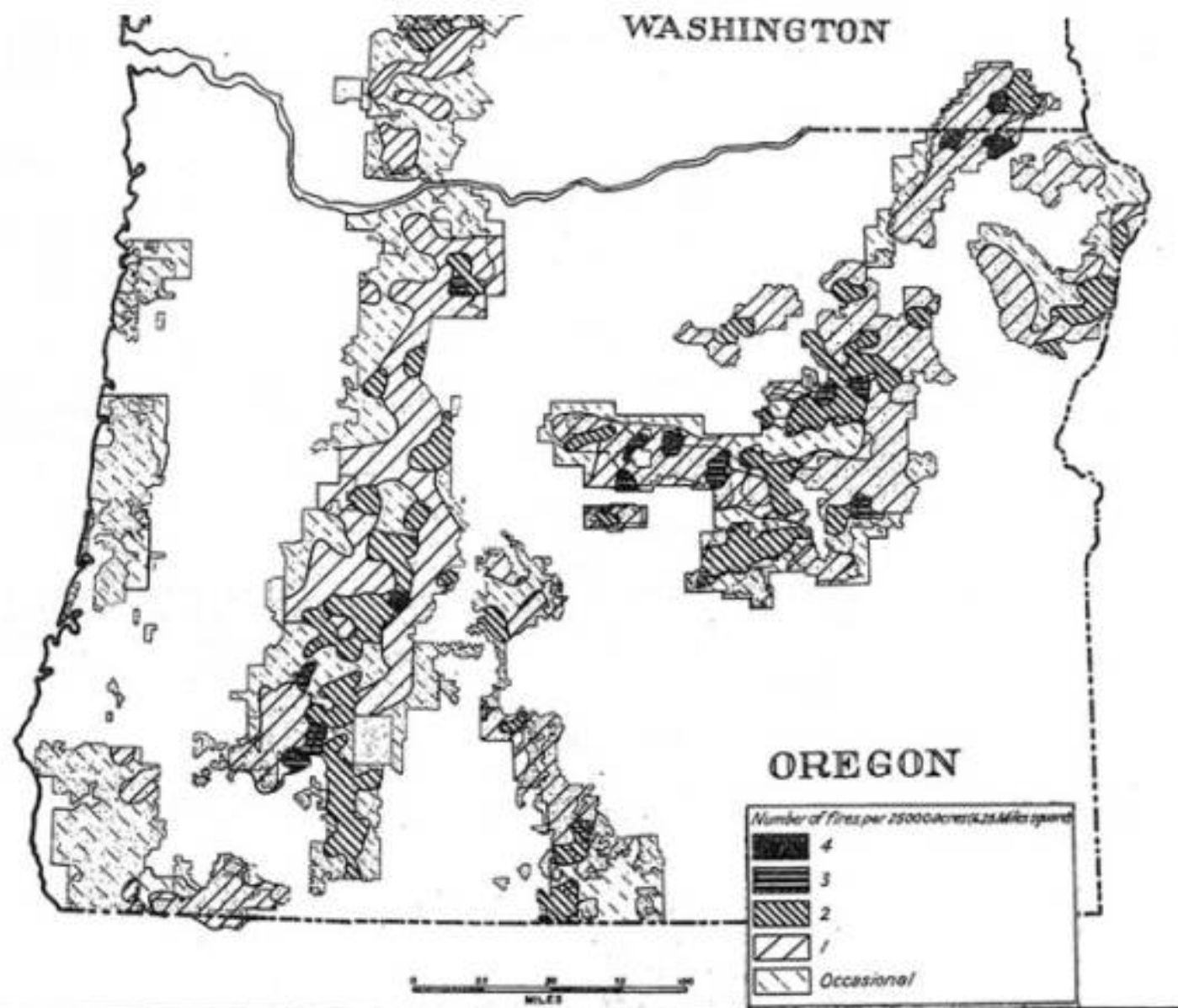


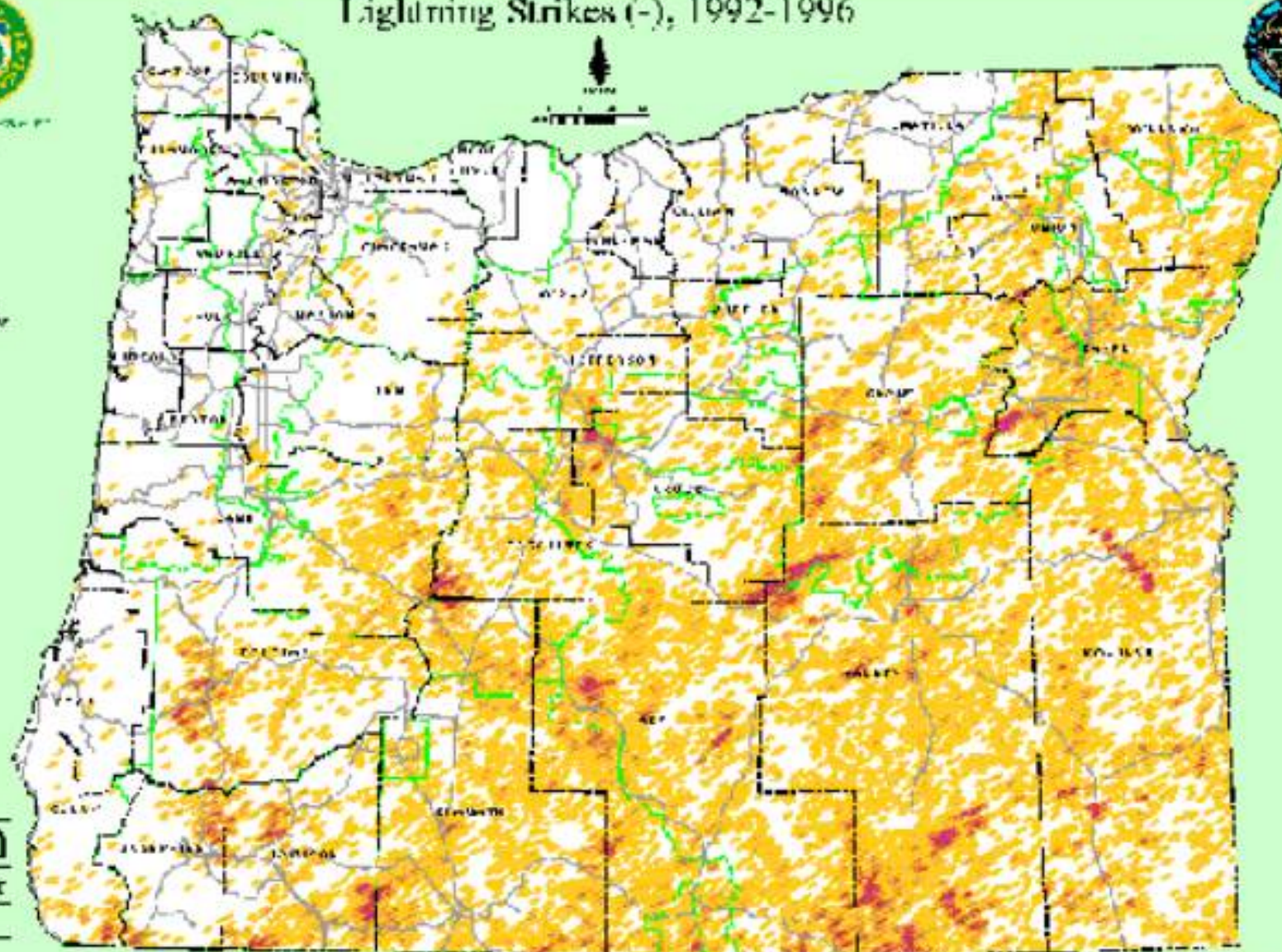
FIGURE 14.--Zones of average yearly lightning fire distribution on the national forests of Oregon and Washington obtained by plotting the locations of the 5300 lightning fires reported from 1925 to 1931.



ORIGINS AND DESTINATIONS



Lightning Strikes (-), 1992-1996



Oregon
DEPARTMENT OF
TRANSPORTATION

1992-1996
1992-1996

Map 2-100 Oregon Department of Transportation

July 21, 1997
Data Source: Oregon Department of Transportation

Living Memory and Oral Traditions



Types of Indian Burning Practices

Type of burning	Products and purposes	Timing
Firewood gathering and burning	Heat, light, cooking, boiling, fuel stores, celebration, ceremony, security	Daily, concentrated near homes, trails, settlements and campgrounds
Patch burning	Hunting, berry patches, root fields, pest control, weaving materials, trail maintenance	Seasonal and situational
Broadcast burning	Stable wildlife habitat, curing seeds, hunting, <u>transportation</u> , weaving materials, acorn harvest.	Seasonal: late summer, early fall for grasslands; late winter, early spring for brackenfern

this Countrey must be thickly inhabited by the many fiers we saw in the night and culloms of smoak we would see in the day time but I think they can derive but little of there subsistance from the sea but to compenciate for this the land was beautifully diversified with forists and green veredent launs which must give shelter and forage to vast numbers of wild beasts most probable most of the natives on this part of the Coast live on hunting for they most of them live in land this is not the case to the Northward for the face of the Countrey is widly different

--Robert Haswell, Oregon Coast, 1788

I was envited into the house of the 2nd Chief where concluded to sleep. This man was pore nothing to eat but dried fish, and no wood to burn. Altho' the night was cold they could not rase as much wood as would make a fire

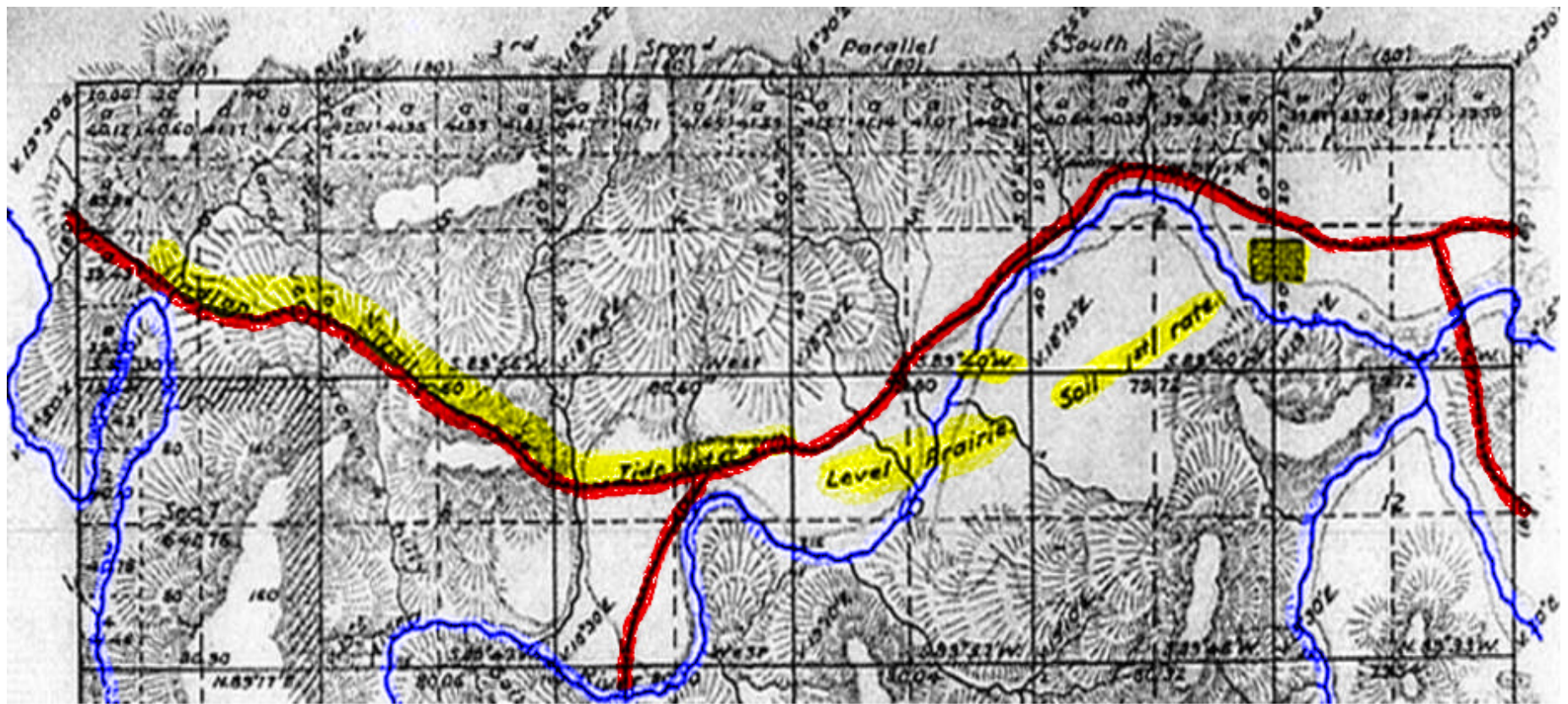
William Clark, Columbia River, 1806

Persistent Vegetation Patterns

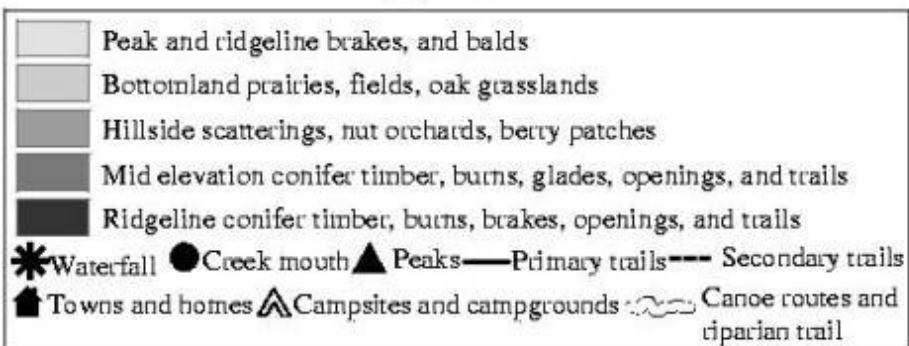
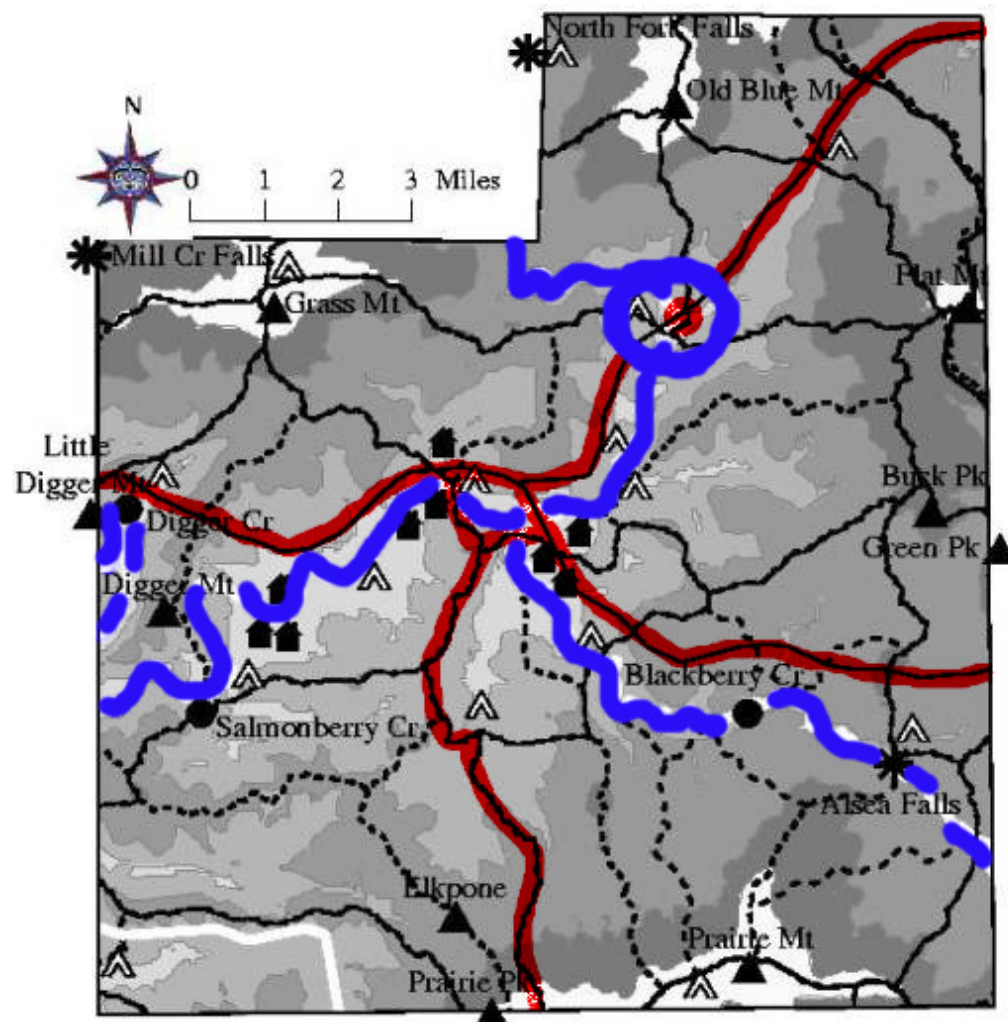


“Alsea Valley (ts !iphaha), back in the coast ranges, was a place to which many people went in summer to harvest camas and other wild crops.” (Drucker 1933)





- "There is a plain Indian trail leading from this township to tide water on the Alseya, which is said to be quite passable for horses. The Indians however generally travel it in their canoes from a point near the west line of the township and frequently from near the east line of the same." --Dennis Hathorn, GLO, 1856



NF Alsea River Crossing Rock

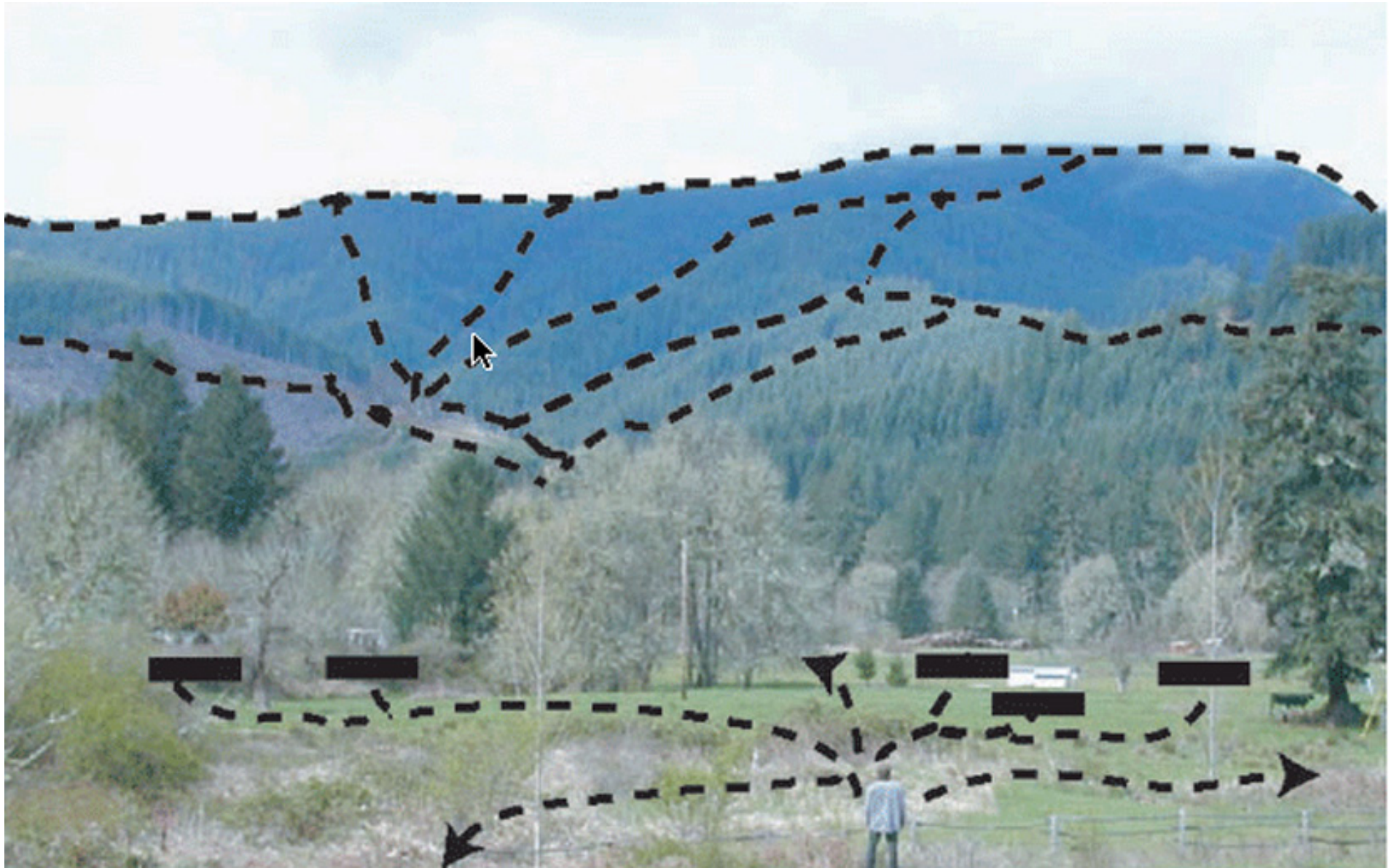
Following Winter, 2003 Rainstorm



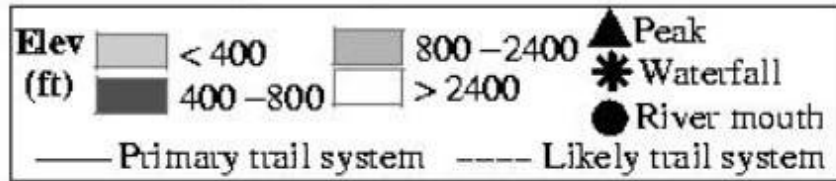
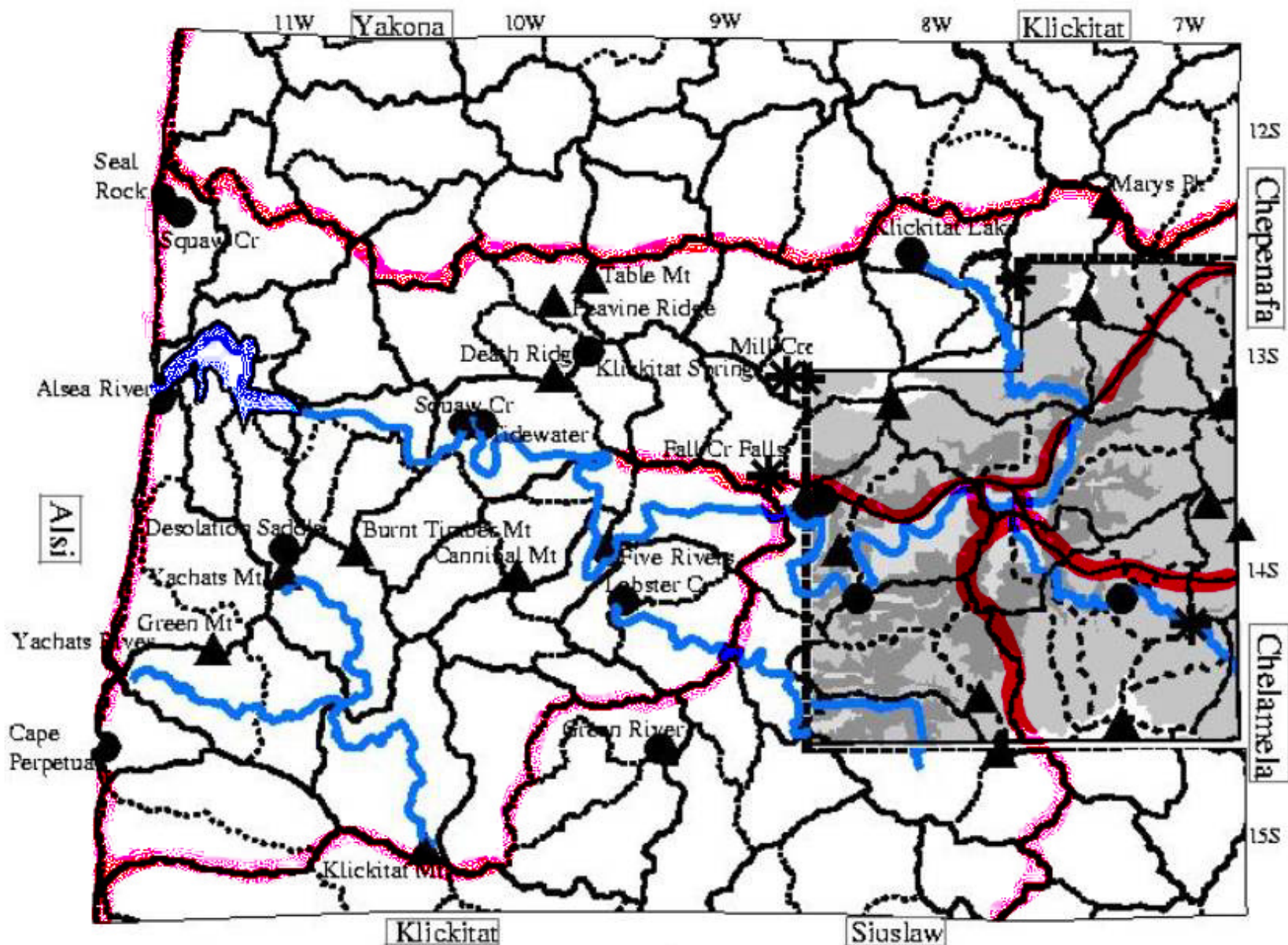
NF Alsea River Crossing Rock

Late Summer, ca. 1800





Alsea Valley North Fork Prairie Trail Network,
1775-2003



B. Zybach and A. Matzke
(c) NWMaps Co. 20030424

The traveler can but imagine the numbers of these dead tribes by the mounds of clam and oyster shells, many feet in thickness and many yards in extent, which mark the site of their former camping places. The gatherers of these sea-dainties have long since passed away, and even our first records tell of a time when wars, pestilence, and the gradual pressure on these sea coast dwellers by other tribes displaced from their hunting grounds in the east and south, had already done their work.

--David D. Fagan, Oregon Coast, 1885

They had dried salmon, and likewise (dried) fern-roots, which they ate during the winter. They ate fern-roots (mostly). Thus the people did during the winter . . . Such was the food of the people belonging to the past.

--Louisa Smith, 1911 (Frachtenberg 1914: 81-83)

Digging bracken fern roots, ca. 1800



Native Food Animals

Food Type	Food Name	Fire
Crustaceans	Crabs, Dungeness	0
	Crawdads	X
	Shrimp	0
Fish	Eels, Lamprey	X
	Eulachon	0
	Flounder	X
	Salmon, Chinook	X
	Salmon, Coho	X
	Sturgeon	X
	Trout, Cutthroat	X
Fowl	Doves	XX
	Ducks	XX
	Grouse, ruffed	XX
	Geese	XX
Insects	Grass hoppers	XX
	Yellow jackets (larvae)	XX
Red Meat	Bear, Black	XX
	Boomer	XX
	Deer, Whitetail	XX
	Elk	XX
	Seals	0
	Squirrels, Gray	XX
	Whale, Grey (occasional)	0
Shellfish	Clams, Butter	X
	Clams, Razor	0
	Mussels, (saltwater)	0
	Oysters	X

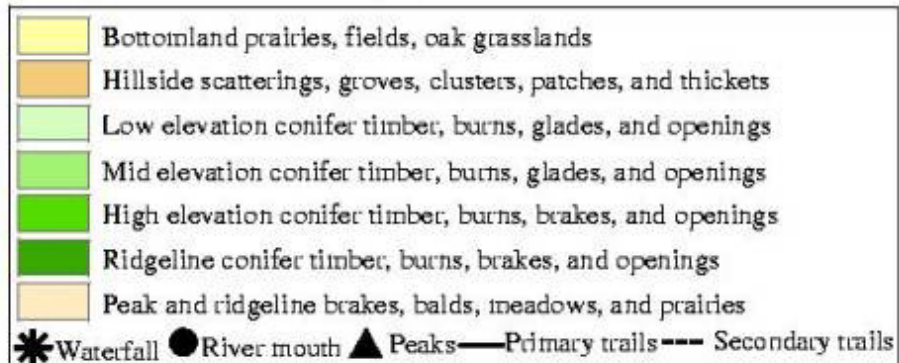
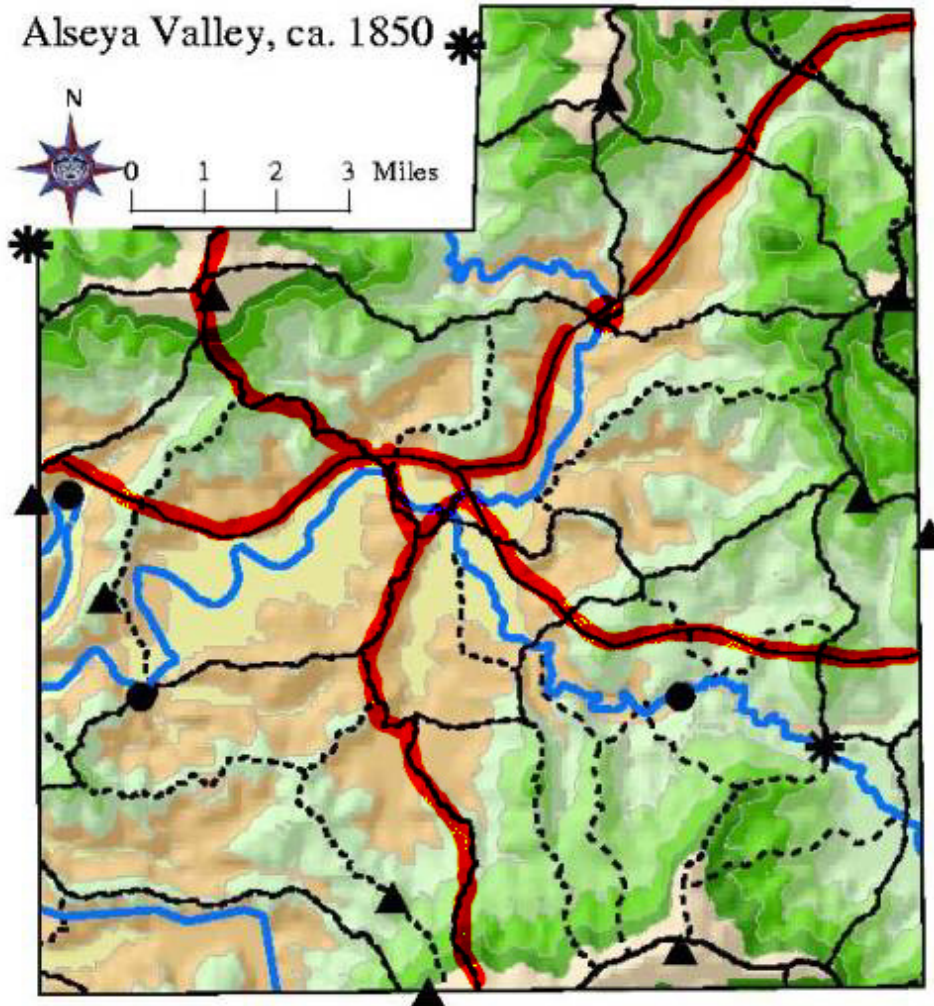
Native Food Plants

Food Type	Food Name	Fire
Berries	Blackberry	XX
	Gooseberry	XX
	Huckleberry	XX
	Salmonberry	XX
	Strawberry	XX
	Thimbleberry	XX
Bulbs	Camas	XX
	Lily, Chocolate	XX
	Lily, Tiger	XX
	Onion	XX
	Wapato	X
Fruits	Crabapple	X
	Chokecherry	XX
	Indian plum	XX
	Rosehips	XX
Grains	Indian peas	XX
	Sunflower	XX
	Tarweed	XX
Greens	Dock	XX
	Nettles	XX
	Seaweed	X
Mushrooms	Morrels	XX
	Puffballs	XX
	Shaggy Manes	
Nuts	Acorns	XX
	Filberts	XX
	Myrtle nuts	XX
Roots	Brackenfern	XX
	Mountain carrot	XX
	Yampah	XX
Stalks	Fiddleheads	XX
	Skunk cabbage	X
	Thistle (Edible)	XX

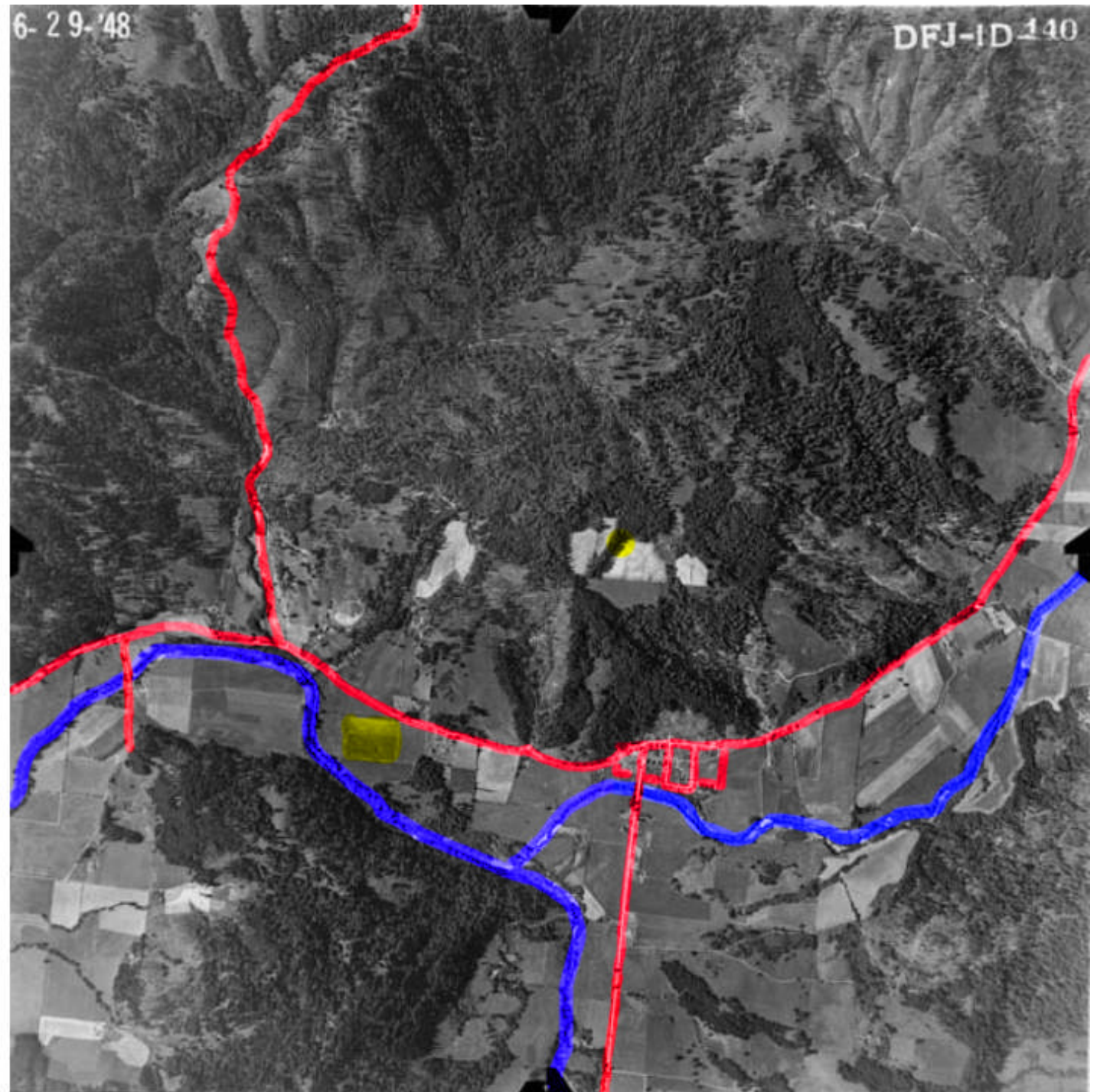
Alseya Valley, ca. 1850

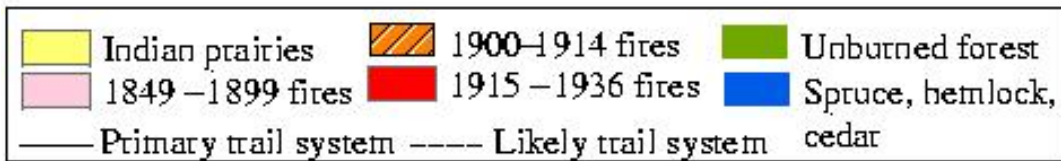
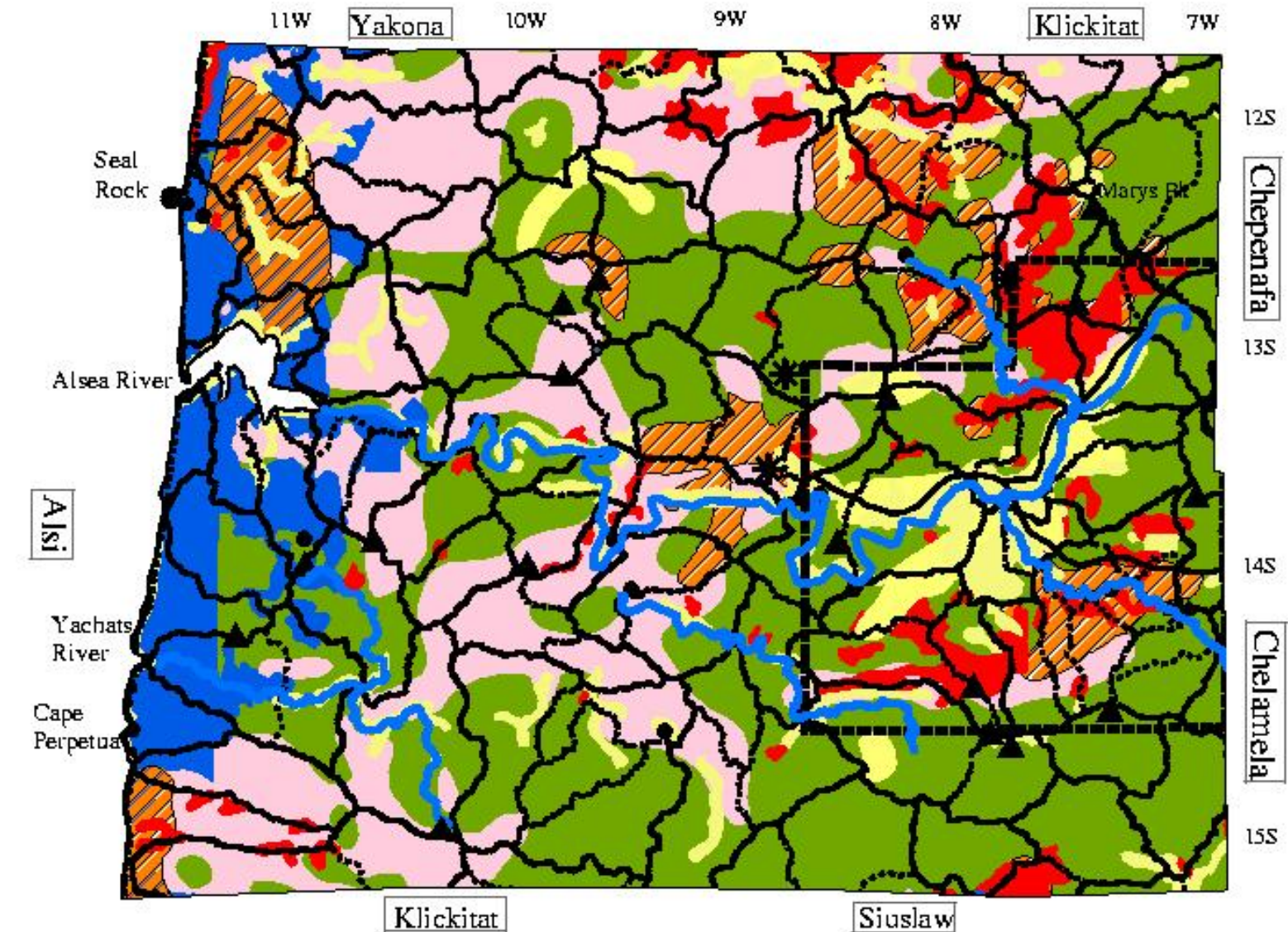


0 1 2 3 Miles



Aerial Photographs





0 3 6 Miles

B. Zybach and A. Matzke
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Lobster Valley homestead, ca. 1900



Alsea Valley. 2003



At that time [early 1850s], there was not a bush or tree to be seen on all those hills, for the Indians kept it burned over every spring, but when the whites came, they stopped the fires for it destroyed the grass, and then the young spruces sprang up and grew as we now see them.

--Warren Vaughn, Tillamook Bay, 1890

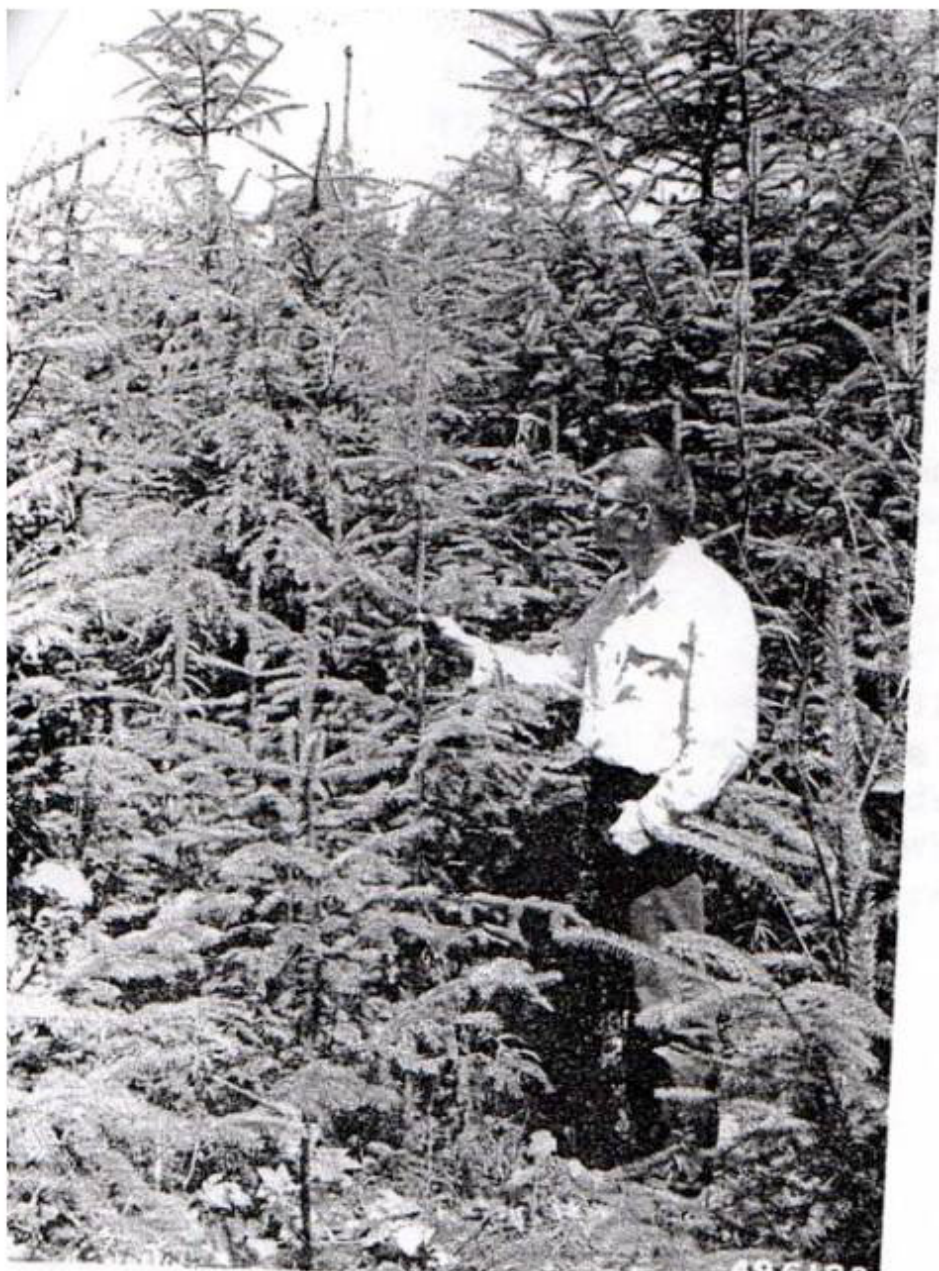


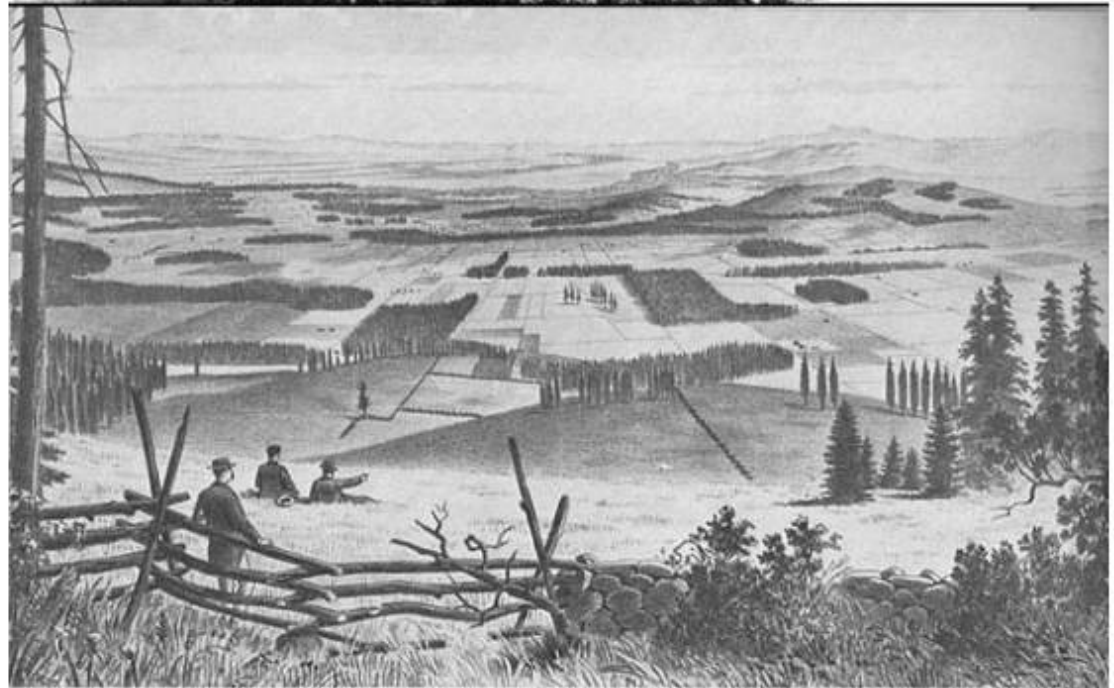
Figure 19.--Natural regeneration of western hemlock-Sitka spruce is often too dense; 10 years after clearcutting, this stand contained approximately 15,000 trees per acre (37,000/ha).

Willamette Valley, Oregon

1845



1885



Charlie recalls the time when areas now forested were treeless grass plains. The white settlers located on the better soil from 1850 to 1860 and repeated history by gradually driving the Indians out, stopping the practice of light burning. A scattering stand of relict firs provided seed, and, with the strong prevailing winds disseminating the seed, the denuded areas were soon reclaimed.

Charlie pointed out one area of considerable size slashed by him for a white settler some fifty years ago, which was abandoned after a few years and now supports a dense stand of 40-year old fir. This same condition may be observed on many of the larger islands of Puget Sound, other parts of Washington, and in the Willamette Valley, Oregon.

--F. L. Moravets, US Forest Service, 1932

Soap Creek Valley, Oregon

1914

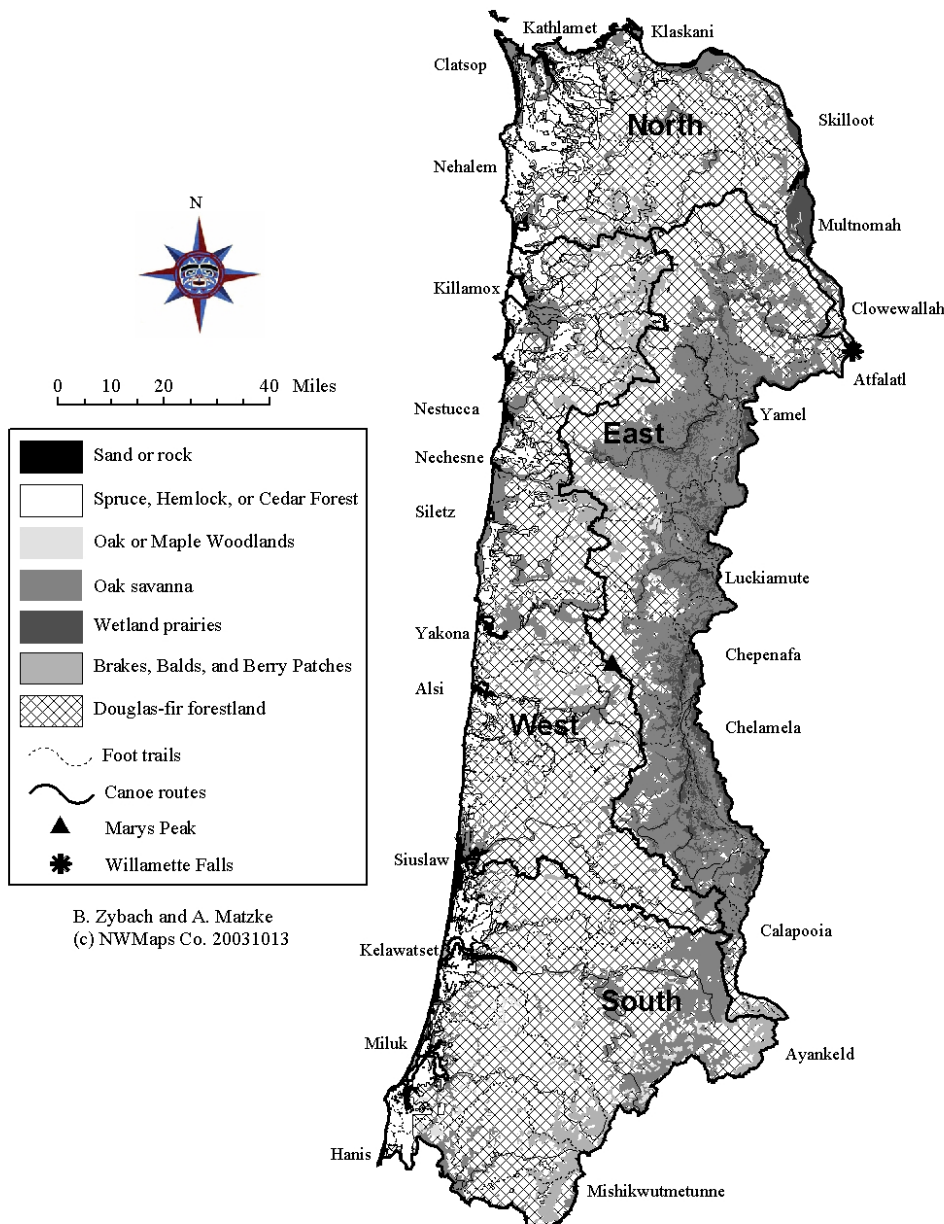


1989



CULTURAL LANDSCAPE PATTERNS *OF THE* OREGON COAST RANGE

ca. 1650 to 1826



B. Zybach and A. Matzke
(c) NWMaps Co. 20031013

At the time of Lewis and Clark:

- 1. Many Indian nations in the Pacific Northwest had been decimated by small pox epidemics a generation ago, and were a fraction of their former population.*
- 2. International trade routinely took place throughout the Pacific Northwest via seafaring routes along the coast, canoe traffic along the Columbia River, and a well-established network of inland foot-trails.*
- 3. Indian people in the Oregon Coast Range lived in towns comprised of well-designed plank homes and could easily walk or canoe to (and return from) established croplands, campgrounds, and hunting, fishing, and trading locations within a short time.*
- 4. Forestlands in the Oregon Coast Range were managed with fire in three distinct landscape-scale patterns: riverine prairies; fields and trails; and oak savannah.*
- 5. Oregon Coast Range nations were centered at the mouths of rivers and most forest management actions-- including harvesting, burning, tillage, and pruning-- took place at a subbasin scale in well-known areas connected by a network of canoe routes and foot-trails.*



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