State of Washington
DEPARTMENT OF FISH AND WILDLIFE
North Puget Sound • Region 4 • 16018 Mill Creek Blvd., Mill Creek, WA 98012-1296
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April 10, 2019

The Honorable Keith Wagoner
Washington State Senate
PO Box 40439
Olympia, WA 98504

Dear Senator Wagoner,

I am writing to clarify my remarks around elk being present in the Skagit Valley since time immemorial. In my role as Regional Director, I have heard a lot of contentious debate about the origin of the herd and appreciate the opportunity to do a deep dive into the history of the issue. Provided below is some information I found in researching the issue. I also need to give credit to the WDFW librarian who was instrumental in finding sources and searching the State's database.

Relative to the definition of time immemorial I found that it has two definitions in the Merriam – Webster Dictionary. The first: is a time so long past as to be indefinite in history or tradition. The second definition states: a time antedating a period legally fixed as the basis for a custom or right. In the Skagit Valley, it seems appropriate to use the Point Elliott Treaty of 1855 as our fixed legal period and then expand it to the first known translocation in 1912. With that in mind, I focused my research on evidence for elk in the Skagit Valley prior to 1912.

To answer this question, I relied upon archeological, anthropological evidence and early scientific accounts. Much of the archeological evidence for elk in the Skagit area comes from the work of Robert Mierendorf who worked for the National Park Service for many years. He published several documents that are useful for this discussion. He states in *An Archeological Site Survey and Evaluation in the Upper Skagit River Valley, Whatcom County, Washington* published in 1998 that "From studies conducted to assess the effects of the Ross Dam and its reservoir on the upper Skagit Valley, it is reported that the area sustained an abundance of native fauna prior to impoundment of the river. The large animals included black and grizzly bear, black-tailed and mule deer, mountain goat, Roosevelt elk and cougar." He goes on to state, "Of the many food resources in the valley, deer are likely to have been most abundant and important for subsistence (although the cumulative abundance of other animals, such as bear, elk and goat may have exceeded that of deer)." (Mierendorf, 1998 pg 21). Mierendorf also states in *People of the Cascades*, "Roosevelt elk, an animal of lowland rainforests, were present historically in the northern and western portions of the Park Complex in the Skagit and Nooksack River drainages." (Mierendorf, 1986 pg 15).

In addition to archeological evidence, there is anthropological references in the stories of the Upper Skagit Indian Tribes. In *Valley of the Spirits*, by Collins (1974), the author states, "Second in importance in the diet were land animals. The Upper Skagit hunted deer, elk, mountain goat, black bear (may be brown or cinnamon), grizzly bear, beaver, snowshoe rabbit, fisher, raccoon and land otter. Deer and elk were the most highly sought (pg 52)." The author also relates a story told to her by a tribal elder, Lucy Williams, "He once found a dozen elk together in a big marsh near Burlington on the Skagit River. He saw the elk running. He put the magic into the elk. (Pg 208)."

One of the earliest scientific accounts we could find is from 1939, when the Washington Department of Game stated in reference to an area that included the Skagit Valley, 'Elk are native to that portion of Washington State west of the Cascades… Elk were seen by early explorers, chiefly in the lowland river bottoms and prairies of western Washington." The report goes on to state, "When Montana elk became available for planting at a very reasonable cost, many sportsmen's groups and county game commissions undertook elk importations. Between 1912 and 1932, ..elk were imported from Montana and planted in Washington." (McCauley, 1939). Though the current herd has been augmented in the past with elk from Montana, more recent additions are Roosevelt elk from the Mt. St. Helens area. Though the story of this elk herd is complicated, the elk here today are not significantly different from the elk that roamed this area in the not-so-distant past.

Through this quick review, I found multiple sources of evidence that elk have used the Skagit Valley for many centuries. I've listed below some of the references to the literature I found in case you're interested in reading into it further. There are some valuable historical accounts that are worth a read. Regardless of the historical use of the Valley by elk, the current challenges facing us today are real and are causing the agricultural industry serious economic impacts. While we may disagree on whether elk have always been part of the ecosystem in the Skagit, I think we can agree that reintroduction efforts of elk into the Valley has increased impacts to the farming community over the decades. I am dedicated to working with you to find solutions that will reduce the impacts to private property owners and farmers while protecting tribal treaty rights and ensuring a healthy North Cascades Elk Herd.

Thanks again for the opportunity to clarify my remarks and for all of your work on this challenging issue.

With Respect,

Amy Wf

Amy Windrope
Northern Puget Sound Director
WDFW

cc: Representative Carolyn Eslick
Representative Robert Sutherland

Attachment A:

References: This includes both the cited documents and materials that we consulted.

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PEOPLE OF THE NORTH CASCADES.

BY
ROBERT R. MIERENDORF

CO-PRINCIPAL INVESTIGATORS:

ROBERT R. MIERENDORF AND KENNETH C. REID

NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGION
SEATTLE, WASHINGTON
JUNE 1986

Table 2-1. A Partial Listing of Plants in the Park Complex, and Used by Indian People in and Adjacent to the North Cascade Range.

Common Name	Scientific Name	Common Name	Scientific Name
Glacier lilly	Erythronium grandiflorum	Kinnickinnick	Arctostaphylos spp.
Tiger lilly	Lilium columbianum	Indian hemp	Apocynum
Riceroot	Fritillaria spp.	Red elderberry	Sambucus racemosa
Spring beauty	Claytonia spp.	Hazelnut	Corylus cornuta
Balsamroot	Balsamorhiza sagittata	White bark pine nut	Pinus albicaulis
Raspberry	Rubus spp.	Bleeding heart	Dicentra formosa
Blackberry	Rubus spp.	Biscuitroot	Lomatium spp.
Huckleberry	Vaccinium spp.	Ironwood	Holodiscus discolor
Salmonberry	Rubus spectabilis	Cedar	Thuja plicata
Currant	Ribes spp.	Trillium	Trillium ovatum
Salal	Gaultheria spp.	Wild rose	Rosa spp.
Skunk cabbage	Lysichitum americanum	Serviceberry	Amelanchier anifolia

The many animals living in the Park were important to prehistoric people, not only for their contribution to the diet but also because they provided the raw materials to make tools and other utilitarian objects necessary to life in the forested mountains. A list of mammal species and subspecies in the Park Complex has been made (Bjorklund 1981). A complete listing of the animals used by Indian people is not given here. Instead, only those that seem to have been particularly abundant or in demand are noted. This does not mean, however, that the many smaller fur-bearing animals and upland and aquatic birds were not hunted by prehistoric people. Birds were particularly abundant along Puget Sound, the lower Skagit River valley, and other wetlands (Buechner 1953; Blukis Onat 1980).

Probably the most important and common animal species hunted were the deer which occur throughout the mountains. On the west slopes these are black-tailed deer, and on the east slopes mule deer; these are two different races of the same species (Taber 1984). Although found throughout the Park, deer migrate between the upper montane forests in summer and the lower river valleys in winter. Other hunted animals are not so evenly distributed throughout the Park Complex. Roosevelt elk, an animal of lowland rainforests, were present historically in the northern and western portions of the Park Complex in the Skagit and Nooksack River drainages (Bjorklund 1981). Although large numbers of elk did not occur in higher elevation portions of the Park, they are inhabitants of timberline zones during the short summers (Bjorklund 1981). Rocky Mountain elk apparently were not numerous in the Stehekin River drainage in the last 200 years; however, elk bones from archaeological sites near the mouth of the Chelan River show that some type of elk was hunted by Indians at least 1,500 years ago (Robalik 1983). Other animals that may have been hunted, but have no record of observation during the historic period, include moose and mountain sheep. (Archaeological excavations east of the Cascade Range, along the Columbia River, have shown mountain sheep to have been an important food in the diet

STATE OF WASHINGTON DEPARTMENT OF GAME

Bernard T. McCauley, Director

WASHINGTON ELK REPORT

1939

Clarence Pautzke - Chief Biologist
Burton Leuckhart - Game Biologist
Leonard Springer - Game Biologist

Seattle, Washington

July - 1939

WASHINGTON ELK REPORT

1939

HISTORY OF ELK POPULATIONS:

Elk are native to that portion of Washington west of the Cascades, but no records are available to determine whether or not elk were found in the eastern part of the state during early settlement. Elk were seen by early explorers, chiefly in the lowland river bottoms and prairies of western Washington. At that period, cougar were probably the principal factor limiting the elk population. As settlers cultivated the lowlands, elk were forced to the hills and, as predatory cougar were reduced in number, their place was supplanted in some districts by the white men and Indians, who often were even more destructive than the predators they replaced. However, until the introduction of firearms by the white men, few elk were killed by Indians, because they were difficult to bag with the Indians' primitive weapons.

When Montana elk became available for planting at a very reasonable cost, many sportsmen's groups and county game commissions undertook elk importations. Between 1912 and 1932, 502 elk were imported from Montana and planted in Washington.

Following is a compilation of planting records, with notes on the results of each planting, as complete as could be determined from information available:

ELK PLANTINGS IN WASHINGTON AND THEIR RESULTS

1912 - March 8	60 elk	Planted:	Snohomish County (near Startup)
		From:	Gardner, Montana
		By:	Snohomish County Game Commission
		Results:	Much damage trouble. Now extinct. (Poaching)
1912 - March 18	46 elk	Planted:	Skagit County (Upper Skagit)
		From:	Gardner, Montana
		By:	Skagit County Game Commission
		Results:	Increased to 500 estimated population, and then all exterminated. Last elk killed approximately ten years ago.
1912 - December 25	80 elk	Planted:	King County (44 North Bend, 40 Enumclaw and 4 Auburn Park) - Apparently 8 extras sent.
		From:	Montana
		By:	King County Game Commission
		Results:	Small remnant on Snoqualmie Island of North Bend plant. Enumclaw plant now a fair population.
1913 - January 20	50 elk	Planted:	Yakima County on Naches River
		From:	Montana
		By:	Yakima County
		Results:	Has stocked area from Ahtanum, Yakima County, to Cle Elum, Kittitas County - approximately 3,000 elk from this plant.

1913 - February 3	40 elk	Planted:	Garfield County - Pomeroy - Wenaha Forest
		From:	Montana
		By:	Wenaha Game Protective Association
		Results:	Partly responsible for present Blue Mountain elk population.
1913 - March 3	6 elk	Planted:	Spokane Park
		From:	Montana
1913 - March 7	25 elk	Planted:	Walla Walla - Wenaha Forest
		From:	Montana - Supervised by W. L. Russell
		Results:	Added to Blue Mountain elk.
1915 - Winter	45 elk	Planted:	Kittitas County - released at Boylston and driven north at Vantage.
		From:	Montana
		By:	Kittitas County
		Results:	Now approximately 350 elk and doing well.
1915	40 elk	Planted:	Stevens County - east of Colville and east of Chewelah
		From:	Montana
		By:	Stevens County Game Commission
		Results:	All killed
1918 - Winter	50 elk	Planted:	Walla Walla - Blue Mountains
		From:	Montana
		By:	Public subscription (from Couch - Murrelet)
1922	9 elk	Planted:	Okanogan County
		From:	Hoh River
		Results:	Menace to inhabitants and had to be killed.
1922	4 elk	Planted:	Blakely Island
		From:	Hoh River
		Results:	Died or were poached.
1923	4 elk	Planted:	Snoqualmie Island - added to approximately 6 Montana elk that were already there.
		From:	Hoh River
		Results:	Present population, 16
1930 - January	30 elk	Planted:	Columbia County, south of Dayton
		From:	Montana
		By:	Isaak Walton League of Dayton
		Results:	Added to Blue Mountain herd.
1930	6 elk	Planted:	Sullivan Lake, Pend Oreille County
		From:	Spokane Park
		Results:	Present population, 6

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VALLEY of the SPIRITS

The Upper Skagit Indians of Western Washington

JUNE McCORMICK COLLINS

UNIVERSITY OF WASHINGTON PRESS
Seattle and London

land. They got oysters at tsuhi near Hilton. Women prepared oysters by first boiling rocks, then cleaning them, and placing the oysters on them to heat. Gifts of smoked shellfish were always acceptable to Upper Skagit who exchanged dried venison for them.

HUNTING

Second in importance in the diet were land animals. The Upper Skagit hunted deer, elk, mountain goat, black bear (may be brown or cinnamon), ground bear, beaver, snowshoe rabbit, fisher, raccoon, and land otter. Deer and elk were the most highly sought. All of these animals were eaten. Skins, particularly of deer, were used in clothing and as bed coverings. Upper Skagit desired mountain goats for their wool which women wove into blankets. Some animal bones, such as the ulna of the deer for an awl, were used as implements. The Upper Skagit made beaver teeth into gravers or chisels.

Among Indians of their area, the Upper Skagit maintain that they tended to specialize in hunting. In speaking of exchange among relatives, they always mention that they gave products of the chase, receiving seafoods in return. Their surplus included not only meat but also skins. Although most of the Upper Skagit women knew how to make mats of cedar bark and of cattails, they made and wore more skin clothing than saltwater peoples. The reason was partly that it was colder in the mountains and partly that the Upper Skagit traveled by land to a greater extent than saltwater peoples and needed skins for protection from the thick vegetation.

To kill these animals, men used the bow (t'ēlic) and arrow (t'ēsid). Each hunter made his own bow of yew or alder, shaping it like a Cupid's bow. Some hunters backed their bows with sinew attached with fish glue; others used no backing. They seasoned their bows carefully. A man owned several bows, making them in different lengths depending upon the size of the game he intended to kill. A bow for use with big game was about as long as the arm span of the hunter. Harry Moses, a short man, said his bow was about four feet long. The hunter used sinew for his bowstring which took considerable strength to pull. Arrows, like bows, were made in different lengths, depending on the size of the game.

The arrow shaft was of ironwood; the point of a special white stone obtained from a rock slide at the place on the main Skagit. The point was chipped and had two shoulders. The hunter carried his arrows in a skin quiver (čəlix"əlʔ), suspended from a shoulder strap.

One man, Johnny Mowitch (this surname means "deer" in Chinook jargon), of the last century is described as an unusual hunter. He lived in the village of skiʔiɣ"ilc near Sedro Woolley. He could run an elk down, jump on his back, and cut his throat. He was said to have a guardian spirit which gave him this particular ability. He also used hunting magic (see "Magic" in Chap. 11).

Men set several kinds of traps and snares for game. One such had the principle of the deadfall and was used to trap bear and deer. The hunter placed this trap in the path which the animal made on his way to the river for water. Stepping on the spring, the bear or deer released the log weight which crushed him.

Another type of trap, according to informants, was like a big mousetrap. This had bait, which, when the animal asked it, released a spring mechanism which caught and killed the beast.

Hunters sometimes worked together, driving deer over cliffs or into ravines from which they could not escape. On other occasions, they sometimes went in parties, at other times alone.

Women prepared meat for eating by cutting it into pieces and boiling it. They used the waterproof coiled baskets for cooking. Jessie Moses explained the procedure as follows:

> When my father killed a bear, he said, "I'm going to boil the meat in your basket."
>
> I said, "Won't it burn?"
>
> He got the meat all cut up while he was heating the rocks. When he got through cutting the meat, he put water in the basket until it was half-full. He put one rock in and then a second. The second made the water boil. When the water stopped boiling, he took another rock and put it in. He claimed each rock. Three rocks were enough to cook the meat. He had to keep stirring the rocks or they would burn the basket. He used flat rounded cedar sticks with prongs to stir the rocks. You had to soak the baskets over night so they would stop leaking.

When they were available, women cooked wild onions or other wild roots with the meat. They also roasted meat and broiled it. The Upper Skagit dried venison and other game for preservation. This formed an important part of their winter food supply.

elk. Soon the elk ran so fast that blood came out. He chased the elk, jumped on his back, and cut his throat. There were many charms to use in curing the sick. Charles Formby, John Formby's father, knew many of these. He touched the sick person a little with his hand while he talked.

When someone had lost his appetite because of illness, it was possible to hire a person to recover it with a spell. The practitioner, Charles Formby in this case, knelt beside the patient and gave him a little water for the spell. Then he recited the words slowly, blowing a breath on the patient's body with each word.

Some women knew a charm to recite while making moccasins. The wearer then would not become fatigued but could walk for a long time in the mountains. Lucy Williams knew a charm of "calling her legs" which she could recite when she became tired while walking. She said that this was always effective—the "tiredness" left her legs immediately.

Along with the slight emphasis on benevolent magic there was very little harmful magic. The documentation already given points to the great emphasis on the assistance of supernatural beings in hurting people. The Upper Skagit knew of the practice of making small images of enemies and injuring them to bring a similar injury to the enemy. Making these was not a part of their tradition, although it is possible that someone married among them from another tribe may have done so on occasion.

Magic was not the province of the shaman alone, although shamans were likely to know some charms. Most of the persons I heard about or knew who had magical knowledge were not shamans. Both men and women had such lore.

CURING WITH HERBS

The Upper Skagit distinguished fairly carefully between medicinal practices of a "mechanical" nature as compared with those involving guardian spirits. Although I did not investigate this area in detail, there is no question but that the Upper Skagit had an extensive pharmacopoeia. Shamans could make use of this knowledge as well as others. However, not all of the experts in the use of herbs whom I knew of were shamans. Most of them were women. The shamanistic curing ceremonies involved no use of potions and, other than the sucking treatment, no mechanical manipulation of

the body. Except for the one case described by Jackson Harvey, in which the shaman actually sucked out matter from the body, the sucking shaman did not break the skin and obtained the harmful worm, for example, if this were his goal in a supernatural way.

Through the use of herbs, which had been steeped and heated in water, specialists could treat sore eyes, headaches, constipation, and inability to urinate. One woman, a Nooksack Indian from the neighboring river valley to the north of the Skagit River, was said to cure arthritis successfully through the use of herbs. Constipation was treated with an infusion of cascara bark. Some persons could set broken limbs in splints.

The Upper Skagit had certain ideas about the treatment of the ill. One of these was that the sick person should not stay in bed, as this was considered debilitating. If he was too ill to get up, his bed rest should be curtailed as much as possible. This was one of the reasons in 1942 why they were reluctant to have operations because it was customary at that time to keep the patient in bed for months afterwards.

Some diseases, as I have already pointed out, were thought to be caused by tiny red insects or white worms. The Upper Skagit merged this idea with the concept of germs; many elderly people said the Upper Skagit, in this sense, had always believed in germs.

The idea of contagion in disease, even though it was regarded as caused by a spirit, was accepted by the Upper Skagit in the last century if not before. In the case of smallpox, one old man was forced to leave his village and live alone on an island after he had contracted the disease. In the episode related by Jackson Harvey, the family fled from the village where all the others had chickenpox (see p. 161).

Several Upper Skagit said that tuberculosis was present before the arrival of Europeans but that there were very few cases. Several also said that pneumonia and "fever" did not exist. Infections of wounds and those obtained by women during childbirth were said to be rare.

CONCEPTIONS OF THE WORLD

The Upper Skagit conceived of the world as an immense round island [illegible] in an ocean. Around this ocean ran a high wall. On the other side of this wall was the land of guardian spirits—

11

Magic, World View, and Mythology

SANCTIONS

THE FEAR OF SPIRIT RETALIATION in the form of illness and death was one of the main sanctions which ensured adherence to the beliefs and practices of the religion. As we have seen, disobedience to the spirits or deviation from the approved manner of treating them brought illness and death. The effectiveness of this type of sanction deserves some discussion. As in other native societies, illness created tension and anxiety among members of the family. Illness was not only a threat to the sick person but also to the others in the family who had to take over his duties and finance the necessary curing ceremonies. Among the Skagit, the illness of an adult male meant not only that his duties would be shifted to another but that through loss of his contributions the others might be in danger of starvation. The sickness of a woman too meant the loss of a food-collector as well as cook and nurse. It was the woman who produced much of the surplus property such as the baskets and mats which were given away at winter dances and at potlatches. Decimation by illness and death might result eventually in a lowered status for the family-village unit if it could not meet these obligations over a long period of time.

The Skagit tend to regard illness as a prelude to death rather than a temporary state from which people may be expected to recover. "You get ill and die," is said in one breath of the violation of supernatural dictates. In Western society, the source of the illness is not necessarily fatal. To the Skagit the source bringing about the illness progresses inevitably to death unless intervention is made.

Death did not offer rewards of any sort other than the pleasure of being with the ghosts of dead relatives. Except for persons who were recently bereft and unusually devoted to the dead relative, others were not expected to desire death in order to join the ghosts of the dead. The land of the dead is discussed later (see "Old Age and Death," in Chap. 12); on the whole it was considered a poorer place to live than the world of the living.

Sanctions with positive value supporting the religion—most of these being closely interrelated—included the abilities to have good health, to live a long life, to rear one's children, to feed one's family well, to obtain the respect of the community, and to acquire renown in other villages as a "high class" person. A man could become a good hunter or fisherman and supply his family with sufficient food only with the assistance of spirit helpers. No one could acquire wealth or achieve distinction as a warrior or shaman without the aid of guardian spirits.

MAGIC

In comparison with the religious life, magic (šádad) was relatively unimportant to the Upper Skagit. They had charms for love, hunting, appetite, sickness, and for fatigue.

When a man wanted a woman or a woman a man, he or she could hire a person who knew love magic. In one example, a woman's husband was about to leave her. Two old ladies were hired to prevent his leaving. They called the wife from the house to a "dark place." Then they washed her, reciting the spell, as in all Upper Skagit verbal magic, in such a low voice as to be inaudible. In the words of the informant, "If you missed one word, that thing was no good." They called the husband each morning when the sun came up and each night when the sun went down. In this case, the magic was successful; the man did not leave his wife. This magic was said to be so powerful that the person affected by it would stop whatever he was doing and go immediately to the one calling him. "You got it in your heart."

A man, mîwîl ("deer" in Chinook Jargon), from Nookachamps (dəq"ɔcáb'ʔs) already mentioned, knew hunting magic. Lucy Williams told this story.

He once found a dozen elk together in a big marsh near Burlington on the Skagit River. He saw the elk running. He put the magic into the

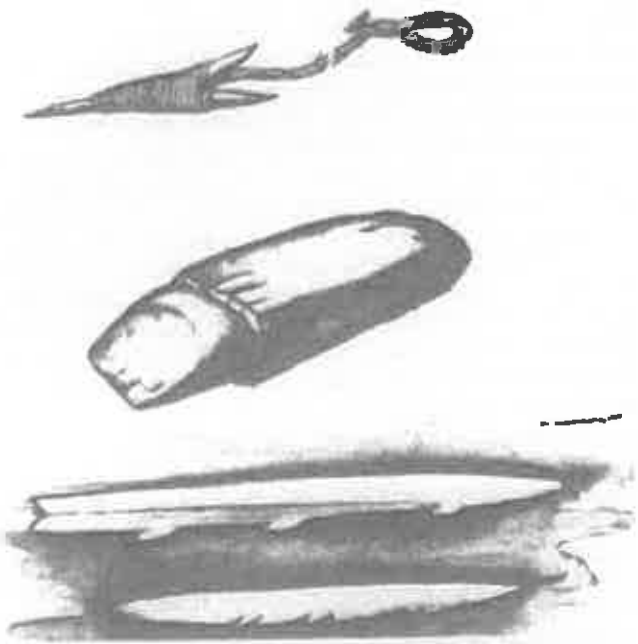

FIGURE 2. Points and adze. *Top:* Detachable harpoon point. The barbs are of bone, the point is a flattened iron nail, and the attached rope is a trade item also and not of Indian manufacture. This illustration is included to show the use of iron, when it became available, in place of stone. *Center:* Ground stone adze blade hafted in bone—the principal woodworking tool. *Bottom:* Two bone points originally hafted and probably used in hunting sea mammals. Drawings by Norman Tweedale from sketches by the author. Originals of these items are in the Skagit County Museum, LaConner, Washington, and were obtained in the delta of the Skagit River near Conway.

ing, mats, diapers, headdresses, and other accouterments in ceremonial dances. The withes were fashioned into rope, the roots used in basketry manufacture.

The Upper Skagit used the wood of the Douglas fir, called sčálbic for the tree, to make the shafts of fish spears and harpoons as well as for the vertical supports in fish weirs.

Woodworkers made bowls of vine maple for grease containers. Some objects for ceremonial use were also fashioned from this wood.

The principal tools of the Upper Skagit included the axe (ə.ɬ'ʷəq'ʷəb), adze (sčəq') (see Fig. 2), chisel, hammer (sk'ficid), knife (sčíɬək'), and wedge (puɬk'ʷəd). The axe was not a pre-White tool. The term for axe, ə.ɬ'ʷəq'ʷəb, which appears here, was applied to the metal axe introduced by White men. The blades of the adze and of some types of knives as well as the hammer (which had no handle) were made of stone, obtained from rock slides along the river where rock of the requisite hardness was available. These were highly polished. The blades were sharpened on a grindstone (xíjəlik). They disappeared so rapidly after steel tools were introduced that I have not seen any belonging to Upper Skagit families. An adze blade with an antler sleeve found near Conway in the delta of the Skagit River is shown in Figure 4. I have seen adze blades found on a farm in the delta of the Samish River which were probably like the Upper Skagit ones. The chisel, wedge, and some types of knives were made from elk horn or deer horn. The wedge was about two feet long. Neither the wedge nor the chisel had handles.

HOUSE TYPES

The Upper Skagit had three major kinds of dwellings: the wooden house (which was semiportable), the mat house (which was completely portable), and the sweat house. Wooden houses consisted of winter dwellings, small houses at fishing sites, and houses used only for winter dance ceremonials. The Upper Skagit did not make underground houses, although they knew about those of their neighbors in the Plateau and a few on the coast who had them. Most of the Upper Skagit in their fifties and older in 1942 had visited in them. The inhabitants of one village of Lower Skagit and another unidentified village on salt water were said to have lived in underground houses. Stories were told to account for this practice, which seemed strange to my informants. Both villages had been attacked by marauders. The residents had run into the woods to escape and remained living in the woods for a while as "wild people." To avoid other raiding parties, they built an underground house which was invisible from above ground except when they had a fire in it. A White man who first came to Whidbey Is-

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AN ARCHEOLOGICAL SITE SURVEY AND EVALUATION IN THE UPPER SKAGIT RIVER VALLEY, WHATCOM COUNTY, WASHINGTON

by

Robert R. Mierendorf, David J. Harry, and Gregg M. Sullivan

With Contributions by

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U.S. Department of the Interior
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Sedro Woolley, WA

Technical Report NPS/CCCNOCA/CRTR-98/01

1998

respect to either environment or cultural adaptation. Rather, there is evidence that the climate and the resource base of the project area has shifted significantly over the last ca. 10,000 years.

The set of environmental factors that characterize the project area offers a unique landscape in western Washington for prehistoric people with a hunting, gathering, and fishing economy. Few places can be found with this diversity of plants and animals within a day's foraging radius. Environmental factors of extremely steep slopes and strong rainshadow result in "a set of biotic zones compactly arranged within small territories" (Watanabe 1968:73). Such habitat variations had an important effect on Native American subsistence and can result in distinctive settlement patterns for separate bands within the same cultural group (Watanabe 1968). It is possible, therefore, that environmental conditions of the upper Skagit River Valley have influenced aspects of Native American settlement and subsistence in ways that are unique by comparison with other "culturally similar" groups and bands of the western Cascades.

From studies conducted to assess the effects of Ross Dam and its reservoir on the upper Skagit Valley, it is reported that the area sustained an abundance of native fauna prior to impoundment of the river. The large animals included black and grizzly bear, black-tailed and mule deer, mountain goat, Roosevelt elk, and cougar. Small mammals included beaver, marmot, snowshoe hare, bobcat, lynx, ermine, river otter, marten, mink, and red and Douglas squirrel (International Joint Commission 1971; Taber 1971). Over 170 bird species have been recorded in the valley. The most common are blue grouse, ruffed grouse, mallard, American widgeon, shoveller, and bufflehead (International Joint Commission 1971).

Prior to impoundment, large trout were plentiful in the Skagit River. Four species were known to occur above Ross Dam. In order of abundance they are rainbow trout, dolly varden char, eastern brook trout, and cutthroat trout (International Joint Commission 1971). Lane and Lane (1977:155) mention a trout processing site up Ruby Cr. used by Upper Skagit people.

The valley also supports a range of plant resources that were traditionally used by the Nlaka'pamux and other Native groups throughout the Northwest for food, medicine, and utensils (Turner et al. 1990). Among these are wild lilies (chocolate, glacier, and tiger lily), spring beauty, wild onion, berries (serviceberry, gooseberry, wild cherry, huckleberry, salmonberry, thimbleberry, raspberry, and blackberry), dogbane, hazelnut, biscuitroot, cow parsnip, bleeding heart, cascara, hawthorn, kinnikinnick, western red-cedar, paper birch, and many others.

Of the many food resources in the valley, deer are likely to have been most abundant and important for subsistence (although the cumulative abundance of other animals, such as bear, elk, and goat may have exceeded that of deer). Although deer populations were low in the early 1900s, their numbers increased rapidly with opening

CHAPTER II

History of the Greater North Cascades Ecosystem

George Dreffin, Ken Feerhelt, Mitch Friedman, and Bob Mierendorf

This book is about a powerful place — the Greater North Cascades Ecosystem. This place has molded the minds and lives of humans from the time the glaciers last retreated to our present modern day. In turn, humans have dramatically affected the ecosystem. This chapter is about these relationships. From the standpoint of sustainability, the consistency of life from one generation to the next, life worked well here for a long time. This predictability is important in life: How could one adequately teach one's children if tasks will be a different world? By revisiting the old ONCE, the native landscape, its inhabitants and its invaders, perhaps we can find the threads we will need to reconnect the past with the future.

Without written records or photographs, the prehistory of the ONCE is told through the techniques of scientific archeology, and in embodied in the traditional beliefs and cultural practices of Native American people, the descendants of the people who lived prehistory. For more than 11,000 years, archeology informs us, the ancestors of Indian people adapted to, and evolved with, a landscape that experienced ecological transformations of such magnitude that they are virtually incomprehensible to us today.

The newly deglaciated landscape of the early Holocene presented a far different environment than the one we know today. The retreating glaciers left behind an open and youthful landscape, lacking mature soils and expansive, closed-canopy old-growth forests. Pioneering plant species quickly rooted in the thick glacial deposits, building the soil and creating the substrate for more shade-tolerant plants. Gradually and successively, the landscape began to mature, as plant and animal species

migrated to environments that increasingly reflected the post-glacial conditions, which were cooler and moister than today's climate.

The climate continued to ameliorate, and glaciers to retreat, so that by the middle Holocene, sometime between 8,000 and 4,000 years ago, the climate in some parts of the region (and the world) was much drier than any time before or after. This climatic interval is called the Hypsithermal.[1] The distribution of vegetation zones changed, as did the animal populations they supported, and so did the subsistence strategies of the Native peoples dependent on them. During this time, Indian populations may have experienced episodes of extreme drought, and North Cascades alpine glaciers greatly diminished in size. Near the end of this time period, about 5,000 years ago, sea levels, which had been lowered, stabilized at essentially modern levels.

The last 4,000 to 5,000 years of Holocene climate, called the Neoglacial, has been consistently moister than the Hypsithermal. Again, plant associations and vegetation patterns shifted. Overall, the forest canopy closed in and forest types increasingly resembled modern ones. Alpine glaciers in the North Cascades experienced a series of surges and retreats. The largest of these surges, called the Little Ice Age, occurred recently, between about 450 and 150 years ago.[2]

Throughout the Holocene, the population densities of Native American groups increased compared to the initially small and highly mobile bands of the late Pleistocene. Archeology tells a fascinating story about the evolution of Northwest Indian cultures as they adapted to large-scale and sometimes overwhelming environmental or cultural changes.

NATIVE AMERICANS OF THE NORTH CASCADES

Much like the ecology of the landscape that was their home, the Native peoples of this region displayed an impressive degree of complexity, which is measured in cultural terms by linguistic, social, and economic dimensions. Reducing this complexity for the sake of brevity, we note that these peoples spoke a great variety of dialects and languages, most of them mutually unintelligible, that have been divided into two broad groups. Coast Salish of the west Cascade Mountain slopes and Interior Salish to the east. Analysis of linguistic patterns across the native geographic range of Salishan speakers suggests that these dialects evolved over many millennia.[3]

The social complexity of Coast Salish speakers early in this century attracted the attention of anthropologists, who have investigated aspects of Northwest Coast kinship, ranking, mythology, and subsistence.[4] Generally, social complexity was greatest along the coast and the sounds; and it decreased farther east, into the interior and across to the eastern

margins of the North Cascades. Social complexity, like so many other aspects of culture, is woven intricately throughout the fabric of ecosystem variability and resource productivity.

Much of the variation in lifestyles between the various Northwest Native American groups was influenced by the geography and seasonality of key resources. This most basic relationship between food-gathering cultures and the environment is embedded, for example, in a distinction drawn for us by the people themselves and expressed in one of the Northwest's first ethnologists, the distinction between saltwater Indians and freshwater Indians.[6] It is embodied also in the earnestness and reverence that modern Indian people hold for the earth, and their ceremonies performed to celebrate in season the first roots, salmon, and berries. This relationship is at the same time the key that opens the way to understanding the prehistory of the GNCE. By this means we begin to appreciate and expect how tightly tuned Native American lifestyles must have been to the nuances and subtleties of mountain ecology and terrain, to subtext and plant microhabitats, to rainshadow, glacier, and avalanche chute.

We begin to see that the large sedentary villages of the narrow and riverine lowland dwellers along the edges of the GNCE are not to be expected in the mountain interior, which is better suited to smaller, more mobile bands. Whereas the lowland people relied predominantly on hunting and fishing of a materials and fish, including the world's most abundant sea [illegible] the people of the mountains subsisted largely on their particular terrestrial animals, such as deer, elk, bear, and mountain goats, on plants, and on freshwater fishes. Plants provided medicine and food and had considerable dietary importance to Native American subsistence.[7] Some important food plants in the North Cascades that contributed carbohydrates and sugars to the diet include glacier, tiger, and chocolate lilies, wild onion, huckleberries, raspberries, salmonberries, and ferns.[8] Overall, the subsistence strategies of bands using the mountainous highlands are likely to have exploited a broader range of resources than their lowland counterparts. However, this assertion is not easily testable using evidence from historic records because the mountainous highlands had been largely abandoned by the time non-Indians penetrated to the interior of the North Cascades. For example, in Henry Custer's 1860 survey of the USA-Canada boundary, he observed Native American trails and a few brush huts, but he encountered no bands or individual members of these original mountain inhabitants.[9]

Beginning with the exposition of the continent by Euroamericans, scholars have viewed Native groups as organized politically into discrete

Lummi fishing camp near present-day Bellingham, circa 1917
Whatcom Museum of History and Art, Bellingham, Washington; Asahel Curtis, photographer

bands or tribes living in circumscribed territories. In the case of the greater ecosystems as defined here, these peoples are generally designated as follows: the Lower Thompson (Nlaka'pamux), Lummi, Skagit, Okanagan, Sanpoil, Sanetsmo, Sinkiu, Skykomish, Snoqualmi, Snohomish, Snoqualmie, Stalo, Sutsumish, and Wenatchi (the latter including Methow, Chelan, and Entiat). But these political identities have been imposed on the regional Native cultural geography; in fact, no formerly organized bands or tribes existed. Rather, people who were recently related to one another chose to live in villages for some part of the year (usually winter) and to share the use of resources in a common territory.[10] Within the Native American world view, sharply defined political boundaries carry no meaning.

Prehistory of the North Cascades

Most of our current knowledge of GNCE prehistory derives from archeological sites found in the lowlands, most often within the valleys of the Fraser and Columbia Rivers, and along Puget Sound. A more holistic view makes clear that North Cascades archeology remains in its infancy and stands among the last remaining frontiers of prehistory.

The following section reviews the prehistory of the North Cascades. Sites outside the GNCE boundaries are considered if they further our understanding of the GNCE landscapes. The framework for this review will be partly chronological and partly evolutionary; it begins with the earliest evidence for human use at the end of the Pleistocene, and proceeds through the Holocene up to the historic period.

Late Pleistocene *Adaptations* (12,000 to 9,000 Years Ago)

Evidence for human occupation of the Pacific Northwest during this time remains tentative at best. However, the ability to document this presence in and of itself sets an important baseline for establishing the time scale over which prehistoric cultures evolved. Two archeological sites dating to this time, on both sides of the North Cascades, have produced tools associated with the bones of now-extinct large animals. From the Manis Mastodon Site, located some distance west of the North Cascades on the Olympic Peninsula, a series of radiocarbon age estimates have been recovered, dating to 12,000 years ago and deriving from clearly defined late — and post-glacial geologic deposits.[11] The artifacts consist of a handful of bone tools found in direct association with extensively fractured fossil mastodon and bison bones, including some possible stone tools.

The East Wenatchee Clovis Site, located at the eastern margin of the North Cascades, complements the Manis Mastodon Site through the strength of its evidence. Here, a sizeable cache of the largest known Clovis points and bone tools was found in undisturbed deposits lacking clearly-defined geologic strata and datable organic remains.[12] The term Clovis refers to distinctive spear points and other tools used by people who hunted the now-extinct animals, especially mammoths, that roamed North America at the end of the Pleistocene). Through the identification of volcanic glass fragments adhering to some of the Clovis points, the site is believed to date to the approximate time of an eruption of Glacier Peak (a North Cascades volcano) about 11,200 years ago.

The evidence from these two sites, along with the handful of isolated Clovis points found around the state of Washington, suggests early occupation of the Northwest landscape by nomadic people practicing a specialized subsistence strategy based on the hunting of large, late-Pleistocene

herbivores.[13] Across North America, it appears, this specialized adaptation was confined to a relatively brief span of time between about 11,500 and 10,800 years ago.[14]

Early and Middle Holocene *Adaptations* (9,000 to 4,000 Years Ago)

The archeological assemblages from this time period are believed to reflect cultures practicing a less specialized foraging lifestyle based on a variety of plants and animals available in close proximity to their camps.[15] They are widespread throughout the mountainous Northwest, but are believed to have developed first along the slopes of the Pacific mountain ranges.[16]

A number of early, well-documented sites located along the outer margins of the GNCE date from 9,000 to 8,000 years ago. The earliest, the Milliken Site, is located in the Fraser River canyon near South Yale, British Columbia and is radiocarbon dated to 9,000 years ago.[17] Others radiocarbon dated to this time period have been excavated along the rocky and narrow reach of the Columbia River between the mouths of the Okanogan (Okanogan in Canada) and Wenatchee Rivers.[18,19,20] The artifact assemblages associated with all of these sites are relatively simple, consisting of cores, stone tools of various sorts, and leaf-shaped knives and spear points.

Only recently has evidence suggested use of the rugged interior of the North Cascades during this time. Salo has reported sites in the lower Skagit River valley estimated to be of early to middle Holocene age.[21] Results of an intensive archeological survey covering the Skagit River valley in North Cascades National Park have revealed extensive use by prehistoric populations during this time period. Based on a study of the frequency of time-sensitive artifacts, this portion of the North Cascades appears to have been used more intensively during the middle Holocene than at any time before or after.[22]

A large chert quarry located in the upper Skagit River valley appears to have been used continuously for the last 7,600 years, the most intensive use occurring between 5,000 and 3,500 years ago. Other quarries have been recorded in the valley, some of these on outcrops along steep valley walls positioned 600 meters in elevation above the valley floor.[23] Based on these and other ongoing studies conducted by the National Park Service in the North Cascades, the upper Skagit River valley appears to have been the locus of settlements from which human populations exploited a wide range of subalpine, montane, and riverine resources at intervals during the prehistoric past.

Late Holocene *Adaptations* (4,000 to 200 Years Ago)

Sometime between 4,000 and 3,500 years ago, late Holocene popu-

latter moved into large, semipermanent or permanent winter villages.[27,28] Whereas small, mobile bands before had subsisted by moving annually to different campsites scattered throughout a home range to find subsistence, the new adaptation involved retreats to small task groups that collected and brought resources to a large village which was occupied for much or all of the year. For the first time, storage and the accumulation of surplus food became important. Increasingly, new and more elaborate techniques developed for the intensive exploitation of food plants, animals, and fishes. Populations began to increase far beyond earlier times. Cultural and social institutions evolved in response to these changes, resulting in craft and labor specialists, for example, and in an increase in social complexity which likely included hereditary-based social strata in the highest density populations areas west of the mountains.[29] Such highly stratified, non-egalitarian societies are familiar to those readers having a western European background. Egalitarian societies, lacking social strata, remained east of the Cascades into the historic period.

These changes are manifested in the archeological record through the presence of houses and storage features and a greatly increased variety of artifacts reflecting elaborate fishing and hunting technologies, wood working, and plant use. The remains of semi-subterranean pit houses have been reported from the lowlands along the edges of the GNCE, especially to the north and east. Only a few have been reported in the mountainous interior. To the west, prehistoric remains of any type are rare. Much more common in populations living west of the mountains was the above-ground plank house, and remnants of these have been investigated along the edges of Puget Sound.[30,31]

Many satellite camps and resource use areas were temporarily occupied for specialized subsistence and ceremonies. Common examples of such sites include fishing camps along rivers; marine and freshwater mussel shell middens along coasts, sounds, and rivers; hunting camps containing cooking hearths and centers of butchered animal bones; hunting blinds; earth ovens consisting of abundant charcoal and burned rocks left after the cooking of roots and the drying of berries; rock quarrying and gathering locations, pictographs and petroglyphs; and vision quest sites. Most archeological sites in the interior of the Cascades reflect these more specialized activities, especially in high-elevation backcountry areas.

Until recently, most archaeologists considered such landscapes to have been avoided by Native peoples. Not until the late 1970s was the first subalpine site recognized in the GNCE near Cascade Pass, which was long known to be an important passage through the mountains.[32] Although this was in some ways a milestone in the archaeology of the region, the significance of this and other highland sites was underestimated because their presence was explained exclusively by the need to get across the range. Later additional subalpine sites were found and recognized as resource use areas important to prehistoric people,[33,34] by documenting the presence of subalpine sites distant from travel corridors, and by demonstrating use of localized and previously unknown subalpine resources, such as obsidian. It was learned that Native Americans had a detailed knowledge of subalpine highland. New archeological surveys from other areas of the GNCE are beginning to document more widespread evidence of prehistoric Indian use of mountainous backcountry.[35,36]

Hundreds of prehistoric sites presently are known to exist on land within the GNCE. Many are located on private land and some on lands under the jurisdiction of government agencies that manage forests and parks. Except in special cases, the policy of many government agencies is to keep the locations of sites confidential in order to protect them from vandalism — a serious and persistent threat to the cultural heritage of all of us who would benefit from the knowledge and meaning embodied in the archeological record.

The knowledge and wisdom of Native American ancestors, embodied in the oral traditions and cultural practices of remaining Indian people, also have increased our awareness. For millennia their direct ancestors experienced the floods, the droughts, the volcanic eruptions, the long periods of stability, and all the nuances of a dynamic and changing landscape that are so important in shaping hunting, gathering, and fishing cultures.

Of course much of that prehistory was lost during its final chapter, which began little more than a hundred years before the first direct encounters of Northwest Indians with non-Indians. The ancient traditions were severely and irreversibly disrupted by disease introduced on the continent from Europe.[37,38] With no natural immunity to such diseases as small pox, distemper, and measles, most Native American populations were largely destroyed. Also about this time, another European import triggered rapid changes in some Indian lifestyles. Along the east slopes of the Cascades and the expansive grasslands beyond, horses spread rapidly after introduction from the southwest. Some groups developed an economic dependency on the horse and became nomadic equestrian foragers.[39]

HISTORY OF THE GREATER NORTH CASCADES ECOSYSTEM

The prehistoric period ends with the written accounts of the explorers to enter the GNCE. These include the 1808 trip by a small group of

also lived east of the Cascades Mountains in the Similkameen valley; their numbers, too, were in decline in historic times. Smallpox and intermittent fever that swept the whole Northwest in the 1830s probably resulted in the destruction of these native people.

Consolidation of family bands into "tribes" on reservations further changed native cultures. By the time of the 1850 U.S. Donation Land Act, under which an individual could claim up to half a section (one-half square mile, about 130 hectares) of land, settlement was coming quickly. In order to negotiate as few treaties as possible, Governor Isaac Stevens combined family bands into a few tribes, to which "chiefs" could be appointed. The four main treaties on the westside were signed by a few individuals in 1854 and 1855. These treaties were to govern some 6,000 natives who would be moved to the Lummi, Swinomish, Port Madison, and Muckleshoot Reservations. The natives who agreed to reservations kept traveling from one to another, seeking a way of life that was rapidly disappearing.

The eastside Indians fared no better. After the Treaty of Washington (1846) established the boundary with British territory, natives on the U.S. side became subject to reservation policy. After 1870, the reservation boundaries were readjusted continually to accommodate the influx of white settlers. In 1879 the Moses (Columbia) Indian Reservation was established, and expanded in 1880 to include everything between Lake Chelan and the Canadian border, from the Cascade summit to the Okanogan River. Meant to be withdrawn from (white) public domain, it attracted miners to the 1880s gold strikes in the Methow and Twisp valleys. Stehekin served as a supply town. Because some whites had never relinquished their territory, and because of continued mining and settlement activity, the reservation was reopened to whites in 1892, when it became Okanogan County. Natives either were given allotments, or were moved to the Colville Reservation. By 1892 the Tribe ceded the northern half of the Colville Reservation, and the roughly six hundred thousand hectares then were sold for about forty cents a hectare.

Hostilities between natives and whites broke out shortly after the so-called signing of the treaties. In September of 1855, the Yakimas attacked miners at Colville. On the westside, the "friendly" Indians were to be isolated on Whidbey Island, all natives there to be moved eventually to the Tulalip Reservation. These moves never happened. The military built four forts in the Snoqualmie Valley, but by the time they were completed hostilities had moved southward to the Naches and White River areas where fighting broke out through the fall and winter of 1855-1856. In March 1856, in two big battles at White River and Connell's Prairie, Chief Leschi of the Puyallups was forced to retreat

through Naches Pass to the territory of the Yakimas. He advised those who stayed behind to negotiate a settlement, and to move to reservations. By October 1856, most of the fighting between natives and whites was over, and General James Tilton ordered the disbanding of the Volunteers of Washington Territory.

Fur Trade

While the first white contact in the GNCE probably took place when the Spanish explorer Quimper sailed from Nootka (Vancouver Island) into the Strait of Juan de Fuca in 1790, and in 1792 when Vancouver explored Puget Sound, the fur trader Alexander Mackenzie was not far behind. He went up the Peace Peninsula, and part way down the Fraser rivers (long before Simon Fraser). David Thompson of the North West (Fur) Company had traversed from the headwaters to the mouth of the Columbia by 1811, and by 1827 Hudson's Bay Company had established Fort Langley 47 kilometers upstream from the mouth of the Fraser.

In 1810, John Jacob Astor's Pacific Fur Company established a fort at the confluence of the North and South Thompson rivers, which they called Fort Okanogan. Later in 1812, the North West Company built a post alongside. The North West Company took over the Astorian interests in 1813; they in turn amalgamated with the Hudson's Bay Company in 1821, which then acquired a monopoly of the fur trade in the Pacific Northwest.

Before the arrival of the white man, trade between the native groups was well established between the coast and the interior via the Fraser Canyon, and the Coquihalla and Anderson River routes through the Cascades. However, between 1813 and 1846 the Okanogan valley remained the main fur trade route from New Caledonia and the Thompson country to the lower Columbia and the Pacific Coast. An early (1823) map of the region made by Hudson's Bay Company Chief Trader Samuel Black, of Kamloops, shows "Terrible Mountains all over horseboats" for the Cascades. In anticipation of the drawing of the boundary line between British and American possessions, and the consequent necessity of making changes to the regular trading routes, Hudson's Bay Company Chief Trader Alexander Caulfield Anderson offered to explore possible brigade trails between New Caledonia and Fort Langley on the lower Fraser River. Anderson explored four routes between Kamloops and Hope in 1846 and 1847, and finally settled on a trail that crossed the Cascades from a point on the Coldwater River (near the present town of Merritt) to the Fraser at an Indian village called Experience, later renamed Chapman's Bar. A permanent route was established in 1848 by Hudson's Bay Company clerk Henry Peers between forts Kamloops and Hope.

North West Company fur traders who ventured south through the Fraser River Canyon on a journey to the ocean. Simon Fraser and his party thought this river — which was later to carry his name — was the Columbia.

The Pacific Fur Company, led by David Stuart, penetrated the interior via the Columbia and Okanagan Rivers, reaching Cuscalaugo (near Kamloops, B.C.), the confluence of the North and South Thompson rivers, in 1811. Alexander Ross said of his journey across the crest of the North Cascades through Cascade Pass in 1814, "A more difficult route to travel never fell to man's lot." In 1828 George Simpson, Governor of the Hudson's Bay Company, attempted to find a route between Kamloops and Fort Langley over the crest via the Thompson and Fraser rivers, although he determined that the rivers were impassable for the purposes of trade. Although these and other subsequent accounts of the early historic period often contain vivid details about selected aspects of Indian people and their habits, they reflect a way of life that had been established by thousands and that was being disrupted by confrontations with intruding foreigners.

Alexander Ross

The deep narrow canyon of the Fraser River holds a series of rapids known as "the Falls" creating an obstacle to travel which separated the Stalo and Thompson native territories at the time of white arrival. The Stalo consist of a number of groups or tribes: the Tait, Chilliwack, and Pilalt. The Tait occupied the largest area of all the tribes on the river; their population, though, totalled less than 700 in 1850. The Upper Stalo Indians traded upriver with the Thompsons and downriver with tribes near the mouth of the river.

The Thompson Indians (now known as Nlaka'pamux) resided along the Fraser River north of present Spuzzum, and their traditional territory included the Cascades east to the Thompson Plateau and south to the headwaters of the Skagit and Nooksack rivers. In the Fraser Canyon between Spuzzum and Lillooet, they numbered about 2500 in 1858.

On the northeast side of the Cascades lived the Shuswap or Secwepemc Indians. By the time of the white man's arrival, however, this Athapaskan-speaking group was extinct for unknown reasons. The Okanagan Indians

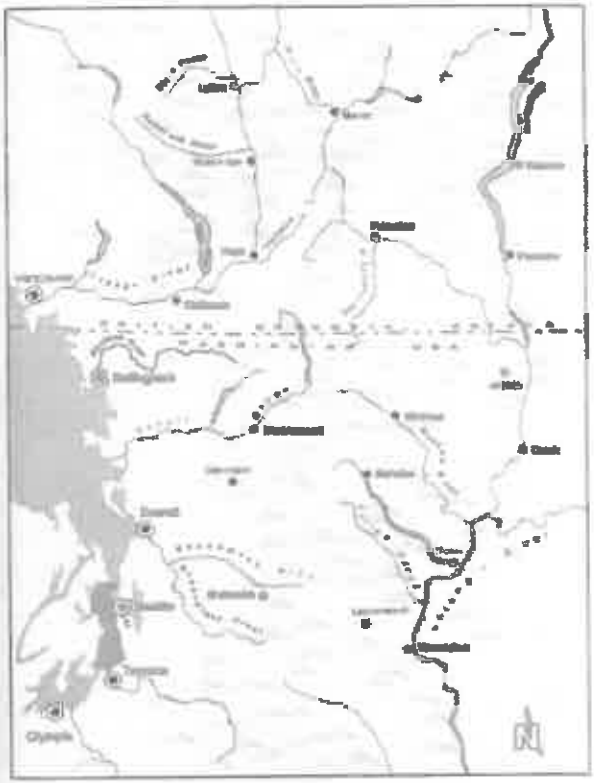

Figure 2: *Area encompassing the North Cascades*

Skagit County was established in 1883, after the removal of a natural log jam at the mouth of the Skagit River which prevented access and travel upstream. The upper Skagit gold rush came in the late 1870s. Ruby, Canyon, and Slate Creeks soon contained hundreds of mining claims and thousands of miners. The first trails up the Skagit River were built with Washington State funds that bought dynamite and built wooden suspension bridges.

In 1897 the Mt. Baker gold rush began with the discovery of the Lone Jack lode on Bear Mountain. So many miners came that a Mining District had to be organized the next year. Businesses such as roadhouses and packers rose to supply the miners. As with most North Cascades mining ventures, little gold was found. Gold mining declined in the 1950s, replaced by the search for silver and lead. Copper and zinc likewise were mined on a small scale. Even in the 1980s approximately 90 hectares of mining claims remain in private hands within the boundaries of the U.S. North Cascades National Park.[36]

Miners were responsible in part for railway development in B.C. George Dawson, of the Geological Survey of Canada, was the first to make a comprehensive exploration of the Cascades north of the 49th parallel. In his journals from 1875-1878 he noted minerals, as well as the area south of Hope around Silver Peak, so named for the discovery of the mineral there in 1872. When British Columbia joined the Canadian Confederation in 1871, the promise of a railway inevitably meant the choosing of a route through the cordillera to the coast. The Canadian Pacific Railway Surveys studied various routes, but concluded the southerly route would be too costly and in 1880 settled on the route through the Fraser and Thompson canyons, thus skirting the Cascade Mountains. Construction in the Fraser Canyon was completed in 1885, employing some 6500 Chinese workers, many shipped from Canton for the specific purpose.

The riches of Granite Creek were discovered in the fall of 1884 by William Boggs and two partners. But their find was jumped the following year by John Chance, a cowboy, who stooping down to drink along the creek, found a nugget of gold. The following year saw a large influx of prospectors; gold and platinum to the value at 165,000 dollars was placer mined. At its height Granite Creek, with a population of 1,000, 40 houses, several hotels, six saloons, and seven stores, was the fourth largest community in British Columbia after Victoria, Vancouver, and New Westminster. But placer mining began to wane in 1888; in a year the boom was over, and with few exceptions Granite City's hotels and saloons closed down.

In 1894 low-grade copper ore was discovered in large quantities south

of Princeton. R.A. "Volcanic" Brown in 1896 was the first to stake a claim on what became known as Copper Mountain. The Princeton district by this time was recognized to be the most important producer of platinum in North America. Hedley, Tulameen, earlier known as Camp-on-the-Dot Fairview, then Otter Flats, was surveyed as a townsite in 1901. From a Thompson Indian word meaning "red earth." Tulameen was so named because of the occurrence of ochre used by unknown natives in making pictographs. Coal was discovered northwest of Princeton in 1901 following exploration drilling by the Vermilion Forks Mining and Development Company Limited. Further east and downstream along the Similkameen River, the Hedley (Nickel Plate) lode gold strike was made in 1898; the mine was in production the following year.

To reach Vancouver, the Great Northern Railway extended its line from Everett, reached in 1907, to Hedley and Princeton in 1909, resulting in a building boom. Hedley had its heyday between 1910 and 1918.

On the northwest side of the Cascades there was similar activity. In 1910 news of a "gold-find" on Steamboat Mountain prompted Hope newspapers to herald the strike as a new Eldorado, reached by following the "trail of the gods." Although some 1,200 mineral locations were claimed that winter, the activity soon proved to be a sham.

In the spring of 1909, the Canadian Pacific Railway (CPR) assigned engineer W.J. Bassett the difficult task of establishing a railway through the Coquihalla Pass. Construction was carried out by hand with only a few horse-drawn scrapers. One section of the line was called the most expensive track in history: One kilometer cost 180,000 dollars. (As early as 1872, the Coquihalla River route to the interior was used by Nicola valley ranchers to drive their cattle down to Hope and coastal markets. Coquihalla in the early days was spelled *Quo-qua-ulla*, a Halkomelem Indian name meaning "stingy container of fish.")

The Kettle Valley Railway (KVR) had its difficulties, especially the terrible terrain and winter conditions of the Coquihalla section. The construction of the Canadian Northern Pacific Railway (CNPR) through the Fraser Canyon in 1914, taking the opposite side of the river to the CPR, created extra competition for the KVR. The CNPR, which later became part of the Canadian National Railways, also caused a huge rockslide during its construction in 1913 which blocked the Fraser River, disrupting the salmon runs. Runs were recovered with fish ladders.

The Columbia Coal and Coke Company developed a super mine, Blakeburn, twenty kilometers west of Princeton, which supplied fuel coal to the railway and to the townsite of Coalmont nearby with shipping and power plants for the mine. When an underground explosion killed 45

In 1811 Alexander Ross of the Pacific Fur Company became the first white to reach the mouth of the Chelan River, and Fort Okanogan was built as the area's American outpost. Fort Okanogan was used by the Pacific Fur Company, the North West Company, and the Hudson's Bay Company until the 1850s. Ross reported sending 1500 beaver furs to China in one season. Natives traded furs and animals for horses. From 1826 to 1847, the Hudson's Bay Company had an annual spring drive of up to 500 horses to bring furs to New Caledonia, down the Okanogan valley. The Hudson's Bay Company reported 382 grizzly bear hides in 1829 at Fort Colville. By the 1850s there were also cattle driven to feed the miners. Not until the 1860s did the fur trade begin a major decline, due to a lack of animals caused by overtrapping, the removal in fur farms, and falling demand and prices.

Mining

The discovery of gold about 1858 at Nanaimo on the Thompson River, at the northern extremity of the Cascades Mountains, resulted in the rush of 1858 to the Fraser River. By October of that year, 10,000 miners were camped along the lower Fraser between Fort Langley and Yale, of which 400 occupied Hope and 1,500 Yale. Turnagains were surveyed because of its strategic location. Hope became "the most important place in the mainland."[3] The Fraser rush also led to settlement of Washington's Whatcom County, established in 1857.

With the anticipation of a gold rush, representations were made to Washington D.C. that steps should be taken immediately to carry out a survey of the 49th parallel. Both the U.S. and Great Britain appointed boundary commissions to map the frontier between Washington Territory and the new colony of British Columbia. Work began on the boundary east of the Cascades in 1859 by Captain Haig and a body of Royal Engineers, brought from England to the colony with the dual purpose of providing law and order as well as surveying and building expertise.

As the search for gold headed upstream along the Fraser, the influx of miners disrupted Indian fishing and hunting. There were outbreaks of hostility and murder but no wars. As a result of the difficulties on the Fraser River many lower Thompson Indians took overland routes and settled in the Similk Valley. Further social upheaval was caused by the widespread smallpox epidemic of 1862. In the early 1860s the government established many Indian reserves in the Fraser Canyon.

The gold rushes nearly always followed the trail systems developed by the natives, then used by the fur traders. In the summer of 1858 an American named Captain Walter Delacy explored and built the Whatcom Trail from Bellingham Bay to the Skagit and Sauk Rivers, thence via

Hardscrabble Creek to join the Hudson's Bay Company trail on the Tulameen Plateau. The Whatcom trail bypassed the Hudson fees collected at the mouth of the Fraser River imposed before British Columbia became a Colony in 1858.

John McAllister, one of British Columbia's pioneers, was Princeton's first white settler. He came to the area in 1858 during the gold rush and established a cattle ranch at Vermilion Forks, the junction of the Tulameen and Similkameen rivers. In 1848 placer gold was found near here.

Explorations on the east slope of the Cascades also began in earnest in the 1850s. Washington Territory Governor Isaac Stevens and Captain George B. McClellan (of the Corps of Engineers) led several expeditions. McClellan went to the Wenatchee Valley, Lake Chelan, and Okanogan and Tulap Rivers (to Fort Colville); he became the first white to explore the North Cascades to the 49th parallel. Gold miners ventured along the Colville and Okanogan Rivers following the 1858 Colville gold rush. Between 1860 and 1870, an estimated 32,000 cattle were driven up the Okanogan valley to British Columbia. By 1860 some 5,000 gold miners were working at the mouth of the Similkameen River. A skirmish with natives occurred at McLaughlin Canyon on the Okanogan River in 1858.

In 1870, Daniel Lindsay of the Northern Pacific Railroad traversed Lake Chelan and headed up the Stehekin River into what would eventually become North Cascades National Park. With the towns of Ruby City, Conconully, Leonardtown, Golden, and Ora developing, the population of Okanogan County increased from about 2,000 in 1880 to 13,000 in 1910, and to 22,000 in 1950. In the upper Methow Valley there were dryland orchards in the lower valley, wooden flumes irrigated oats and corn. The Cascade State Wagon Road surveyed the Skagit, Ruby, Canyon, Slate, Methow, Cascade, Stehekin, Suiattle, and Tulap Rivers in 1853 and 1854. In the late 1880s, miners began to work the Stehekin. Lucerne was established on a lime camp for Railroad Creek prospecting. By 1890 a hotel was built at Stehekin, and by 1893 a schoolhouse. Turn-of-the-century Chelan had stores, hotels, saloons, sawmills, and steamships; by 1910 the county held 15,000 people. The Chelan River hydroelectric plant began to provide power in 1903. The Chelan Box Company began floating logs down the Stehekin to a mill that had been built in Stehekin in 1895.

In 1892, the construction of the Cariboo Waggon Road was underway from Yale to Lytton. Cornelius, an ancient native village at the junction of the Fraser and Thompson rivers, quickly became a thriving white settlement known as Lytton. Other settlements in the Fraser Canyon, such as Boston Bar, also grew rapidly as a result of the commerce along the Cariboo Road.

Rainier Forest Reserve. Citizens were outraged at the theft of their land. Further political compromise led to the Organic Act of 1897, which allowed mining, agriculture, and timber harvest on "suitable" lands.[39]

The 1908 Forest Homestead Act (June Act) passed due to resentment over homesteaders being barred from the reserves. Homesteads were to be no larger than one-quarter section (about 65 hectares), used primarily for agriculture, and revert to the U.S. Forest Service upon death of the permittee. However, many so-called homesteaders acquired land unsuitable for agriculture to sell it to timberland investors. Indeed, most homestead claims were fraudulent: Upon surveying areas to determine valid homesteads, the Forest Service later found only five of the 63 applications valid.[40]

The Washington Forest Reserve was divided into the Washington and Chelan National Forests. The Washington National Forest was further divided into the Washington National Forest (renamed the Mt. Baker National Forest in 1924) and the Snoqualmie National Forest. Creation of the North Cascades National Park in 1968 resulted in the transfer of 122,000 hectares from the Mt. Baker National Forest to the Park, which in turn led to the merger of the Mt. Baker and Snoqualmie in 1973. The outside Stehekin and Tiffon Ranger Districts became part of the Wenatchee National Forest.

The U.S. Forest Service L-20 Regulations[41] created research reserves and primitive areas. In the 1930s, a Western Primitive Area was created on 70,000 hectares between Mt. Baker and the Skagit River. This was enlarged and renamed the North Cascades Primitive Area in 1934. Some 176,700 hectares of it lay in the Mt. Baker National Forest, and 148,000 in the Chelan National Forest. These measures set the stage for protection of the North Cascades Ecosystem.

The development of the forests with dams, bridges, roads, and telephone wires came with the Civilian Conservation Corps in the 1930s. This development was partially balanced by stricter U-Regulations[42] devised by Robert Marshall and others. Primitive Areas were to be secure from timber harvest, road construction, hotels, resorts, organization camps, motorboats, and aircraft.

Unfortunately, these regulations were generally ignored. "But logging, grazing, and roads were totally excluded from only four Primitive Areas [of 76 nationwide]."[43] The high demand for timber in the 1950s resulted in large-scale road construction and harvest in the national forests, which in turn led to the campaign to back up regulations with legislation. The long history of the Wilderness Act of 1964 lies beyond the scope of this book, but it is worth noting that the Glacier Peak Wilderness Area lays claim to being one of the first designated under the Act. In 1968,

the Pasayten Wilderness Area became part of the North Cascades National Park Hill.

The National Park Idea

In 1892, legislation created the North Cascades National Park (NCNP), Ross Lake and Lake Chelan National Recreation Areas, and the Pasayten Wilderness Area, and enlarged the Glacier Peak Wilderness Area with parts of the Suiattle and Whitechuck River drainages. This was the culmination of nearly a century of national, regional, and local political activity and controversy over the best way to preserve the North Cascades.

The history of efforts to protect the North Cascades (see Figure 8) dates to 1892, when a Lake Chelan National Park was proposed to protect game animals. The proposal was defeated due to plans for railroad construction to Stehekin Basin and mining around Cascade Pass. But precedents for preservation soon arose: Mt. Rainier National Park in 1899, and the heart of Olympic National Park in 1909.

In 1951, the North Cascades Conservation Council (NCCC) and The Wilderness Society proposed a wilderness area of some 80,000 hectares. The Forest Service countered by proposing a 18,000 hectare (ea.) Mt. Aix Wilderness Area, saying that the rest should be used for recreation. Instead, NCCC then proposed a North Cascades National Park in 1953. The Sierra Club and NCCC cooperated to produce both a film, *The Wilderness Alps of Stehekin*, and a poetic book written by Harvey Manning, *The Wild Cascades: Forgotten Parkland*.[44] Later the Mountaineers, the Mazamas, and the Sierra Club joined with NCCC to also propose an Alpine Lakes Wilderness Area of between 112,000 and 138,000 ha.

In 1960, Washington Governor Dan Evans proposed a North Cascades National Recreation Area of some 730,000 ha. It would have consisted of 400,000 ha. of Glacier Peak, Eldorado, and Okanogan Wilderness under U.S. Forest Service jurisdiction, and a 130,00 ha. national park. This was half the size of what was proposed by the North Cascades Study Team in 1965,[45] established by Congress, and but a quarter the size of the conservationists' 1963 proposal. The Republican State Convention that year supported Evans' recommendations; the Democratic Convention supported parts of the proposals of the Study Team and the NCCC.

The purpose of the NCNP designation, according to the Study Team's October 1965 report, was mass recreation. A national park would prevent more land being designated as Forest Service Wilderness, which, the Team felt, few people would visit. The Park needed "more imaginative and creative treatment, utilizing helicopters, trams, [and] perhaps funiculars

miners in 1930, the mine was closed and the townsite of Coalmont declined.

The Nickel Plate and Hedley mines, one of Canada's largest gold producing mines, closed in 1955. Once the economic hub of the Similkameen, Hedley became a virtual ghost town. Although mining continued within the Cascades on a small scale, for several decades trapping and logging remained the chief occupations of those who settled there.

Logging

Logging has had the largest impact of all resource extractions in the GNCE. The demand for timber from Washington began in 1849, with the gold rush in California. Ships from San Francisco would empty the Mah Kee rock (used for ballast) onto the Seattle waterfront, which Seattle business interests wanted raised out of the tidal flats. The ships went back loaded with lumber, logs, and furs. Although most of the wood was exported at first (chiefly to build San Francisco), it was crucial to local development as well. In fact, nationwide financial panic in 1873 led to the use of cedar shingles as legal tender in Whatcom County.

The shores of Puget Sound were logged first. Later, river drives floated logs from the lumber to the Sound. By 1870, skid roads were necessary because logging had moved upland, and floating logs down the rivers had become less practical. Skid roads consisted of flattened logs set two to three meters apart like railroad ties. Log skidding required more horses, more horses and oats, then feed crops. But by the 1880s, steam power was replacing animals. Between 1880 and 1915, over 100 railroad trestles were built in all the major river drainages of what would become the Mt. Baker-Snoqualmie National Forest on the west side. Steam donkeys sat on trestles and pulled the logs attached to cables. Railroad construction was, of course, expensive. Larger areas of forest had to be made available for investment in rail construction and to pay the wages of thousands of loggers and millers along the trestles. Still, however the logs had to be pulled to the rails by cable, clearcuts seldom exceeded 10 to 40 hectares until the advent of trucks (and later bulldozers) in the 1930s. Due to the expense of rails, owners resented them once logging in an area was completed.

Yesler built the first steam-powered sawmill in Washington in 1853, on the Seattle waterfront. Logging was occurring in the 1880s on the Skykomish River as far up as Monroe, and Puget Sound mills had produced seventy million board feet of timber. The first Skagit sawmill was built in 1870, after the natural logjam on the river had been cleared. By 1888, Skagit County employed 400 workers producing eighty million board feet every year. Ten years later, 20 shingle mills and 14 lumber

mills flourished on the Skagit. Beyond the southern boundary of the GNCE, Northern Pacific Railroad constructed trestles up the Green River valley in the 1880s, logging as it went. Many logging operations used Japanese labor, just as the mines had used Chinese.

Timber land truly became an industry in Washington by the 20th century. In 1900, Weyerhaeuser bought 900,000 hectares of western Washington forest land from the Northern Pacific Railroad, at that time the largest private land sale in American history. In 1922 the Rank River Lumber Co. bought 235 million board feet on 2,270 hectares of national forest land. The 1930s depression temporarily decreased demand, but much environmental damage already had been done.

In B.C., like Washington, forestry has been the economic mainstay of many communities that naturally were begun with mining booms. While mining brought people to the area, logging had a greater environmental impact.

The earliest sawmill on the B.C. mainland was established at Hope in 1858. The B.C. Forest Act, passed in 1912, created the B.C. Forest Service, with its system of ranger districts, which governed all but mining activities in the wilderness regions. After 1917 the Pacific Tie and Lumber Company, as well as other companies, operated several mills in the Hope area, largely in response to the construction of the Kettle Valley Railway. With the amendment of the Forest Act in 1921, a new section was added to provide for the establishment of pulp wood harvesting areas east of the Cascades. By that time five public sustained-yield forest units covered the Cascades managed by the B.C. Forest Service. The forests of the B.C. Cascades have now been largely logged over.

EFFORTS TO PROTECT THE GREATER NORTH CASCADES ECOSYSTEM — UNITED STATES

The Beginning of Protection: the Forest Reserves

At the beginning of white entry into the GNCE, European powers struggled for commercial domination. Governments attempted to control the area through international boundaries, territorial agencies, and Indian reservations. The Cascades became a colony of goods to be exported. But exploitation also led to attempts to conserve and protect the land and resources.

While the federal government created the Pacific Forest Reserves in 1893 to control logging, mining, grazing, and farming, disregard for regulations led to the creation of the Washington Reserve. This reserve contained both the large Washington Forest Reserve itself, running west of Mt. Baker to south of Lake Chelan, and the million-plus hectare Mt.

that meeting in that living room. Had the Forest Service known that a minor timber sale in the Stehekin would catalyze the formation of one of the most successful grassroots groups in the history of conservation in the Pacific Northwest, they likely would have left those trees alone.

For 36 years and counting, members of the NCCC have worked aggressively towards a vision for the wild Cascades. They spearheaded efforts which led to establishment of the National Park and Recreation Areas, and the Glacier Peak and Pasayten Wilderness Areas. They helped defeat the High Ross Dam and have held at bay repeated plans to log in the Whitechuck Valley.

In a conservation movement noted for shooting stars and burned-out warriors, the NCCC remains a tribute to longevity. The core names have changed little over the several decades, the board of directors reading like a who's who of public lands protection titans for the area: Grant and Jane McConnell, Patrick Goldsworthy, Joe and Margaret Miller, Dick Scudder, Harvey Manning, Polly Dyer, David Brower, Phil and Laura Zalesky.

None of them would claim that the NCCC has saved the North Cascades. The group has witnessed the constant assault on ancient forests, the building of the North Cascades Highway, the exclusion of dozens of critical and sacred areas from protection. Yet the spirit of the Council has been true. It is best assessed through the following statement made in 1967 by an NCCC Director testifying before Congress on the proposed North Cascades National Park:

> If the Congress were to preserve in national parks and wilderness areas the maximum amount of land that has been asked to date by any single proposal or by a combination of all proposals, the people of the year 2000 would say, "It is not enough. You should have saved us more." In 2000 they will say of the North Cascades Conservation Council, "You were too timid. You compromised away too much. You should have been more farsighted, more daring." I hereby place on record my personal apologies to the year 2000. In our defense we will then only be able to say, "We did not ask protection for all the land we knew needed and deserved protection. We did, for a fact, compromise in the name of political practicality. We tried to save you as much as we thought possible.

Because of the efforts of the NCCC and those who worked with them,

the Greater North Cascades Ecosystem remains somewhat intact. And we, now approaching the year 2000, have something left to fight for.

Through the 1970s, the U.S. Forest Service conducted two nationwide Roadless Area Review and Evaluations (RARE). Both associated environmental impact statements (RARE I and RARE II) were declared inadequate in court. The final resolution of Forest Service roadless areas in Washington was to be decided by the 1984 Washington Wilderness Act. The Mt. Baker, Ruby-Dishpond, Lake Chelan-Sawtooth, Boulder, and Henry M. Jackson Wilderness Areas, Glacier Peak, and Pasayten Wilderness additions were all included in the 1984 bill, adding measurably to protection of the GNEE. The bill released the rest of the roadless areas under Forest Service jurisdiction from further consideration as Wilderness until the second round of national forest plans sometime near the end of the century.

National Park Wilderness

Senator Dan Evans (R-WA) introduced a Washington Park Wilderness Bill in March 1988. It would designate as Park Service wilderness most of the North Cascades National Park, as well as much of the Lake Chelan and Ross Lake National Recreation Areas. It would ban road construction, off-road vehicles, helicopters, and small hydroelectric projects, but existing developments would be exempted from these bans. The NCCC also had proposed that National Forest land east of Ross Lake to Manning, and most of the Cascade River drainage, be transferred to the Park. Chelan County called for the whole area to be returned to the U.S. Forest Service.

The bill that passed included wilderness designation for most of Ross Lake and Lake Chelan National Recreation Areas and the National Park. Thunder Creek and the Big Beaver Valley, areas of low-elevation old old-growth (1,000-year-old red cedars in Big Beaver), were excluded in Evan's bill because BC Hydro and Seattle City Light have management agreements for these areas, reserving the right to flood them for electricity in the future.

EFFORTS TO PROTECT THE GREATER NORTH CASCADES ECOSYSTEM — BRITISH COLUMBIA

In 1931 the Three Brothers Mountain Reserve, 80 kilometers east of Hope, was created to save subalpine meadows from overgrazing. The Reserve was made a Provincial Park in 1941, renamed in memory of the government Chief Forester (1936-48) and ardent conservationist, Ernest C. Manning. Access to the 71,000 hectare park was created by a new highway, the Southern Trans-Provincial, completed in 1949 with labor

1892	Proposed Lake Chelan National Park delisted due to plans for railroad construction and mining.
1893	Pacific Forest Reserves created. Essentially to be off-limits to timber cutting, mining, grazing, and farming.
1905	Forest Homestead Act passed to allow agriculture but not timber cutting.
1905	Management changed from the Dept. of Interior to the Dept. of Agriculture; Reserves renamed National Forests.
1920s	Mt. Baker Recreation Area, Mt. Baker Game Reserve, and Skagit Game Preserve created by the U.S. Forest Service.
1930s	Whatcom Primitive Area created; later enlarged (to some 320,000 hectares) and renamed the North Cascades Primitive Area.
1940	36,000-hectare Cougar Lakes Limited Area established.
1957	North Cascades Conservation Council and The Wilderness Society propose a 50,600 hectare Wilderness Area.
1963	NCCC proposes a North Cascades National Park and a 120,000 hectare Wilderness Area.
1964	The Wilderness Act finally passes Congress; the Glacier Peak Wilderness Area one of the first to be designated.
1966	Washington State Governor Dan Evans proposes a 730,000 hectare North Cascades National Recreation Area to include several Wilderness Areas and a 120,000-hectare National Park.
1968	Congress creates the North Cascades National Park, Ross Lake and Chelan National Recreation Areas, and Pasayten Wilderness Area.
1976	Congress creates 123,000 hectare Alpine Lakes Wilderness Area.
1984	New Wilderness Areas (Mt. Baker, Noisy-Diobsud, Lake Chelan-Sawtooth, Boulder, and Henry Jackson) created; Glacier Peak and Pasayten added to existing Wilderness.
1988	Most of the North Cascades National Park is designated Wilderness.

Figure 2. A Chronology of GNCE Conservation in Washington

and narrow-gauge railroads."[39] The extensive road system they envisioned would include 1,600 kilometers of construction. The NCCC, in contrast, called for all roadless areas within the proposed Park to be designated Wilderness.

A North Cascades National Park bill, supported by both Agriculture and Interior, was introduced by Senators Henry Jackson (D-WA) and Warren Magnuson (D-WA) in March 1987. It included a Park of 320,000 ha., a Ross Lake National Recreation Area of 40,500 ha., a Pasayten Wilderness Area of 200,000 ha., and a 4,000 ha. expansion of the Glacier Peak Wilderness Area. The bill was introduced in the House by Rep. Lloyd Meeds of Everett. Later that summer mountainous were added to remove the lower Stehekin and upper Lake Chelan from the National Park, placing the latter in a Lake Chelan National Recreation Area, of 88,000 ha. The bill signed in October 1968 resembled that proposed in the original bill and Lake Chelan amendments.

Hearings on the proposed National Park bill in 1968 were protracted and controversial. Like the Wilderness Act hearings, they were heavily influenced by House Interior Committee chairman Rep. Wayne Aspinall of Colorado, a long-time and powerful foe of protection for public lands. Some local sentiment believed that County authorities of Okanogan, Chelan, Whatcom and Skagit counties all were opposed to a national park. The port commissioners of Bellingham and Skagit County were also opposed, as were thirteen cities and the King County Labor Council. Those without local financial interests were not so uniformly opposed, however. The Washington Post came out in favor of a National Park in a May 1968 editorial, as did many others around the nation.

The best accounts of the history of the park campaign are contained in issues of NCCC's newsletter, Wild Cascades,[40] begun in 1957, and in the various Congressional hearing records. Wild Cascades also covered other controversies through the 1970s, e.g., Seattle City Light's plans to raise Ross Dam, and threats by Kennecott Copper to mine in the Glacier Peak Wilderness Area, where it held claims.

NORTH CASCADES CONSERVATION COUNCIL

In June of 1955, Grant McConnell received a tip that the Forest Service was planning a timber sale in the valley of the Stehekin River. McConnell, for whom the Stehekin constituted both home and sanity, raised the call for action. A strategy meeting was held in the Auburn, Washington, home of John and Polly Dyer. Along with several other of the meeting's participants, the Dyers were active members of The Mountaineers's Conservation Committee.

The origins of North Cascades Conservation Council are traced to

from an internment camp built for 2000 Japanese-Canadians exiled from the coast. At a cost of $230,000 per kilometer, the 63-mile long connection between Hope and Princeton, via 1,350 meter Allison Pass, was one of the most expensive highway projects ever embarked upon by the Government of B.C. The Hope-Princeton Highway, as it was commonly called, opened up the Cascades to hiking, skiing, and horseback riding.[2] Princeton grew as a result and was incorporated as a village in 1953.

In 1965 a huge landslide, probably triggered by a minor earthquake, buried several cars and lines on the Hope-Princeton Highway twelve kilometers east of Hope. This and other slides remain to demonstrate the continual geological processes still taking place in this young range of mountains.

In 1965 the Okanagan Similkameen Parks Society (OSPS) was formed. In 1968 another spectacular wilderness area, 30 kilometers southwest of Hamazon, was set aside as a provincial park. Cathedral Park was named after the monolithic mountain. The park preserves over 33,000 hectares of the Okanagan Range of the Cascades, a natural extension of the Pasayten Wilderness in Washington, one of OSPS' interests being the preservation of the old park trails in the area immediately north of Manning Park. In that year the OSPS made a request to the Provincial Government for a moratorium on all logging in the area. After much debate, the OSPS-proposed Cascade Recreation Area north of Manning Park was eventually established in 1987, albeit reduced in size. It encompasses 16,000 hectares in the Hozameen Range (Hozameen south of the border). The Skagit Valley Recreation Area was formed in 1973 adjacent to the western boundary of Manning Park. The Recreation Area totals over 32,000 hectares.

Today, Manning Provincial Park comprises approximately 86,000 hectares and is termed a "Class A" park. The 4,000-kilometer-long Pacific Crest Trail has its northern terminus just east of the park headquarters, from which it heads south to Monument 78 on the boundary. Manning Park, and the Cascade and Skagit recreation areas, form the Canadian component of a large contiguous wilderness complex in the ONCE.

Since 1971 a number of ecological reserves (ER) have also been created in the Cascades region. Managed by the B.C. Ministry of Environment, Lands, and Parks, there are seven such reserves in the Cascade Mountain area, out of 134 in B.C. representing various unique or representative ecosystems, species, and natural phenomena. The Cascade Hills include stands of ponderosa pine, cottonwoods, Douglas-fir, California chokecherries, and western red cedar.

One reserve in the Cascades is situated on the east side of the Skagit River valley, 80 kilometers southeast of Hope. Ponderosa pine trees and

associated dry-site vegetation in a semi-coastal environment indicate a transitional zone between coastal and interior climates. The ERs vary in size but are generally small, averaging 1,900 hectares.

British Columbians are gaining understanding of the ONCE via yet another major highway. As early as 1952 lobbying began for a new route to the interior through the Cascade Mountains. Construction began in 1962, connecting Hope and Merritt by following the Coquihalla River canyon, as the earlier CPR railway had. The Coquihalla Highway became one of the most expensive and controversial construction projects in British Columbia's history: its final cost amounted to over one billion dollars although the initial projected cost was only 450 million dollars. Rivers had to be rerouted: 10,000 fish were retrieved, held, and later returned to reconstructed channels. Covering a distance of 115 kilometers between Hope and Merritt, the toll freeway was officially opened in May 1986.

The Coquihalla Highway was extended to Kamloops in 1987 (Phase II) and, as "the Okanagan Connector" (Phase III), to Peachland in 2000. The town of Hope was confirmed as the western gateway to the interior of B.C. However, a negative effect of the Coquihalla Highway, which reduced travelling time between the coast and interior, was the loss of considerable business by the small communities of the Fraser and Thompson canyons — Boston Bar, Lytton, and Spuzzum Bridge.

The environmental impact of the highway has not been calculated but it was early anticipated that one of the most significant impacts of the new highway would be its effect on wildlife populations. The opening of Phase II was protested by cattle ranchers in the area and concerned Indians. Despite the construction of special crossings for ungulates, the highway effectively created a physical barrier for the north-south movements of mammals in the Cascade ecosystem. A major overpass for deer and moose is located seven kilometers west of Peachland.

The construction of the Coquihalla Highway, however, has opened up the B.C. Cascades for the enjoyment of the travelling public more than ever before. Until this time the Cascades have not had a strong identity in British Columbia as the range has had in neighboring Washington state. The Coquihalla Highway is in some respects like I-90 through Washington's Snoqualmie Pass in that it connects the inland plateau with the coast. Today, people are growing to appreciate the Cascades in British Columbia for their beauty and wilderness values, rather than as a hinterland for resource exploitation or as an obstacle to commerce. The highway has opened new areas to hunting and fishing; emphasis on tourism and recreation in the Coquihalla corridor will place its own demands on the region.

The issue of protection and of jurisdictional changes in the Greater

North Cascadian Ecosystem is far from over. The history of the exploitation of the CREE's natural resources has been partially mitigated by efforts at protection, but species and ecological processes remain insufficiently protected to maintain the values that characterize the area.

The history of the Cascades in British Columbia has not yet been fully told. The wealth of salmon, fur-bearing animals, minerals, and forests that originally attracted white people to this area generated an era of resource exploitation. Many people now realize the need to view the greater North Cascadian region as an ecosystem, and the need to develop a new methodology which transcends specialization, compartmentalization, government bureaucracy, and nationalism. History reveals the common nature and culture of the Cascades that span these artificial borders. The historical study of the North Cascades as a trans-boundary region opens a new window to the preservation, rehabilitation, and sustainability of an ecosystem that is only now beginning to be fully explored.

DANIEL MATHEWS

CASCADE-OLYMPIC NATURAL HISTORY

A TRAILSIDE REFERENCE

SECOND EDITION
UPDATED AND EXPANDED

RAVEN EDITIONS
PORTLAND OREGON

Elk

Cervus elaphus (sir-vus: the Roman term for deer; el-a-fus: the Greek term for deer). Also wapiti. 7–8' long + 4–6" tail (large cow-sized); brown (in Oly) or tan (in Cas) with large, sharply defined tawny-pale patch on rump, and extensive darker tinges on neck, face, legs and belly; males have antlers; fawns are white-spotted. Widespread; abundant in Oly. Order Artiodactyla (Cloven-hooved mammals). Color p 496.

In this century, elk inhabit coniferous forests and high mountains of the West. Before white settlement they were common all the way East to the Appalachians, even Vermont and South Carolina. Great herds of them on the Plains were second only to buffalo both in sheer biomass and as a food and material resource for humans. Like the buffalo (properly "bison") they were shot in huge numbers, especially by ranchers wanting to eliminate grazing competition. They were able to hold on in the mountains and deep forests until an alarmed public, rallying around a famous hunter named Teddy Roosevelt, got refuges and hunting restrictions enacted to allow their population to recover. The very idea of conserving species was essentially new to (white) America at the end of the last century. Even then, the point, as popularly understood, was to conserve them for future generations of people to hunt.

The Olympic National Park has native Roosevelt elk, the west- subspecies. The Cascades have sparser elk populations de- ended largely from Rocky Mountain elk, which were introduced in the 1900s when elk seemed nearly extirpated from the Cas- cades. We don't know exactly where the two subspecies natural ranges met, or exactly what the native elk of the Cascades were like.

Indeed, there have been intense politicized controversies over the "natural" population levels and locations of elk in general. The most reliable appraisal is that they are native to most parts of the U.S. and Canada that supported either forest or grassland; and that they have always been sensitive to hunting pressure. Their numbers were suppressed by Indian hunting beginning a few thousand years

ago, and rebounded a few hundred years ago when Indians were decimated by introduced diseases. They were high (would that be "naturally" or "unnaturally" high?) when white settlement began, and plummeted due to hunting in the nineteenth century. They've done pretty well in this century with regulated hunting, but have become unnaturally high in National Parks with no hunting, no wolves, and somewhat reduced cougar numbers.

After Mt. St. Helens erupted, elk provided great photos nonchalantly browsing on some of the first plants to emerge in the devastated blast zone. They were quicker to move back in than anyone expected, and they sped the revegetation process by bringing spores of mycorrhizal fungi back many miles at a time. Most plants would have had a hard time establishing themselves in sterile ash.

In Europe, a smaller, darker subspecies (*C. elaphus elaphus*) is the red deer or stag that Robin Hood hunted and commercial hunters still sell as venison. If you're thinking that the species known to the English as a "deer" ought, in English, to be a deer, you're right. A different genus exists which we ought to call "elk," as Europeans do and had done for centuries before Americans ever dubbed it a "moose." American races of both *Cervus* and *Alces* are much larger than their European counterparts, and the confusion must have begun when English colonists first met the American whitetail, about the size of a European red deer, and called it a deer. When a later generation, pushing Westward, met a race of *C. elaphus* about twice as big, they understandably thought it must be an "elk"—the larger European cervid whose flattened antlers and huge loose-fleshed muzzle they had doubtless never seen. The misnomer stuck, even through generations of texts trying to replace it with the Shawnee name "Wapiti." American elk and American moose were each formerly recognized at the species level (*Cervus canadensis* and *Alces americana*), but today taxonomists insist that our moose is merely a subspecies of European elk, our elk a subspecies of European red deer, and our deer something else again.

The best routes for viewing elk are around timberline in the Olympics in early fall; spring trips to Olympic river bottoms are also good. Most of the year, elk travel in herds segregated by sex, the mature bulls in bands of ten or fifteen, and the females and young males in larger herds. In late summer, the bulls become mutually hostile, and the largest, most aggressive of them (called "primary bulls") divide out harems from the cow herds. They tolerate year-