

## Human Relationship to and Management of the Drift Creek Watershed Past and Present

Introduction – How I decided on a title, contacts with Forest Service and Native Americans.

Two parallel versions of history of the Drift Creek Watershed and surrounding area. Generally congruent but the tone and emotion with which the stories/history were told to me differed significantly.

HISTORY or PREHISTORY (white term) - pre 1855

Occupants were Tillamook Indians speaking a Salish or Salishan language which had two dialects, Siletz around the Siletz Bay and the remainder Tillamook. The Indians engaged in fishing, hunting, gathering and trading for subsistence. The first contact with European trade ships was in the 1770s which included exposure to the heretofore unknown and devastating diseases of Smallpox and Tuberculosis. This led to a population collapse until in 1848 there were only nine families left along the Siletz River mouth. The traditional practice of widespread burning in the fall (for hunting visibility, plant regeneration etc.) diminished which increased what we now call “fuel loading” and likely contributed to a large severe fire in the late 1840s.

Coastal Exploration: 1579-1788 The area was claimed by the Spanish, the English and later the Americans. Most prominent coastal landforms were named and the area was mapped. The Indians were introduced to trade goods and diseases.

Inland Exploration /fur trapping: 1825 – 1851 Michel LaFramboise and Alexander Roderick McCleod explored the area for the Hudson’s Bay Company during the era of the “Joint Occupancy Agreement” between Great Britain and the United States. The United States took formal possession in 1846 and sent Theodore Talbot to explore in 1849.

Indian Reservation: 1855 – 1892 On November 9, 1855 President Franklin Pierce signed an Executive Order designating the Siletz Reservation from Cape Lookout (just south of Tillamook) south to the Siltcoos River (just south of Florence) and from the Pacific to the western boundary of Range 8 (more or less the crest of the Coast Range). This 1.1 million acres was the aboriginal homeland of the Tillamook, Siletz, Alsea, Yaquina, Siuslaw and Lower Umpqua bands. Indians from a total of 27 bands from as far east as the Molalla and as far south as Northern California were resettled on this Reservation.

1865, a short 10 years later, discovery of oyster beds in Yaquina Bay and the desire of Willamette Valley settlers to gain a harbor and build a railroad from Corvallis to Newport

led to another Executive Order cutting a wide 20 mile section through the center of the reservation.

1875, more shrinkage. The entire southern half of the reservation was closed (taken back by the U.S. Government) as well as all land between the Salmon River and Cape Lookout to the north. This still left the Drift Creek Watershed in the reservation.

1892, Allotments: Under the Dawes Act of 1887 allotments were made to take the place of the

reservation. Indians received \$142,000 and 44,000 acres in individual parcels, of 80 acres apiece.

Much of the land along the western portion of the Drift Creek Watershed was included in these Indian allotments –most of which were sold or lost for not paying taxes by the turn of the century. (The Indians say this was precisely the point.)

1895 – 1938 – Homesteading Era: The former reservation lands, nearly 200,000 acres including the Drift Creek Watershed but excluding any allotments still owned by Indians, were thrown open to homesteading in 1895. Title to land could be acquired under the 1862 Homestead Act or the 1878 Timber and Stone Act. There were often long waits to get the land surveyed, a prerequisite to ownership, and by the time they finally got title to land they were ready to sell out as it was not first class farmland. The parcels allowed were not large enough to make logging economical so a fair amount of fraud took place in order to amass larger blocks of timber. The bulk of what is now Forest Service Land in the Drift Creek Watershed was withdrawn from homesteading by a proclamation on March 2, 1907 as the “Tillamook Forest Reserve”. The Forest Reserve was in turn eliminated by Executive Order in 1908 with the establishment of the Siuslaw National Forest. (made up of Tillamook and part of the N. Umpqua Forest Reserve.)

The “Forest Homestead Act” was enacted in 1906 – allowing homesteading on Forest Reserve Land with high agricultural value. By December, 1910 the forest was closed to further homestead applications because all the suitable agricultural lands had been claimed. Due to public protest the forest was reopened to homesteading in 1913 and finally closed permanently in 1916.

Timber speculation notwithstanding, many of the first settlers were from Finland and came with the intention of establishing homes and farms.

The homesteading era came to a close in the 1930s. The scattered tracts in the forest were either abandoned or occupied by settlers struggling on land unsuitable to agriculture. Homesteading left little mark on the land until consolidated parcels were logged over. In the mid 1930s there was a federal re-acquisition program to relieve settlers and incorporate their land into the National Forest.

Land along the coast, occupied by Lincoln City and outlying areas up Schooner Creek, Drift Creek and around Devil's Lake, provided the best agricultural land and ocean resources as well as major transportation routes. These were the lands first selected by Native Americans after the reservation was closed. Later they were successfully homesteaded by settlers or broken up into housing lots as the Native Americans sold out or otherwise lost title to the land. This desirable land is still typified by small private holdings and lots.

#### NOW SWITCH TO THE INDIAN STORY

The first Siletz member I talked to gave me a wonderful visual image when I asked about what the forest meant to his people. He said something like - the forest was our pharmacy, our green grocer, our butcher shop, our fish market and our building supply. Later I was able to talk to Bud Lane and Robert Kentta of the Confederated Tribes of the Siletz. Bud wrote down his thoughts in response to my questions about his people's relationship to the forest. I am choosing to read his words to you rather than putting any interpretation on them myself.

Now I'll go back to describing CHARACTERISTICS of the FOREST of which Drift Creek Camp is a part. The entire watershed from the Pacific to the easternmost point is about 42,000 acres. This includes the developed area along the ocean including Lincoln city, other residential areas and small private land holdings. Then comes a strip of industrial forest land formerly owned by Boise Cascade, now by a timber investment group called Forest Capital. Going east and up one comes to the large block of 18,239 acres of national forest within which the 11 acre Drift Creek Camp sits. SHOW MAP

The mild wet climate at low elevations create one of the most productive timber zones in the world. Elevations range from near sea level to 3100 ft. at the summit of Stott Mountain. Rainfall averages between 1961 and 1990 ranged from 80 in. at lower elevations to 120 in. on sites along the eastern edge of the watershed. 80% of the precipitation occurs during the months of October through March. August is the warmest month with an average high temperature of 73 degrees, January the coldest with an average low of 36 degrees.

Fire and wind are the two most dominant natural disturbance processes that affect the landscape in the watershed.

## FIRE DISTURBANCE HISTORY

There was a large fire (or fires) in the early 1700s about which little is known due to so many ensuing fires.

Around 1840 most all of the forest service land in the watershed burned as part of a 30,000+ acre fire.

Between 1849 and the turn of the 20<sup>th</sup> century there were several smaller fires which burned parts of the watershed.

1902 and 1904 also saw fires in parts of the watershed. These fires – what they burned and what they missed – largely determined the Drift Creek Camp forest as we know it today!

Aerial photos of the forest from 1930 and panoramic photos from Cougar Mtn. lookout in 1934 indicate that these fires gave rise to a mosaic of young conifer stands, alder stands and brush fields on the landscape. Generally young conifer stands blanketed the west half of the national forest and were restricted to north facing slopes and bottoms in the eastern (higher) half. Many ridges, south facing slopes and some bottoms were dominated by alder or brush.

**WIND** – Major storm events regularly have winds up to 100 mph and more, creating 1 to 10 acre openings due to tree blowdown. Since the advent of large clearcuts the blowdown is often most severe along ridge tops and stream buffers adjacent to harvest units.

The October 12<sup>th</sup>, 1962 (Columbus Day) storm is the exception in recent history which created many 10 to 50 acre patches of blowdown.

Along with fire these wind events also help determine the characteristics of any given piece of forest. Also important to mention are very heavy rain events which trigger both landslides and accompanying debris flows – all tools in nature's tool bag for creation and maintenance of a healthy watershed and ecosystem.

In 1908 President Teddy Roosevelt created the U.S. Forest Service and appointed his friend Gifford Pinchot as the first head of the USFS. This agency was placed under the Dept. of Agriculture which was then at least, less politicized than the Dept. of Interior. The first goal of the USFS was to protect the nation's watersheds, the second was preservation of the timber resource. **PRESERVATION** implies use as opposed to **CONSERVATION** which implies leaving it alone. John Muir was the most well known advocate at the time for Conservation.

The first sawmill in Lincoln Co. was built on Drift Creek in the very early 20<sup>th</sup> century. Lumber was produced for local use with the mill closing after an explosion in 1919. Logging on industrial lands to the east of the watershed began in the 1940s and culminated in the 1960s after most of the mature timber had been removed. Large scale timber harvest in the Drift Creek Watershed began in 1953 under USFS policy and

peaked in the 1960s.(Multiple Use – Sustained Yield Act) Approximately 12,292 acres were clearcut between 1960 and 1969! To accommodate logging many roads were built. The Drift Creek Watershed has the highest road density in the entire Siuslaw National Forest with about 5 miles/square mile. Only about 1/3 are forest service roads, of these 1/4 are maintained for cars and 3/4 for trucks. Many of these roads are unstable, in poor repair and were built before current road building standards were adopted. Consequently they are major contributors to excess sediment in the streams. At the same time USFS policy was to have loggers remove all WOODY DEBRIS from streams. After logging all remaining organic matter was piled and burned, genetically improved seedlings of a single species (Douglas fir, the most economically valuable tree) were planted and herbicides were used repeatedly until the trees were “free to grow” above any competing brush. The combination of these forest management practices was to have devastating consequences for the forest ecosystem.

FISH are a primary indicator of the ecological health of a forested watershed such as Drift Creek and Fish have been a major driver of federal forest policy since about 1990. The Drift Creek Watershed has historically been home to 5 species of Salmonid fishes: Coho, Chinook and Chum Salmon, Winter Steelhead and Cutthroat Trout.

Chum are here at the southern end of their range and spawn in the lower flatter portions of streams (not so important to our camp area) and are susceptible to increased sediment in their spawning gravel. There is little evidence of remaining viable populations,

Coho – Overall in the watershed From 1923 – 1940 there were about 230 fish/mile.

From 1990 – 1995 there were 3 – 19 fish/mile

The Drift Creek population over the same time is down from about 2730 individuals to between 38 and 231 individuals.

Fall Chinook in Drift Creek appear to be stable and are expected to remain healthy.

Winter Steelhead – there has been a drastic decline in recent years but more inventory data is needed. All as of 1996!

Driven by indications of environmental decline and public concern over the loss of Old Growth Forest Ecosystems President Clinton came to Portland in 1994 for a series of roundtable talks with forest stakeholders. The result was the Northwest Forest Plan which significantly shifted

the emphasis of forest management on federal (USFS) forests from the MAXIMIZING OF TIMBER PRODUCTION to THE CREATION AND MAINTENANCE OF LATE SUCCESSIONAL FOREST ( OLD GROWTH) while still utilizing forest products.

Virtually all the National Forest land in the Drift Creek Watershed is designated CRITICAL HABITAT for Marbled Murrelets and Northern Spotted Owls (indicator species). Critical Habitat is necessary for the conservation of a species because it contains primary constituent elements of nesting and/or foraging or roosting habitat. In 1996 the Drift Creek Watershed Analysis was conducted to characterize aquatic, riparian and terrestrial features and prescribe actions or policies that would move the watershed toward the necessary critical habitat (Late Successional Forest)

The ensuing characterization included the following:

Erosion Processes: 1) Major earthquakes occur every 300 to 500 years which may trigger large landslides. 2) Parts of Drift Creek have a high risk of landslides. 3) Clear cut and road landslides have increased the rate of sediment introduction. 4) Much sediment is produced by debris torrents which are exacerbated by #3.

Water Quality: 1) the Kernville - Gleneden Beach - Lincoln Beach Water district has water rights on Drift Creek. 2) Temperature data indicates that Drift Creek water temperatures exceed DEQ standards.

Aquatic Species and Habitats: Have already mentioned importance of fish. 1) Coho and Steelhead are depressed. 2) Chinook doing better. 3) ODFW management for Drift Creek has shifted to a "natural production scheme" (no hatchery fish).

Riparian Conditions: 1) Functional riparian areas are an integral part of late successional ecosystems. This includes early seral species such as Alder dominating sites which are prone to continual disturbance. (landslides, slumps, beaver activity) 2) Human related activities can seriously impair the capability of riparian areas and wetlands to route and store water/provide fish and wildlife habitat. 3) In the Upper Drift Creek Watershed the primary human disturbance to riparian areas has been logging and road building. 4) in the lower watershed the disturbances include logging, road building, grazing, waste treatment, water source development, and exotic species (plant and animal) introduction.

Terrestrial Species and Habitats: 1) most all of the USFS lands in the Drift Creek Watershed are designated "Critical Habitat" for Marbled Murrelets and Northern Spotted Owls. 2) Two pairs of Spotted Owls and 10 occupied Murrelet sites are documented in the watershed. 3) The area also includes two "Bald Eagle Recovery Plan Sites". 4) One Pacific Fisher, a "species of concern" has been documented in the watershed. 5) The southern half of the watershed includes part of the largest block of "Late Successional Habitat" on the Hebo Ranger District. This area includes adjacent BLM land and adjacent National Forest in the Siletz River Watershed and is the only block of "Late Successional Forest" for 20 mi. to the south and 8 miles to the east.

Recreation and Scenic Value: 1) tourism – coast and casino! 2) Except for this camp recreation in the watershed is very dispersed, consisting of hunting, fishing, hiking and driving the back roads. 3) Drift Creek Organizational Camp is operated by the Mennonite Camp Assn. under a special use permit. 1995 – camper days = 11,464. 4) Drift Creek is eligible to be a “Wild and Scenic River” because of its recreational and scenic values but is not formerly designated. 5) Much of the scenery in the watershed was inventoried as “heavily modified” in the 1980s. This landscape will gradually change under the LSR management guidelines. 6) The LSR designation classifies the recreation opportunity setting as “semi-primitive”.

Commercial Uses: 1) Special Forest Product permits are occasionally issued for the area though this will decrease with emphasis on LSRs. An unknown amount of special forest products are taken illegally. 2) Except for quarry sites for road rock there is no mining in the area. 3) Telephone line to Drift Creek Camp. 4) Harvest of mature timber will, as of 1994, no longer be considered – until next major revision???

Hydrology: 1) The effects of roads and harvest on stream flow are most significant! Evapotranspiration is greatly decreased by clearcutting – increasing water yield, peak discharges and erosion. 2) The area Drift Creek drains has the highest susceptibility to landslides but very little sediment deposition in the mainstream. ??? Why? Perhaps because high percentage of “confined stream channels” even where the gradient is low that the sediment is washed out into Siletz Bay. No research yet on the possible consequences of this.

Water/Stream Quality:

1) Devil’s Lake has impaired water quality in the summer months. Temperatures in Drift Creek are also too high in the summer, caused primarily by human interventions downstream, not in the National Forest, with the obvious exception of past clearcutting upstream.

2) The single largest issue affecting stream quality /fish etc. habitat is “Large Woody Debris” (LWD). This refers to the large logs which, due to the variety of natural disturbances, wash down the streams and get stuck here and there, creating the backwaters and pools necessary for fish habitat, particularly spawning. Up through 1990 timber management practices, both federal and state, required the REMOVAL of large woody debris from streams in conjunction with logging operations. Clearcutting was for years done right up to stream banks, all trees of all species were cut, those with little commercial value were “thrown down the canyon” (the words of my own logger who did a great deal of clearcutting in the coast range before redeeming himself by working for me for the last 11 years). This practice left NO trees in the woodbank for future recruitment of large woody debris. As clearcutting in easy-to-reach areas was completed

they began logging on steep, unstable areas, thus removing the trees most likely to be dumped into streams by natural disturbances. Beavers had also contributed to creation of good fish habitat but the aforementioned logging practices also diminished the quality of beaver habitat – beavers need trees. In 1996, of the surveyed creek miles in the watershed, only 7% (in Wildcat Creek) had adequate LWD. 26% (Erickson and Rock Creeks) were considered “at risk” and the remaining 67% including Drift Creek itself were considered “not properly functioning” with regard to LWD. At about age 80 trees become large enough to function as stable pieces of LWD. “LWD LEVELS ARE UNLIKELY TO EVER AGAIN REACH UNDISTURBED LEVELS”.

Backwater, low velocity habitat and pool quality are all designated “not properly functioning” at this time (1996).

Vegetation Patterns/ Forest succession:

In 1950 66% of the watershed was mature conifer or conifer/deciduous mix over 100 yrs of age.

By 1990 only 24% remained in this category.

Now aiming for Late Seral/Successional Forests (LSR’s). Douglas fir eventually disappears from LS forests but can survive in the overstory for more than 500 years. As the big old firs go down understory shade tolerant species (Hemlock and Cedar) will take their places or new sunlight dependent species will grow up in the openings created. Fire frequencies (every several hundred years) will generally preclude successional development from reaching a “pure climax stage” .

What we are talking about here are “Natural Stands” grown without, or with a minimum, of human intervention as opposed to “Managed Stands” which are manipulated by human interventions. “Timber Management” practices up to 1994 were the primary contributors to forest ecosystem degradation: clearcutting, slashing and burning of debris, genetically improved seedlings of a single species, widespread herbicide use etc. 54% of the Drift Creek Watershed today (1996) is in managed stands under 50 yrs of age. About 19% of the remaining

Natural Stands” were thinned in the 1970s in an effort to salvage commercial trees nearing mortality – exactly those which might have provided habitat in the form of snags or large woody debris.

NEW ERA IN FORESTMANAGEMENT! So Where is Forest Management Going Post 1990?

1992 – Adoption of Ecosystem Management (replacing Timber Management) by the Forest Service. Clearcutting as a standard practice would be phased out.

1994 – Pres. Clinton came to Portland – Origin of the Northwest Forest Plan – which allowed some harvest but set aside “critical habitat areas” including the Drift Creek Watershed.

1996 – Drift Creek Watershed Analysis

The emphasis for federal forest in the Drift Creek Watershed is for “Restoration and Maintenance of Late Successional Forest Habitat”. (reference plots are 100-150 yrs. old)

In general this means improving stream habitat for fish and manipulating forest age and composition for Murrelets and Spotted Owls – species indicating the overall health of the ecosystem.

In practice this means

- 1) Between 23 and 74% of current forest service roads can be closed, some turned into trails, and with the possibility of some roads being re-opened for future management needs.
- 2) Two non-fee forest campgrounds closed and restored due to concerns about resource damage in riparian areas. Drift Creek Falls trail created.
- 3) Timber Harvest limited to commercial thinning in young managed stands, 30 – 60 yrs of age, many of which you may have passed on your way to camp. EXPLAIN WHY! –to speed up late successional characteristics. Manipulate vegetation toward an excess of large, free growing conifers until in channel woody debris approaches reference levels. Remove NO TREES which could function as LWD. Harvest/clearcutting continues on surrounding industrial lands. EXPLAIN 3 kinds of forest land! Hebo Ranger District - above plus off-site/Mt.Hebo work Also timber targets that haven’t been met in recent years –now targets being shuffled from other areas to NW – but none of his in Drift Creek.
- 4) Special Forest Products (cascara, mushrooms, firewood etc.) harvest in LSRs must be found to be neutral or beneficial to the creation and maintenance of LS forest habitat. Also road deconstruction will lead to less Special Forest Product harvesting.
- 5) In Channel Work – Place LWD in areas with high fish habitat potential and encourage BEAVER ACTIVITY where fish habitat will benefit.
- 6) consider NO TREATMENT on highly unstable slopes or remove no more trees than necessary to achieve desired growth.

All of the above primarily on ”managed stands”.

## OVER WHOLE WATERSHED:

- 1) provide CONNECTIVITY to mature forest habitat on federal lands to the north and through BLM lands east to the Valley of the Giants and northeast to Saddleback Mtn.
- 2) When possible acquire non-federal lands to block up areas where connectivity is weak or where private lands interrupt a block of mature conifer – especially land surrounded on 3 -4 sides by federal land.
- 3) Retain Western Hemlock as a major component in plantations (managed stands) to provide future nest trees for Marbled Murrelets.

## Other Recommendations:

- 1) High priority to Rock Creek because it has the highest Coho spawning counts on the north coast.
- 2) Develop adequate fish species population information for the entire watershed.
- 3) Protect the integrity of existing study sites.
- 4) Cooperate with Lincoln Co., the Dept. of Ag. and others to control noxious and invasive weeds.
- 5) Periodically monitor special endangered species sites to identify any changes in population or occupancy.

My walk through Drift Creek Camp with the eyes of a forester – etc.