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**A REVIEW OF THE
HISTORICAL EVIDENCE RELATING TO MOUNTAIN GOATS
IN THE OLYMPIC MOUNTAINS
PRIOR TO 1925**

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May 1993

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A Review of the Historical Evidence Relating to Mountain Goats in the Olympic Mountains Prior to 1925

I. INTRODUCTION

Olympic National Park was established in 1938. It succeeded Mount Olympus National Monument, which had been set aside in 1909 to protect "the summer range and breeding grounds of the Olympic Elk," and other features of "unusual scientific interest." It was the generally accepted view that the mountain goat (Oreamnos americanus) was not among the species present in Mount Olympus National Monument.

Mountain goats from Canada and Alaska were released on the Olympic Peninsula in the 1920s and eventually they dispersed into the Monument. (Webster 1925, 1932; Moorhead and Stevens 1982.) Park managers have considered the mountain goat to be an undesirable addition to the fauna of a national park that was established to conserve the indigenous biota. The perception that goats were not part of the historic fauna has recently been challenged by R. L. Lyman (1988) and by the Fund for Animals (Anunsen 1993). These challenges have been based in part on a conjectured reconstruction of mountain goat distribution in the Pacific Northwest during the late Quaternary, and the speculation that goats in remote areas of the Olympic Mountains may have gone unreported during early surveys. The latter notion is reinforced by historical accounts of widespread use of mountain goat wool among the native people living along the Strait of Juan de Fuca and a few passing early references to the presence of goats in the Olympic range.

These concerns have led the National Park Service to carefully reexamine information concerning the past occurrence of mountain goats on the Olympic Peninsula. Randall Schalk (1993) evaluated ethnographic and archeological evidence relative to the prehistoric occurrence of goats. The present report reviews early accounts of explorations on the Olympic Peninsula, paying special attention to wildlife observations and statements concerning the presence or absence of mountain goats prior to their 1925 introduction. Historic references to the use of mountain goat wool in the Puget Sound region are also considered. A variety of sources was consulted, including published expedition narratives; early newspaper accounts; U. S. Geological and Biological Survey published reports and unpublished field records; catalogues of mammals; territorial

governors' reports; U. S. Forest Service files; selected nineteenth and early twentieth-century literature on natural history, recreation, and game hunting; as well as unpublished field notes, journals, and correspondence. The research involved visits to the Smithsonian Institution, the Library of Congress, the Bancroft Library of the University of California at Berkeley, and other reference libraries.

The search for information about the possible historic occurrence of mountain goats in the Olympic Mountains involves the problem of interpreting negative evidence. If mountain goats were in fact not present, no reported sightings of them should be expected. However, a failure to find reported evidence of mountain goats in the historical record cannot alone be used as proof that mountain goats were not present: a failure to report is not proof of absence. And, in fact, there are a few historic accounts which assert that mountain goats were to be found in the Olympics. Therefore, as many accounts of wildlife observations as possible, whether or not they mention goats, were evaluated as to their completeness, opportunity for firsthand observation, reliance on reliable informants, and the likelihood that mountain goats would have been reported if they had been observed. The following review summarizes pre-1925 accounts of Olympic Mountain exploration that contain wildlife observations. Sufficient narrative and interpretive detail is also provided to clarify the context (and limits) of each account. The discussion attempts to assess the reliability of the various sources considered. The overall effort has been to provide a thorough, careful, and balanced consideration of all located records that pertain to the issue.

II. MARITIME EXPLORERS

II. 1. Spanish Coastal Exploration, 1790-1792

The discovery of the Strait of Juan de Fuca, the waterway between the southern shore of Vancouver Island and the north coast of the Olympic Peninsula, has been attributed to a Greek mariner who sailed for Spain under the name of de Fuca, in 1592. The Strait was sighted again in 1774 by Esteban Jose Martinez as he sailed with Juan Perez. During the late 1780s, the western entrance and perhaps other portions of the Strait were visited by English, Spanish, and American navigators. However, Spanish explorers were the first to chart the entire length of the Strait in 1790 (Fig. 1). In that year, Spanish naval lieutenant Francisco Eliza was dispatched to the port of Nootka on the west coast of Vancouver Island. Shortly after his arrival, Eliza sent Manuel Quimper in one ship, Princesa Real, to explore the interior of the Strait of Juan de Fuca. During

June and July, Quimper charted both the north and south coasts of the strait as far inland as the San Juan Islands. He stopped at Sooke Inlet, Royal Roads, and Esquimalt Harbor, near present day Victoria on Vancouver Island, then crossed to the south shore and anchored at Dungeness on the northern coast of the Olympic Peninsula. From Dungeness he explored the eastern end of the strait. He discovered the existence of Haro and Rosario straits to the north, but did not have time to explore them. His second pilot, Juan Carrasco, discovered Port Discovery (which he named Bodega y Quadra) and Protection Island, and noted what appeared to be a bay at the opening of Admiralty Inlet, but did not explore its passage into Puget Sound. On his return, Quimper sailed back to the north coast of the strait after leaving Dungeness, then recrossed the strait to Freshwater Bay, and arrived at Neah Bay, which he named Nunez Gaona when he took possession of it on August 1.

In a general description of the terrain and wildlife found along the Strait of Juan de Fuca, Quimper states:

The mountains on the north side are suggestive of some fertility, and of being traversed along their summits. On their slopes, land which seems suitable for crops was noted, from which various small streams run down and empty into the strait. Those on the south side are exactly like those on the north side except for their height. As this is very great their summits are covered with snow. I therefore do not think they can be traversed. On some, high pines and other trees can be seen. Buffalo, stags, deer, wild goats, bears, leopards, foxes, hares, and rabbits feed on their luxuriant pastures, and uncommonly large partridges, quail and other unknown kinds of little birds on their seeds. (Wagner 1933:128).

A footnote on page 162 of Henry Wagner's history indicates that the word "cibolos," which was translated as "buffalo," was the term used in the early Spanish reports for elk, an animal with which the Spaniards were unfamiliar. Wagner does not indicate what term was translated as "wild goats." However, it is highly unlikely that the Spanish explorers could have seen mountain goats from shipboard, or from their anchorage near lowlands at Dungeness. They made no explorations of the interior, other than to locate water and to hunt for food in areas close to the coast. There is no record of specific observations of wildlife made on specific dates in the available translated narratives. Quimper's statement, therefore, is an unsupported generalization.

The following year Eliza was instructed to carry out further explorations in the strait. On May 26, 1791, he entered the strait with two ships, the San Carlos, and the schooner Santa Saturnina. On May 29 they anchored in Esquimalt Harbor, which the Spanish called Cordova. On June 14 they began to explore Haro Strait and around the San Juan Islands and other islands in the Strait of Georgia. On June 28 they crossed the Strait of Juan de Fuca to Dungeness, and the next day moved to Port Discovery. On July 1 the schooner

and a longboat under the command of Jose Maria Narvaez left Port Discovery to explore the coastline to the east and north, moving through Rosario Strait and along the British Columbia coast as far north as the vicinity of Texada Island. The existence of Admiralty Inlet was noted, but again, it was not explored. Narvaez saw a number of whales in the Gulf of Georgia, and speculated that it must have another entrance in addition to the Strait of Juan de Fuca, where they had only noted three or four whales. The San Carlos remained in Discovery Bay for 25 days.

According to Henry Wagner, historian of these expeditions, "Eliza does not enter into any detailed description of the animals, birds and fish found in the strait because as he said, Quimper had described them the year before" (1933:34). Eliza does give a description of an elk that was shot at Discovery Bay.

While at anchor in Quadra [Discovery Bay] and Cordova [Esquimalt] I looked over the country finding some level pieces of land for crops and particularly in Cordova much more of this. A great abundance of deer is found in these places, among which are some larger than any horse and having more flesh than any steer. One, which a gunner killed, served for food in abundance for three days for the crew of the packet boat, (which consisted of seventy persons), besides leaving me a quarter for the wardroom. The flesh is as tasty as that of any beef. The shape of the body, feet and legs is like those of a very large horse. The hoof is like that of a bull, the ear like that of a mule and the horns like those of a deer, except that they are extremely large and thick, each being one yard and two inches long with six points or little horns each ten to thirteen inches long. All the animals are also found which occur in the description of the Estrecho de Fuca by Don Manuel Quimper (Wagner 1933:151).

The pilot of Eliza's ship, Juan Pantoja y Arriaga, who also remained at Discovery Bay, gives some additional information on the elk and at the same time mentions the use of wool clothing by the Indians of that area:

The horns are entirely covered with a skin of down, not very thick but very close-grained, so fine that when we touched it we seemed to be passing our hands over velvet. What he has on his body however is just the reverse as it is the same as that on a deer. The color of the head is between black and brown and that of the horns between ash color and dark pearl color. When they were dressing it there were some Indians present who explained very clearly that it was of the skin of this animal that they made their beautiful and perfectly dressed leather shirts, which ordinarily all possess. We bought some of these which look like the breast doublets in Spain but are very thick. On asking them if they made use of these to protect themselves from intemperate weather they said "no", but that for that purpose they had and wear an abundance of blankets of very coarse wool, with which most of the crew have supplied themselves, and that they only used these skins during their skirmishes or war to protect themselves from the arrows (Wagner 1933:179).

Pantoja also noted that other animals observed at Discovery Bay by sailors and troops were:

bears, leopards, coyotes, wolves, deer, hares and rabbits and two kinds of doves and chickens. They killed more than fifty of these birds and a few of the four first-mentioned species, which served all as a moderate refreshment, since we were in great need. To this

is to be added the great abundance of a special thick bramble which at the end of July began to ripen in the corner of the east coast (Wagner 1933:188).

Wagner notes the "leopards" were probably cougars. (The mention of coyotes is interesting because they are not thought to have taken up residence on the Olympic Peninsula until early in the twentieth century, after the wolf had been practically eliminated and logging had opened up some of the heavily timbered areas. Victor Scheffer, in his unpublished monograph on the mammals of the Olympic Peninsula [1946:98], states that it is sometimes necessary to examine the skull in order to be able to distinguish a coyote from a wolf.) Pantoja's following statement of the kinds of animals found along the Strait of Juan de Fuca is a generalization very similar to the statement made by Quimper.

On both coasts, particularly on the shores, different kinds of pasture are very common on which feed buffalo, stags, deer, wild goats, hares and rabbits. On the seeds and abundant fruits, some of which are agreeable to the palate, two kinds of doves feed, one of the color and shape of our domestic pigeon, different unknown little birds and a kind of the color and shape of a chicken, with golden feathers and a swift flight like that of the partridge (Wagner 1933:184).

The Spanish launched one final exploring expedition into the Strait of Juan de Fuca in June 1792. Two schooners, Sutil and Mexicana, commanded by Dionisio Alcala Galiano and Cayetano Valdes, left Nootka on June 5 and arrived at Neah Bay on June 6. They left Neah Bay on the June 8 and anchored at Cordova (Esquimalt) on June 9. From there they explored the waterways to the east of Vancouver Island, and had no contact with the Olympic Peninsula after leaving Neah Bay. However, the account of this expedition is interesting for its observations of the use of wool and dogskins encountered among various Native American tribes along the coastlines of Vancouver Island and the British Columbia mainland. Upon the schooners' arrival at Esquimalt Harbor on the southeast end of Vancouver Island, they were met by Indians in canoes.

When we came near Eliza anchorage, three canoes, with four or five Indians in each, approached the Mexicana, but they would not come alongside. The natives were dressed in cloaks of wool, and they brought other new sheep skins which they were prepared to exchange for a piece of copper (Espinosa 1930:34).

It is not clear whether the wool was obtained from the same animal as the "sheepskins," or from dogs, or whether the "sheepskins" may have been goat hides, or possibly dogskins. On another occasion, near Guemes Island, the account mentions trading for "a dogskin cloak decorated with feathers and a tanned skin" (Espinosa 1930:40). Further up the east coast of Vancouver Island, near Nanaimo, the ships were approached by 39 canoes with Indians whose clothes "were generally no more than a cloak of rough wool and well woven, joined by two clasps at the shoulders and not hanging down below the knees. Here and

there one was wearing a skin, that of the man who seemed to be the chief meriting special attention; he wore under it another cloak of fine wool, a hat with an ornament like a shortened cone, five tin bracelets on the right wrist and one of copper round his neck" (Espinosa 1930:48).

They also offered new cloaks, which we afterwards gathered were made of dog's hair, both because we could discover no difference in their texture from that of dog's hair and because in their settlements there were a large number of these animals, most of which had been shorn. They are of moderate size, apparently similar to English-bred dogs, very long-haired and generally white; among other characteristics which distinguish them from those of Europe is their manner of barking, which is no more than a miserable yelping (Espinosa 1930:48).

While exploring the British Columbia continental coast along the Strait of Georgia, the expedition made an interesting discovery in a large inlet off a channel formed among "very lofty mountains." On the shore of the inlet, Valdes noticed a carved wooden plank. The expedition's artist, Jose Cardero, made a drawing of the carving. It depicted a standing human figure surrounded by five horned animals which appear to be goats, and circular designs which might possibly represent lunar phases [Fig. 2]. Valdes named the inlet "Tabla Inlet" because of finding the carved plank there. Today it is called Toba Inlet. It is located in an area of the British Columbia coast where mountain goats are present in the Coast Range. Historian Iris H. W. Engstrand, in her Spanish Scientists in the New World, reproduces Cardero's drawing with the label "Tablet found on the east end of the Strait of Juan de Fuca," whereas Tabla or Toba Inlet is well north of what is presently regarded as the Strait of Juan de Fuca. This caption reflects some haziness in the definition of the strait's boundaries at the time of Spanish exploration. These were the first expeditions to chart the Strait of Juan de Fuca and the waterways to the northeast of it. The names of these waterways were not yet established, and many were later supplanted by names given by Vancouver. Eliza had originally called the Strait of Georgia "Gran Canal de Nuestra Senora del Rosario la Marinera," and had named what is now Rosario Strait at the northeast end of the Strait of Juan de Fuca the "Boca de Fildago." The Strait of Juan de Fuca was at first regarded by the Spanish explorers as one continuous passage extending through the waterways to the north of its present eastern end. This perception is illustrated by the summary statement regarding the 1792 expedition.

We arrived at Nootka four months after we had set out from that harbor, all this time having been spent in explorations, which in the main served only to satisfy curiosity, without being of any profit to navigators. When it had once been settled, as it was as a result of this exploration, that there was no passage to the Atlantic through the Fuca Strait, the gloomy and sterile districts in the interior of this strait offered no attraction to the trader, since in them there were no products, either of sea or land, for the examination or

acquisition of which it was worth while to risk the consequences of a lengthy navigation through narrow channels, full of shoals and shallows (Espinosa 1930:89. Emphasis added).

The subtitle of the account of the exploration -- "the narrative of the voyage made in the year 1792 by the schooners Sutil and Mexicana to explore the Strait of Juan de Fuca" -- also supports a broader view of the perceived boundaries of the Strait of Juan de Fuca. The explorations took place in the inland passage between Vancouver Island and the mainland. Hence, if the Spanish narratives of these explorations refer to the presence of wild goats along the Strait of Juan de Fuca, one possible explanation is that they included in the area under consideration that part of the British Columbia mainland where mountain goats are native.

II. 2. Captain George Vancouver, 1792

The Spanish captains Galiano and Valdes encountered Vancouver's ships Discovery and Chatham on the night of June 12 in Birch Bay, and for about a month they pursued a joint exploration of the British Columbia coastline and islands. Vancouver had entered the Strait of Juan de Fuca on April 29 and had explored the Puget Sound area before heading north along the continental coast [Fig. 3]. Like Eliza the year before, Vancouver also anchored in Discovery Bay and from there spent about two weeks exploring the length of Hood Canal with small boats. In regard to the fauna of the area, Vancouver observed that "The only living quadrupeds we saw, were a black bear, two or three wild dogs, about as many rabbits, several small brown squirrels, rats, mice, and the skunk, whose effluvia were the most intolerable and offensive I ever experienced." Among the birds Vancouver noted were "tern, the common gull, sea pigeon of Newfoundland, curlews, sandlarks, shags, and the black sea pye, like those in New Holland and New Zealand."

Nor did the woods appear to be much resorted to by the feathered race; two or three spruce partridges had been seen; with few in point of number, and little variety of small birds: amongst which the humming birds bore a great proportion. At the outskirts of the woods, and about the water side, the white headed and brown eagle; ravens, carrion crows, American king's fisher, and a very handsome woodpecker, were seen in numbers; and in addition to these on the low projecting points, and open places in the woods, we frequently saw a bird with which we were wholly unacquainted, though we considered it to be a species of the crane or heron; some of their eggs were found of a bluish cast, considerably larger than that of a turkey, and were well tasted. These birds have remarkably long legs and necks, and their bodies seemed to equal in size the largest turkey. Their plumage is uniformly of a light brown, and when erect, their height, on a moderate computation, could not be less than four feet. They seemed to prefer open situations, and used no endeavors to hide or screen themselves from our sight, but were too vigilant to allow our sportsmen taking them by surprise. Some blue, and some nearly white herons of the common size were also seen (Meany 1907:119-120).

Vancouver's naturalist, Archibald Menzies, mentioned a couple of encounters with skunks, one when first entering Discovery Bay.

In going into the Harbor one of the Gentlemen shot a small animal which diffused through the air a most disagreeable & offensive smell, I was anxious to take it on board for examination & made it fast to the bow of the Cutter, but the stink it emitted was so intolerable that I was obliged to relinquish my prize. I took it to be the Skunk or Polecat (Newcombe 1923:19).

In Puget Sound, Menzies noted "a species of Diver," probably a pigeon guillemot, that burrowed into the sandy cliffs. North of Puget Sound, he also noted oyster catchers ("black Sea pies") and rhinoceros auklets. At Port Ludlow, Menzies observed that the Indians' clothing consisted of deer, lynx (probably bobcat), marten, and bear skins, and that one Indian "had a very large skin of the brown Tyger Felis concolor which was some proof of that Animal being found thus far to the Northward on this side of the Continent, but we saw very little of the Sea Otter Skins among them, which also shows that Animal is not fond of penetrating far inland" (Newcombe 1923:26-27). In Puget Sound he mentions trading for the skins of bear, lynx, raccoon, rabbit, and deer. Southeast of Port Townsend Menzies saw, "A white animal . . . which we supposed to be a Dog about the size of a large Fox but it made off so quick into the woods that those who saw it were not certain what it was" (Newcombe 1923:25). On May 31, off the coast near Everett he reported that "Some dogs had been left on shore on this Island whose yellings were heard several times in the night," but apparently he did not get a look at these dogs (Newcombe 1923:44).

Vancouver also mentioned dogs he observed near Port Orchard on Puget Sound.

The dogs belonging to this tribe of Indians were numerous, and much resembled those of Pomerania, though in general somewhat larger. They were all shorn as close to the skin as sheep are in England; and so compact were their fleeces, that large portions could be lifted up by a corner without causing any separation. They were composed of a mixture of a coarse kind of wool, with very fine long hair, capable of being spun into yarn. This gave me reason to believe that their woollen clothing might in part be composed of this material mixed with a finer kind of wool from some other animal, as their garments were all too fine to be manufactured from the coarse coating of the dog alone. The abundance of these garments amongst the few people we met with, indicates the animal from whence the raw material is procured, to be very common in this neighborhood; but as they have no one domesticated excepting the dog, their supply of wool for their clothing can only be obtained by hunting the wild creature that produces it; of which we could not obtain the least information (Meany 1907:136).

(Gunther and Haeberlin have stated that Indians of the Puget Sound region wove blankets of dog hair, mountain goat wool, and also a combination of feathers and fireweed fibers. Mountain goat wool was

obtained from the Skykomish tribe to the northeast of Puget Sound where goats are found in the Cascade Range (1930:30)).

Further north along the Strait of Georgia, the explorers observed women weaving woollen blankets.

The Women were employed in making Mats & large Baskets for holding their provisions stores & Luggage. In one place we saw them at work on a kind of coarse Blanket made of double twisted woollen Yarn & curiously wove by their fingers with great patience & ingenuity into various figures thick Cloth that would baffle the powers of more civilized Artists with all their implements to imitate, but from what Animal they procure the wool for making these Blankets I am at present uncertain; it is very fine & of a snowy whiteness, some conjectured that it might be from the dogs of which the Natives kept a great number & no other use was observed to be made of them than merely as domesticated Animals. Very few of them were of a White colour & none that we saw were covered with such fine wool, so that this conjecture tho plausibly held forth appeared without any foundation (Newcombe 1923:58).

The editor of Menzies' journal, C. F. Newcombe, notes in an appendix that the following year, in June 1793, Vancouver and Menzies saw skins of the animal from "from which the fine white wool comes" at a village near Bella Bella, on the British Columbia mainland coast, just north of Vancouver Island.

It had small straight horns and was therefore supposed to be an unknown goat. The animal at this time was said to be high up in the mountains, but used to come down in winter. Menzies adds that at Nootka and Whannah (i.e., the Nimpkish village) the natives were ignorant as to the animal "which they procured by barter from the natives inland." (Menzies' Journ., under date June 16th, 1793.) It was probably from this locality that Vancouver procured the mutilated skin which Richardson refers to under "Mountain-goat, *Capra americana*," in his *Fauna Boreali-Americana*, p. 268 (Newcombe 1923:154).

Jose Mariano Mozino, a Spanish naturalist stationed at Nootka, on Vancouver Island, in 1792, also noted the use of mountain goat wool among the Indians who lived there, although mountain goats were not found on the island.

Their dress is very simple. It commonly consists of a square cape woven from beaten cedar fibers and the wool of some quadruped, which I suspect to be a bison or mountain goat. They are provided with these by trade with the Nuchimanes, who perhaps have some commerce with the tribes of the continent where these beasts are found in abundance (Mozino 1970:13).

I. H. Wilson, the translator and editor of Mozino's account, identifies the Nuchimanes as Nimpkish Kwakiutl who occupied a portion of the east coast of Vancouver Island as well as the mainland across from it.

II. 3. The United States Exploring Expedition, 1841

In 1838 the United States sent out six ships under the command of Lieutenant Charles Wilkes on an expedition to collect data and specimens in support of navigation, commerce, diplomacy, and science.

During 1838-1842 the expedition explored the coasts of South America, the Pacific Northwest, the South

Seas, fifteen hundred miles of the Antarctic coastline, and other points of scientific interest. Titian Ramsay Peale was one of the expedition's naturalists and collected most of the mammal and bird specimens. John Cassin of the Academy of Natural Sciences in Philadelphia prepared the final report on the birds and mammals. The expedition explored the Puget Sound region during the summer of 1841. Wilkes's narrative of this exploration makes very little mention of wildlife observations, other than to note, when in the vicinity of Port Orchard, that "The woods seemed alive with squirrels, while tracks on the shore and through the forest showed that the larger class of animals also were in the habit of frequenting them" (1845:286). In regard to the use of wool among the Native Americans of the area, Wilkes remarked that near Port Gardner (Everett), "The dress of the Sachet [Skagit?] does not vary much from that of the other tribes, and generally consists of a single blanket, fastened with a wooden pin around the neck and shoulders. Those who are not able to purchase blankets wear leather hunting-shirts, fringed in part with beads or shells, and very few are seen with leggings" (1845:286). Apparently by this time, blankets were more often purchased than manufactured. However, at Neah Bay he noted the use of native blankets.

Their dress consists of a native blanket, made of dog's hair interspersed with feathers: this is much more highly valued than the bought ones, but is rarely to be obtained (1845:288).

Wilkes's narrative and the report on the mammal specimens collected by the expedition make no mention of mountain goats from the Puget Sound region.

III. SUCKLEY, COOPER, AND GIBBS (PACIFIC RAILROAD SURVEYS, 1853-1856)

In 1853, Congress authorized a survey to locate a transcontinental railway route. The survey was placed under the administration of the Secretary of War. Isaac Stevens, Governor of Washington Territory, led the expedition exploring a northern route between the 47th and 49th parallels. Dr. George Suckley and Dr. James Cooper served as surgeons and naturalists to parties of the expedition. George Gibbs was geologist and botanist for the party which included Cooper during its survey of the Cascades. These three naturalists did additional collecting in Washington state in areas of western Washington that were not on the original survey routes. Gibbs and Suckley collected in the Puget Sound region, including some locations on the Olympic Peninsula. Volume XII, Book II of the Railroad Survey reports contains chapters by these naturalists on the mammals collected on the survey. In discussing the range of mountain goats, Gibbs stated that they are common to both the Cascade and Rocky Mountains. "The Yakimas and Snoqualme [sic] Indians get

them in the Cascade mountains, north of the Columbia, in latitude 47 [degrees] 30'. They were formerly, if not now, abundant on Mount Hood." Suckley added that he

obtained several hunters' skins of the mountain goat from the localities north of the Columbia River Mr. Craig, an old Indian trader . . . says that these animals are quite abundant in the mountains near the Kooskooskia and Salmon rivers, streams which empty into Snake river, and that in the country of the Nez Perces . . . they are found in great numbers on the bald hills and bare mountains of that locality, and that upon these they can be seen from a great distance feeding in "large droves" (1860:137).

Suckley also mentioned mountain goats having been collected in the Cascade Mountains north of Mount Rainier and from the Upper Nisqually. He recounted having seen "dozens" of mountain goat skins in Indian lodges on Whidbey Island, northeast of the Olympic Peninsula, and stated that these skins were "obtained from the Indians living about Mount Baker, in the Cascade Range" (1860:137). These accounts do not mention mountain goats being present on the Olympic Peninsula. Suckley, who lived in western Washington for four years, would probably have mentioned the presence of mountain goats on the peninsula if he had evidence or had heard reports of their being there.

IV. NINETEENTH CENTURY ETHNOGRAPHIC ACCOUNTS

A number of nineteenth-century accounts of the lifestyle of Native Americans on the Olympic Peninsula mention the use of both mountain goat and dog wool. John Dunn, a Hudson's Bay Company employee, reported that the Clatsop (Makah) Indians of Cape Flattery "manufacture some of their blankets from the wool of the wild goat; which is done with great neatness" (1845:157). Both Lieutenant Wilkes, cited above, and George Gibbs, cited below, who relate visits to Neah Bay at about the same time that Dunn wrote, reported that the Makah used dog wool in weaving their blankets.

Although the coastal tribes had experienced occasional contacts with sailing ships and shipwrecked survivors, one of the earliest known parties to travel the west coast of the peninsula on foot and to cross from the coast to Hood Canal was an 1855 expedition that included Indian agents Michael T. Simmons and Benjamin F. Shaw, representing Territorial Governor Isaac Stevens. No complete account exists for this early crossing of the peninsula. It was reported in 1907 by George Himes in Steel Points, and referred to in an ethnographic report by George Gibbs. In addition to his survey of northwest mammals, Gibbs also prepared a report on the Indian tribes of western Washington and northwestern Oregon. Although written in 1855 or 1856, it was not published until 1877, when it was included in volume 1 of Contributions to North American

Ethnology. Gibbs reported that an 1850 visitor to Neah Bay had observed women weaving dog's hair blankets, and that "the Indians of the Sound and the Straits of Fuca attained considerable skill in manufacturing a species of blanket from a mixture of the wool of the mountain-sheep and the hair of a particular kind of dog" (1877:174, 219). Gibbs described the wool dogs of the Puget Sound region as "of pretty good size, and generally white, with much longer and softer hair than either [the hunting dogs or the women's pets], but having the same sharp muzzle and curling tail as the hunting-dog" (1877:221). Gibbs also stated that "There are mountain-sheep or, more properly goats, in the higher parts of the [Cascade] range," which were hunted for their wool, which was "an article of trade" (1877:193, 220).

Charles Pickering, anthropologist with the Wilkes Expedition, stated that the Chinook Indians, among whom he included "all natives inhabiting the southern shore of the Straits," weave blankets and belts, principally from the wool of the Mountain Goat (*Capra Americana*, an animal said to be abundant to the northward)" (1895:17. Emphasis added.) Hubert Howe Bancroft, in his Native Races of the Pacific States of North America, cites an additional reference to wool blankets on the Olympic Peninsula:

The Queniults [Quinaults] showed 'a blanket manufactured from the wool of mountain sheep, which are to be found on the precipitous slopes of the Olympian Mountains' (1875:215-216, note 100).

The source of this statement is given as Alta California, 9 February 1861, quoted in California Farmer, 25 July 1862. There are no mountain sheep in the Olympic Mountains. Ronald Olson, writing in 1936, based on interviews in 1925-1927 with Quinault elders whose personal observations extended back to the mid-nineteenth century, stated that "the mountain goat and mountain sheep were unknown" to the Quinault Indians (1936:15. See also Schalk 1993:7-9).

Some ethnographic writers also noted the far-ranging trails and trade patterns across the Cascade Mountains for procuring goat and/or sheep wool and other such commodities.

The western Indians sold slaves, haikwa, kamas, dried clams, &c., and received in return mountain-sheep's wool, porcupine quills, the grass from which they manufacture thread, and even dried salmon, the product of the Yakama [sic] fisheries being preferred to that of the sound. (Gibbs 1877:170. As is apparent from the above quotation from p. 193, Gibbs used "mountain-sheep" and "mountain-goats" interchangeably. See Schalk, 1993, for a further discussion of trade.)

V. INTERIOR EXPLORATION

V. 1. Watkinson's Exploration, 1878

An account of an expedition that crossed the Olympic Peninsula in 1878, following the same route in reverse as Simmons and Shaw's party had in 1855, was sent by Eldridge Morse of Snohomish City to historian Hubert Howe Bancroft (Morse, Account . . . of the Olympic Mountains, H. H. Bancroft Collection, Bancroft Library, University of California, Berkeley). In September, 1878 five young loggers led by Melbourne Watkinson, whose father had been the Mason County sheriff, journeyed from Hood Canal to Lake Quinault and back again, taking 18 days for the round trip [Fig. 4]. Morse's account was based on Watkinson's diary and additional information supplied to Morse by Watkinson. The adventurers travelled from Lake Cushman up the North Fork of the Skokomish River into the high country, where they reported climbing a "steep mountain . . . about as high as Mount Olympus," and crossing over a divide into a river valley, presumably the East Fork of the Quinault. They reported shooting one elk and seeing others, including a band of 16, shooting two deer, seeing additional signs of elk and bear, and hearing wolves at night. Watkinson did not mention mountain goats.

V. 2. Governors' Reports, 1884 and 1888

Governors of Washington Territory submitted yearly reports on population, economic activity, agricultural production, resources, institutions, and various other territorial affairs to the Secretary of the Interior. The report of Governor Watson C. Squire in 1884 was notable for its listing of Washington's mammals and birds. Among the 41 mammals mentioned was the mountain goat. It's range within the Territory was not specified. Governor Eugene Semple included more information on some of the Territory's larger game animals in a section of "Information for Sportsmen" in his 1888 report.

A species of mountain goat, which very nearly answers the description of the ibex, is found near the snowy peaks between the lines of perpetual ice and timber. This is their habitat; they were not driven there by their enemies. They are gregarious, and, therefore, may be readily noticed in the distance, but they are difficult to approach. These animals exist in considerable numbers on the sides of Mounts Ranier [sic], St. Helens, and Baker, in the Cascade Range, and, possibly, may be found in other similar altitudes (Semple 1888:923).

Semple also included in his report a section on the Olympic Mountains. In rather romantic prose, Semple commented upon the unexplored terrain.

The mountains seem to rise from the edge of the water, on both sides, in steep ascent to the line of perpetual snow, as though nature had designed to shut up this spot for her safe retreat forever. Here she is entrenched [sic] behind frowning walls of basalt, in front of which is Hoods Canal, deep, silent, dark, and eternal, constituting the moat. Down in its unfathomable waters lurks the giant squid, and on its shores the cinnamon bear and the cougar wander in the solitude of the primeval forest. It is a land of mystery, awe-inspiring in its mighty constituents and wonder-making in its unknown expanse of canon and ridge. . . Red men and white men have gone all around this section, as bushmen go all around a jungle in which a man-eating tiger is concealed, but the interior is incognito. In tradition alone has man penetrated its fastnesses and trod the aisles of its continuous woods. Superstition lends its aid to the natural obstacles in preserving the integrity of this grand wilderness (1888:925-926).

There are no "giant squid" in Puget Sound or Hood Canal, but there is a species of large octopus. Likewise, there are no "cinnamon bear" on the Olympic Peninsula, only black bears, and they all exhibit a black color phase rather than shades of brown. Today, "cinnamon" is considered one of the brown color phases of the black bear. At the time Semple was writing, the term "cinnamon bear" was apparently synonymous with grizzly bear. Elsewhere in the report (p. 921), Semple refers to the "cinnamon bear" of the Cascade Mountains as "a very formidable animal, ranking for strength, size, and ferocity next to the grizzly bear of California."

The Olympic Mountains had served as hunting grounds for Native Americans on the Olympic Peninsula for several thousand years, and there had undoubtedly been occasional forays into the mountains by local homesteaders, hunters, trappers, and loggers since settlers began to reside on the peninsula in the mid-nineteenth century. But the resources of the peninsula's interior had remained essentially unreported and a subject of conjecture. Semple's colorful description of the interior's mystery, and its reprise by his successor, Governor Elisha P. Ferry, in an 1889 newspaper interview, inspired popular interest in exploration of the Olympics.

V. 3. Gilman's Explorations, 1889-1890

An early venture into the Olympics was made in October-November 1889 by C. A. Gilman, a former lieutenant governor of Minnesota, and his son Samuel C. Gilman, a civil engineer [Fig. 5]. The Gilmans left the Quinault Indian agency on the Pacific coast on October 20, travelled by canoe to Lake Quinault and continued upriver, reaching the forks of the Quinault on October 25. They travelled up the East Fork by canoe until they encountered a log jam, and then continued eastward on foot to within two miles of the foot of a mountain they identified as Mount Constance (but probably Mount Anderson). They climbed several

peaks, but it was foggy and visibility was obscured until they climbed "a lofty peak to the south," from which they could see Mount Olympus to the northwest, Mount Constance to the north, the Cascades, Mount Rainier, Mount Baker, Puget Sound and Hood Canal to the east, and Lake Quinault and Grays Harbor to the west and south. In an account given later to a Seattle Post-Intelligencer reporter, they mentioned each of them shooting an elk and seeing many others, and their Indian guide killing four, but made no other mention of game. They returned to Grays Harbor on November 27.

In December, 1889 and January, 1890, the Gilmans again explored the west side of the Olympic Peninsula from the mouth of the Pysht River on the Strait of Juan de Fuca south to the Quinault River. They did not travel into the mountains on this second trip. In a brief report on the Olympic Peninsula based on these two excursions, Samuel Gilman's only mention of wildlife stated that "The streams teem with splendid fish and game is abundant" (Report, Seattle Post-Intelligencer, 5 June 1890).

A more lengthy article about the Olympic Peninsula by Samuel Gilman was published in National Geographic in 1896. An editor's note at the beginning of this article states: "The following valuable article is based largely on the explorations of the writer in the comparatively unknown region he describes. A melancholy interest attaches to it, Mr. Gilman having been suddenly cut off, at the early age of thirty-six and in the midst of an increasingly useful and promising career, only a few days after the transmission of the article for publication and before he could be made aware of its acceptance." This leaves open the possibility that the article may have been considerably edited and altered, and that Gilman would not have been able to correct any inaccuracies. An inquiry to National Geographic's Research Division failed to turn up the original manuscript or any other material relating to it. Gilman's posthumous article states:

Game is plentiful, and it would be a paradise for the hunter were it not so difficult of access. In addition to elk and bear, before mentioned, are deer, mountain goat, cougar, beaver, otter, fisher, wildcat, marmot, geese, ducks, grouse, partridge, quail, pelican, and many smaller or less desirable birds and animals (1896:138).

Gilman does not state here that he personally observed mountain goats in the Olympics. This generalized summary of wildlife also includes "partridge" which are not found on the peninsula, although there are two species of grouse, and "quail," which is an introduced species.

V. 4. Press Expedition, 1889-1890

In December 1889, a party of six led by James H. Christie, was organized under the sponsorship of the Seattle Press to explore the interior of the Olympic Mountains. Launching the expedition from Port Angeles, they entered the Elwha Valley and spent four months exploring that region, until the unusually snowy winter was over. They then proceeded to the head of the Elwha Valley, crossed over Low Divide, and travelled down the North Fork of the Quinault to the Pacific coast in May, 1890 [Fig. 6]. The journal accounts of Christie and Charles Barnes were published in the Seattle Press the following July. The explorers spent some time in Seattle preparing their narratives for publication, and their accounts were most likely edited by Edmond S. Meany of the Press, chief organizer of the expedition (Majors 1981:90, 104). Christie and Barnes mention observing--and often shooting-- elk, deer, wolves, wildcat, and bear, as well as seeing tracks of cougar and rabbit. In a summary of the natural resources of the Olympics, a column titled "Found in the Olympics" that appears over the name of C. A. Barnes, it is stated:

The mountains are alive with elk, for the most time [sic] very tame. Some bands, however, having been out upon the foothills, and having probably been chased, are more wild. Deer are also plentiful. One goat was seen by the party. Grouse, pheasant and chicken are undoubtedly plentiful, although we saw few, owing to the severity of the season. Beaver and fisher are numerous on the Quinault. Black bear are plentiful during the proper season. We saw one track of a cinamon [sic] bear on the Goldie river. The cougar, or mountain lion, are numerous. We frequently saw their tracks, but never the animal himself. The grey wolf and the wildcat are common (Barnes 1890:20).

Barnes does not specify that it was a mountain goat, and, although he is presumably summarizing wildlife found in the Olympics, it is possible the explorers saw a free-ranging goat belonging to a settler in the Elwha or the Quinault Valley. He does not mention where or when or under what circumstances the goat was sighted. Nor is the observation of a goat recorded in his or Christie's diary narrative. The mention of "chicken" in the next sentence also gives cause to wonder whether Barnes is including domestic animals; there are no prairie chickens in the Olympics. Neither are there "cinnamon" bears in the Olympics. (See above, for Governor Semple's remark about cinnamon bears.) Probably Barnes thought the track may have belonged to a grizzly bear because of its size. Barnes's report of a goat is recapitulated in a 1907 Mountaineer review of expeditions into the Olympics (Hanna 1907:34).

V. 5. O'Neil Expeditions, 1885 and 1890

Army Lieutenant Joseph O'Neil led two expeditions into the Olympic Mountains. The first was in the summer of 1885. O'Neil and a small party ascended into the mountains south of Port Angeles. From Hurricane Ridge, one group explored the Elwha Valley while another proceeded along the ridge above the Lillian River [Fig. 6]. From a base camp, probably in Cameron Basin, O'Neil and another soldier made a reconnaissance southward as far as the vicinity of Mount Anderson. Before the expedition had completed its mission to O'Neil's satisfaction, the lieutenant was recalled and reassigned, having spent not quite six weeks in the mountains. O'Neil recounted hearing the screams of mountain lions close to their camp at night, shooting a marmot, seeing and shooting at several bear, shooting

at one large wolf, and encountering bands of elk in the high country. Taking a party southeast from Hurricane Ridge into the interior of the Olympics, O'Neil reached a point from which he could see the source of what he called the east fork of the Elwha River (probably the Hayes River) and the field of ice from which it started. Game was plentiful in the high country.

The monotony of the day's travel was varied every now and then by a band of elk, a bear, or a deer perched on one of the peaks. . . . Large fields of ice and snow were often passed, and trees dotting a landscape of green in the valleys. During the several days we traveled on this trip we passed numerous bands of elk and small game in great plenty. They were all so tame and almost confiding that it was like going into a herd of domestic cattle, selecting your beast and killing him. Orders were very strict and no one was allowed to shoot at any game unless the camp needed a supply of meat. ("O'Neil's Exploration," Seattle Press, 16 July 1890).

On the route to Mount Anderson, O'Neil travelled through places that have subsequently become prime mountain goat habitat, but no mention was made of sighting goats.

O'Neil returned to the Olympic Peninsula in July, 1890, to lead a more ambitious expedition from Hood Canal across the southern part of the interior mountains. The expedition consisted of ten enlisted men, one Army civilian employee, and three naturalists sponsored by the Oregon Alpine Club. The naturalists included Louis F. Henderson, a botanist, teacher, and businessman from Olympia, Washington, who was a graduate of Cornell University; Nelson E. Linsley, a mineralogist involved in the mining industry; and Bernard J. Bretherton, biologist and curator of the Oregon Alpine Club's museum. While constructing a major mule trail

across the southern Olympics, small parties fanned out in all directions to explore much of the southern half of the Olympic Peninsula, including an ascent of Mount Olympus (Fig. 6 and 7). This second O'Neil expedition spent a total of three months exploring the interior Olympic Mountains. O'Neil reported later on the wildlife observed:

The game is very plentiful, particularly elk and bear; deer are somewhat scarce. . . . All the large game seeks the higher altitudes during the midday, but may be found in the valleys morning and evening. . . . Cougar are found in the foothills; I have seen none in the mountains. Beaver, mink, otter, and skunk abound in the valleys. The whistling marmot is found on the rocky mountain sides. A small animal much resembling him, called the mountain beaver, is found in soft places on the mountain sides (O'Neil 1896:19).

In September 1890, a small party, which included the naturalists Linsley and Bretherton and Private H. Fisher, explored the vicinity of Mount Olympus. Bretherton and Fisher kept journal accounts during this period. Bretherton's journal contains brief occasional entries. Fisher's journal, which he prepared with the idea of publishing, is a much more complete account of the expedition. Fisher's journal for this period mentions that Bretherton collected some bird specimens. Sergeant Yates shot, but did not kill, a bear on September 17. Bretherton and Fisher both mention that Yates killed another bear on September 19. Three bears were seen that day, "but no signs of other game. Elk nor deer had not been in this basin during the summer" (Fisher 1890:207). On September 22, Linsley, Bretherton, and Private John Danton climbed Mount Olympus. After descending into the Queets Valley, Bretherton noted that sand bars along the river contained the tracks of elk, deer, bear, wolf, and otter, but none of these animals was seen. He saw a small beaver dam, shot a duck, and noted the presence of mink and weasels (Bretherton 1890:n.p.).

Private H. Fisher's real name was James Hanmore. He had been dishonorably discharged in 1889 for drunkenness and related bad conduct. Previous to that, he had served a five-year enlistment in the Army and his character had been judged excellent. Hanmore re-enlisted in August, 1889 as "Harry Fisher." As a member of the O'Neil expedition, Fisher made several exploratory scouting trips in the Olympics over a period of three months. He often accompanied the expedition's naturalists, and apparently absorbed some of their knowledge of natural history and took an interest in their observations of plants and animals. Fisher described himself as "possessing some abilities as a botanist, mineralogist and assayer" and equipped himself with telescope, microscope, and compass, among other items. He claimed to have kept notes of every day's events while in the Olympics. He developed a special interest in botany, and after being discharged from the Army in 1891, returned to the Olympics to improve a land claim in the Queets Valley and to collect botanical

specimens. Fisher's daily accounts of his activities and observations are detailed and regularly mention plants and animals observed or hunted in various locations, as in the following account for August 7, in the high country near the headwaters of the Duckabush River:

Descending into the basin, we examined the organic as well as the inorganic formation with one addition to our herbarium. This was the only spot at which I found watercress in mountain streams and these were very small, too insignificant for table use. It looked very much as if we were stuck here but by perseverance we gained the divide again between the two streams. A very pretty and tall cone overlooked the country and we unstrung our packs and began its ascent. Upon this peak I collected two plants in flower that were entirely strange to me. Gaining the apex we commanded a fine view to the S.E. and underneath us was Elk basin. Leveling the glass I could distinctly make out a deer in the lake playfully splashing water. Further on was the lone calf and higher up was bruin who I have no doubt added this calf to his greed before morning. We could trace the Ducquebusche quite a distance and also distinguish that one ridge of broken mounds and peaks only separated it from another water course lying North of it but flowing parallel. General direction N.E. Later explorations proved this to be the Docewallups and Ducquebusche Rivers. Tracing the Ducquebusche to its source an open country formed the division between the East branch of the Quinault and main branch of the Ducquebusche. This open country appeared comparatively level, generally free of timber and brush extending 8 or 10 miles N. & S. and a mile or more in breadth, excepting the narrow place between the direct watersheds. . . . Mt. Constance was keeping watch at 62 deg., Mt. Baker at 45 deg. and Mt. Rainier at 103. Completing our sketches we descended to our packs. While adjusting our paraphernalia, a deer was sighted descending below us. Thinking we might find a good route down into Elk basin we allowed it to go undisturbed and followed its trail. While passing over a damp spot a strange wild onion was discovered. Silver skin and of peculiar shape, white blossom and odor was natural. The bulbs grew in clusters as in artichokes, firm and very rich in albumen. Sufficient was gathered for lunch and farther down very pretty specimens of *Ranuculaus* [sic] *Rhomboides* was collected. . . . A greater portion of the timber was dead at this alt. (perhaps fire had spread) allowing the sun to kiss the earth which supported a thrifty growth of wild red top. Melting snow from above created a dampness in the soil which was burrowed as thoroughly as a prairie dog town. The inhabitants were a mystery. Marmots were bold and inhabited dry and rocky slopes, generally the track of a rock slide, while these animals chose wet places, frequently irrigating their holes by digging ditches. Their holes were much smaller than the marmot and none of them were ever sighted. We called them mountain farmers from the fact that they gathered grass and herbs, distributing them in regular and even bunches upon logs and rocks to cure. This was done at night and taken in when cured. Whether mountain beaver, wood rats or a species of the marmot we were unable to decide accurately (Fisher 1890:97-99).

Fisher made extensive excursions through areas that are presently inhabited by introduced mountain goats. He stated that he "had kept a vigilant look out for goat and sheep," and was "satisfied that neither are to be found in this range of mountains" (1890:217).

The large game of the mountains were elk, bear, of the black species only, white and black tail deer. Along the streams were cougar, otter, beaver, raccoon, mink, wild cat and perhaps wolves but none were sighted by our party. Among the ground animals were the marmot . . . and the smaller mountain farmer, perhaps a mountain beaver, whose habits and appearance we learned but little of. Chipmunks were plentiful and some gray squirrels. All varieties of grouse were represented but no pheasant. (1890:217).

Fisher reported both white and black-tailed deer. Although white-tailed deer do not occur now on the peninsula or in the Puget Sound lowlands, small populations occurred historically (Suckley and Cooper 1860). A white-tailed deer specimen (serial no. 00067407) taken by C. P. Streater on 4 July 1894 at Lake Cushman is in the National Museum of Natural History. The closest extant white-tailed deer population occupies a small area on the lower Columbia River. Although the two squirrels commonly found in the Olympics are the Douglas squirrel and the flying squirrel, Fisher could have seen gray squirrels in the southern part of the peninsula where there were oak trees.

O'Neil's expeditions explored areas near Mount Angeles and in the eastern Olympics that have supported high densities of mountain goats in recent years. As Governor Semple and early naturalists observed regarding the mountain goats in the Cascades, these large white animals are "gregarious . . . and readily noticed in the distance." It seems likely, therefore, that if goats had been present, Fisher, keeping a "vigilant lookout" with his telescope over a period of three months, would have spotted some.

V. 6. James Wickersham's Excursions, 1889 and 1890

Not much is known about Judge James Wickersham's trip into the Olympics in the summer of 1889, although the Seattle Press reported in its 16 July 1890 issue that Wickersham and another man had travelled about 20 miles up the Skokomish River. Wickersham, however, did leave an account of his outing into the eastern Olympics during July and August 1890. His party, which consisted of friends and family members, took twenty days to cover what he estimated to be a 125-mile trip into the upper reaches of the Skokomish, Duckabush, and Dosewallips watersheds. Wickersham specifically mentioned seeing and killing a marmot, seeing a bear and cub and killing the bear, and estimated that there were 300 elk (a low estimate) remaining in the Olympics, as well as deer. He generalized:

Bear, elk, deer, and cougar, wild cat, beaver, and many smaller animals are numerous, while the streams and lakes are filled with trout and salmon -- a veritable hunter's and fisherman's paradise (Wickersham 1961:13).

After spending three weeks climbing peaks in the eastern Olympic Mountains and camping in high mountain meadows, in areas now inhabited by numerous goats, Wickersham did not mention observing mountain goats.

V. 7. Other Explorations, 1880s-1890s

As the Press Party expedition of 1889-1890 was being trumpeted in the Seattle Press, other Puget Sound area newspapers capitalized on the popularity of Olympic exploration and reported on various expeditions into the mountains, none of which was as well planned or documented, or as thorough in covering the terrain as the O'Neil expedition, or organized with as much publicity and accompanied by as much expectation as the Press expedition. Norman R. Smith, a Port Angeles resident who had accompanied O'Neil's 1885 expedition into the foothills of Mount Angeles, was reported to have done surveying for possible railroad routes from Clallam Bay to Quillayute (La Push) and from Port Townsend to Union City in 1882, and to have explored from Quilcene Bay into the Jupiter Hills in 1881, and from time to time to have made other explorations in "innumerable directions." According to Smith,

The principal game is elk, deer and black bear. There are also the panther, cougar, mountain lion and an occasional wolf. There used to be very many wolves, but they have nearly all been poisoned by the settlers (Seattle Post-Intelligencer, 1 July 1890).

In the 16 July 1890 issue of the Seattle Press, John Conrad gave an account of the explorations of five prospectors who spent 24 days exploring the Olympics. The account is based on a diary kept by A. D. Olmstead, who along with Conrad, was one of the five. Their trip began on June 19, shortly before O'Neil's second expedition. They hiked up the Dosewallips River to a high ridge, and saw evidence of bear, cougar, deer, and elk in a small valley. On June 26, they climbed a high peak from which they could see Mount Olympus "several miles directly west," down the Elwha Valley to the Strait beyond, and Mount Rainier to the east across Puget Sound. They followed the divide between the Dosewallips and the Elwha, descended to a stream, then followed the west side of the Elwha for several miles before crossing over and coming upon the Press expedition trail, which they followed down the Elwha Valley and out of the Olympics. They reported abundant bears, cougars, elk, deer, "woodchucks," and grouse, and killed four bears, five elk, and five deer. They did not mention mountain goats.

In 1896, a party consisting of Frank Reid, Roland Hopper, Edward Munn, and Fred Church, who had accompanied the O'Neil 1890 expedition, travelled the O'Neil trail from Hood Canal to the Pacific. On the way, they built a cabin near Marmot Lake at the head of the Duckabush (about 4500 feet elevation) and camped there for three weeks. They shot elk, bear, and a fisher, and also reported deer and blue grouse. In

the Quinault Valley they noted signs of bear, elk, and cougar "everywhere," but didn't see any game. They did not mention mountain goats (" . . . Over the Olympics," 8 October 1896).

Also in July of 1896, a party of five left Lake Cushman and followed the O'Neil trail up the Skokomish to the divide between the Skokomish and the Duckabush drainages, where they camped for a week before moving to a camp at Marmot Lake. From these camps they made several exploratory trips, including one into the Quinault, and one attempting to locate a route down the South Fork Skokomish. They reported seeing bands of elk, shooting one, and seeing signs of deer, bear, wolf, and cougar. They saw many marmots, and in the Quinault Valley, a beaver. While camping, they ate grouse. They did not mention mountain goats (Maring 1898).

V. 8. The Mountaineers, 1907

In 1907, and again in 1913, 1920, and 1926, the Mountaineers of Seattle organized outings into the Olympics. In late July 1907, a large group of more than 60 hikers set out to climb all three peaks of Mount Olympus and succeeded. Preparations for, and accounts of, this excursion were extensively written up in the Mountaineers' publication, as were descriptive accounts of the Olympics in succeeding issues of the Mountaineer. The club's outings involved cross-Olympic hikes following the Press and O'Neil trails, and ascents of peaks in the Olympic range. None of the articles provides extensive wildlife observations. Animals mentioned are deer, bear, cougar, and elk. An article appearing in the Mountaineer just before the Mountaineers' 1907 expedition summarizes other explorations of the Olympics and mentions that one goat was seen by the Press Party in 1890, citing Barnes's summary in the 16 July 1890 Seattle Press (Hanna 1907:34).

VI. OBSERVATIONS BY LOCAL RESIDENTS

Several residents of the Olympic Peninsula who were closely acquainted with the natural resources of the mountains and forests during many years have provided valuable published and unpublished accounts of the wildlife.

VI. 1. Grant and Will Humes, 1897-1934

Will and Martin Humes and their cousin Ward Sanders took up residence in the Elwha Valley in the fall of 1897. Grant Humes joined them in December, 1899. Martin and Ward moved on, but Will and Grant maintained a homestead on a bench above the Elwha River near Idaho Creek, and made a living by hunting, trapping, and guiding and packing into the Olympics for recreational parties. Will moved back to New York state around 1916, while Grant remained in the Elwha Valley for the rest of his life, until 1934. Will and Grant wrote long, descriptive letters home to their family, and after Will left, Grant, and his Geyser Valley neighbor "Doc" Ludden, wrote to Will. A collection of 132 letters covering the period 1897-1934 contains accounts of seasonal activities, hunting and commercial guiding trips into the mountains, wildlife observations, and tallies of animals trapped or shot by

Grant and other area hunters and trappers such as Billy Everett and Dewey Sisson. Grant sometimes also hunted on commission for specimens of particular game animals. His letters mention hunting and trapping for cougar, bear, elk, deer, bobcat, wolf, marten, fisher, mink, raccoon, and skunk--most of the major game and furbearing mammals on the Olympic Peninsula. The Humes brothers made many trips into the interior mountains to hunt and trap, and to guide and pack for sportsmen, including trips to Mount Olympus in 1905, 1907, and 1919. They constructed many of the trails in the Elwha Valley. Grant Humes probably knew the terrain and animals of the Olympics as well as anyone could at that time, was a keen observer of nature, a photographer, and an articulate writer of descriptive accounts of what he saw. During his almost 35 years of living and travelling in the Olympic Mountains, he did not mention having seen or heard of a mountain goat in any of the letters in this collection.

VI. 2. Albert B. Reagan, 1905-1909

Albert Reagan was an Indian agent and school teacher from 1905-1909 at La Push at the mouth of the Quillayute River on the Pacific coast. He held a bachelor of science degree from Valparaiso University and bachelor and master of arts degrees from the University of Indiana. Years later, after retiring from the Indian service, he earned a Ph.D. in geology from Stanford University. While living on the Olympic Peninsula, he

wrote several scholarly and popular articles on ethnographic, archeological, and natural history subjects. In 1908 Reagan wrote a lengthy article on the natural history of the Olympic Peninsula. He listed the game animals of the Peninsula as follows:

In this region is to be found an abundance of game. Deer and elk are plentiful; wildcats, panthers and black bears are numerous; ducks and pheasants stay throughout the year, and the islands of the coast swarm with sea fowl; and the finest salmon and trout on the coast abound in the numerous streams (Reagan 1908 [1909]:137).

Reagan also wrote a paper specifically on the animals of the Olympic Peninsula, based on three years of observation "as time would permit" (Reagan 1908). He lists: Douglas squirrel; Townsend's chipmunk; another chipmunk, Tamias caurinus Merriam; Olympic marmot; flying squirrel; mountain beaver; a mouse, Peromyscus akelevi Elliot; wood rat; another mouse, Erotomys nivarius Bailey; three species of vole; gopher; kangaroo mouse; shrew; "Washington rabbit," Lepus washingtoni Baird; Roosevelt elk; black-tailed deer; cougar; coyote; gray wolf; black bear; fisher; pine marten; mink; two species of weasel; river otter; spotted skunk; striped skunk; mole; rat; sea otter; sea lion; and hair seal. Reagan mentions having made observations in the high country around the headwaters of the Soleduck River and in the Happy Lake area, as well as in lowland and coastal areas. He does not mention mountain goats.

However, a 1917 article by Reagan does mention mountain goat material in a list of fish, animal, and plant remains found in coastal middens in the vicinity of La Push. He includes among the bones of animals identified, "elk, big horn, mountain goat, black bear, Putorius, species?, black-tailed deer, wild cat, beaver, raccoon and otter" (Reagan 1917:16). He states in a footnote that the remains of the bighorn sheep and mountain goats "are found usually only in the ladle form of the horns." No other sheep or goat skeletal parts were found, suggesting that these manufactured items were probably acquired by the Indians through trade. (See Schalk 1993:21-22.)

VI. 3. Chris Morgenroth, 1890-1927

Chris Morgenroth was one of the first forest rangers on the Olympic Peninsula. In 1890, he was a homesteader in the Bogachiel Valley. He began working for the Olympic Forest Reserve in 1903 and continued with Olympic National Forest until 1927. During the earlier years and while working for the Forest Service, Morgenroth explored and hunted over much of the Olympic Peninsula. When mountain goats were introduced in 1925, Morgenroth was one of the individuals present at their release near Mount Storm King.

For many years prior to their introduction, he had advocated bringing either mountain sheep or mountain goats into the Olympics. The Seattle Post-Intelligencer on 24 February 1913, described Morgenroth as someone who "knows every nook and corner of the Olympics." In an autobiography recently published by his daughter, Katherine Morgenroth Flaherty, Morgenroth relates many of his experiences in the Olympics, including hunting trips, observations, and encounters with wildlife. In this material, he never mentions the presence of mountain goats in the Olympics before their introduction. In 1908, Morgenroth prepared a summary report on Olympic National Forest. Under game animals he discussed elk, deer, grouse, pheasants, black bear, wild cats, wolves, cougars, and "a large variety of smaller fur bearing animals." In this report, he suggested "it would be advisable to stock the forest with a few mountain sheep[;] they would undoubtedly thrive in the higher altitudes" (Morgenroth 1908:20. USFS Files, Olympia, Washington). It is unlikely he would have made such a comment if mountain goats already inhabited the Olympic Mountains.

VI. 4. E. B. Webster, 1910s-1920s

Edward B. Webster was a Port Angeles resident, newspaper publisher, and outdoorsman. He was very active in the Klahhane Club, a Port Angeles hiking group. In 1917 he estimated that since 1900 he had made 220 trips to timberline in the Olympics, 176 of which had been to the summit of Mount Angeles. Many of the trips had been for one, two, or three weeks each. In 1920, Webster published a book on the mammals of the Olympic Peninsula. The book won high praise from naturalists, including C. Hart Merriam, former chief of the U. S. Biological Survey. Webster stated positively that "the fauna of the Olympic Mountains . . . has never included the Mountain Goat" (Webster 1920:146). The Klahhane Club, while Webster was its president, supported the introduction of mountain goats and the establishment of a game sanctuary on Mount Angeles, in part to provide a home for the goats once they were introduced, though they were not initially released there. In 1925 and 1932, Webster published articles in the Murrelet documenting the introduction and subsequent observations of mountain goats on the Olympic Peninsula.

VI. 5. Leroy Smith, 1910s-1950

LeRoy Smith was a long-time resident of the Olympic Peninsula who wrote an account of pioneering on the peninsula, in which he described early hunting and trapping experiences extending over a period of about 35

years. He related having hunted most of the major mammals on the peninsula, and did not mention the presence of mountain goats (Smith 1977).

VII. OBSERVATIONS OF NATURALISTS, RECREATIONISTS, AND GAME HUNTERS

Essays on mountain goats and mountain goat hunting appear in late nineteenth-early twentieth century books and periodicals on natural history, sport hunting, and recreation. Several are by authors such as William T. Hornaday, director of the New York Zoological Park; John Fannin, curator of the Provincial Museum in Victoria, B. C.; and well-known naturalists George Bird Grinnell, Ernest Thompson Seton, and James C. Merrill. The attached list of references contains several such articles and volumes. The range of the mountain goat was defined as the Rocky Mountains of western Montana, eastern Idaho, and British Columbia, the Cascade Range in Washington, and the Coast Range of British Columbia and Alaska. E. T. Seton described the range of the mountain goat as follows:

The map [Fig. 8] shows clearly that British Columbia is the proper home of the Mountain Goat; 95 per cent. of its race are British-born. . . . Perhaps one quarter of its range is on the Rocky Mountains; the rest on the Cascades, Selkirks, Coast Range, and Bitterroots. . . . The Goat is an exception to nearly every known rule; and he is an amazing and gratifying exception to the rule that man has wiped out nearly all the big game of America. For the land that the Goat inhabited 400 years ago, it still inhabits; and, so far as we can learn, its numbers are the same (1937:480-481).

None of these accounts mentioned the possibility of observing or hunting mountain goats in the Olympic Mountains of northwestern Washington.

VIII. BIOLOGICAL AND ADMINISTRATIVE SURVEYS

VIII. 1. U. S. Geological Survey and U. S. Forest Service, 1897-1925

In 1897 much of the Olympic Peninsula was set aside as the Olympic Forest Reserve. During 1898-1899 the reserve was surveyed by Arthur Dodwell and Theodore Rixon. The resulting report, published by the U.S. Geological Survey, discussed topography and soils, and concentrated on the types and quantity of timber found on the Olympic Peninsula, but did not mention wildlife. The Olympic Forest Reserve was placed under the administration of the Department of Agriculture in 1905, and its name was changed to Olympic National Forest in 1907. As discussed above, Ranger Chris Morgenroth prepared a report on the Olympic National Forest in 1908 which listed the major types of game animals, but did not include mountain goats. U. S. Fish

and Wildlife Service biologist Victor B. Scheffer, in an unpublished manuscript on the mammals of the Olympic Peninsula, compiled an "estimated wildlife census" of mammals in Olympic National Forest based on figures reported by rangers in annual wildlife reports. These records began in 1918. No mountain goats were sighted until two goats were listed in 1929, four years after the first release of goats (Scheffer 1946:7). Scheffer included mountain goats among eleven species of mammals found in the Cascades that might logically be expected to occur also in the Olympics, but they were not found there because the intervening lowlands of Puget Sound has presented a barrier to their dispersal since the end of the last glaciation. Scheffer noted, however, that goats had been introduced more recently by sportsmen and game managers.

VIII. 2. Bernard J. Bretherton, U. S. Department of Agriculture, 1894

Bernard J. Bretherton, who had been a naturalist on Lieutenant O'Neil's 1890 expedition, returned to the eastern Olympics in 1894 as a collector for the U. S. Department of Agriculture, after having spent more than two years at Kodiak, Alaska. Bretherton spent a month, from August 13-September 13 in the Lake Cushman area, trapping almost 90 specimens of small mammals for the Department of Agriculture. Bretherton also collected several specimens of small birds, including juncos, sparrows, a hummingbird, and a warbler, among others. From Lake Cushman Bretherton went to O'Neil's Camp Six along the North Fork of the Skokomish River; then to Camp Nine, where he trapped a mountain beaver; to First Divide, where he trapped a marmot and "kitten"; to Camp Noluck; and back to Camp Nine. He also mentioned in his field journal going three miles northwest of Mount Steel, at an elevation of about 5000 feet, before returning to Lake Cushman. Bretherton's notes on his itinerary are not well detailed. His journal notes are mainly a listing of rodent specimen numbers and measurements. The route taken during these travels passes through habitat now occupied by goats. Bretherton made no mention of seeing any large mammals on this trip.

VIII. 3. Clark P. Streater, U. S. Department of Agriculture, 1894

In June and July, 1894, Clark P. Streater, of the U. S. Department of Agriculture Division of Ornithology and Mammalogy, spent three weeks collecting mammals in the Lake Cushman area. He also mentions a trip to Mount Ellinor, where he heard marmot whistles amidst craggy terrain, and caught a marmot in a snow basin. He made notes on whether animals reported to be present were common or not, noted signs and

other evidence of animals he did not actually see, mentioned shooting a deer and a bear, and reported that he did not see any elk, in an account of his field work in the Smithsonian Institution Archives (Field Reports, Box 103, Record Unit 7176). He does not mention mountain goats.

VIII. 4. C. Hart Merriam and Biological Survey Members, 1888 and 1897

Clinton Hart Merriam was the first chief of the U. S. Biological Survey (which later became the Fish and Wildlife Service) and remained its director for twenty-five years. He was one of America's preeminent mammalogists, serving two terms as president of the American Society of Mammalogists. As chief of the Biological Survey, he directed the course of investigations of North American mammalian fauna for a quarter of a century. He also personally pursued field studies during summer seasons. Through his research, Merriam developed the concept of "life zones" represented by characteristic communities of plants and animals that varied with changes in altitude in mountainous areas. Description of these life zones became the mission of the Biological Survey under Merriam.

In 1888, Merriam spent about two weeks in the Puget Sound area, observing and collecting small mammals and birds near Port Townsend and Neah Bay on the Olympic Peninsula, and visiting the Provincial Museum in Victoria. Accompanied by his mother and his sister, he took a steamer from Seattle to Port Townsend where he spent two days, then continued by boat to Neah Bay, where he spent from August 31 to September 4 wandering in the woods, setting traps, and querying residents about the local fauna. According to his sister's account, Merriam was interested in obtaining undescribed species of small mammals and getting data on the relationship of moisture in the environment to the coloration of specimens (F. Merriam 1888 [1989]:32). At Neah Bay, he noted the presence of Ursus americanus (black bear), Mephitis (striped skunk), Spilogale interrupta (spotted skunk), Lutra canadensis (river otter), Lutreola vison (mink), Putorius (longicauda?) (long-tailed weasel), Sorex (shrew), Sciurus douglasi (Douglas squirrel), Tamias townsendi (Townsend chipmunk), and Hesperomys arcticus (white-footed mouse). Merriam also made notes in his field journals of what species were not present at locations he visited. He mentioned that "There are no Porcupines, Muskrats, or Rats near Neah Bay, and the Indians do not know any such animals. Deer and Elk occur a few miles back in the deep forests. Caribou are not known on this side of the Strait" (Journal 1888:51, Library of Congress).

Merriam visited the Olympic Peninsula again during the last week in August 1897, accompanied by Vernon Bailey, a member of the Biological Survey and Merriam's brother-in-law. Previous to arriving on the peninsula, Merriam had spent about two weeks at Mount Rainier, from August 2-15. Merriam and Bailey travelled by boat to Port Crescent and spent the first night at Lake Crescent. The next morning they took a steamer to Fairholm at the west end of the lake and started up the trail to Sol Duc hot springs. They reached the hot springs on August 25, and continued up the Soleduck Valley to an estimated elevation of about 4500 feet, just below High Divide in Seven Lakes Basin. They camped in this area for the next three nights and collected specimens of marmots, chipmunks, and mice. Merriam noted in his journal that he explored the head of the Bogachiel Valley on August 27 and that he and Bailey shot at a bear and her two cubs near their camp that evening. He made notes on an Aplodontia (mountain beaver) colony not far from their camp on August 28. On the 29th, they started back down the Soleduck Valley. Merriam did not see any elk, although he saw trails and plenty of tracks. It was reported to him that members of the Hoh Tribe had been hunting in the area a few weeks previously and had killed many elk. Merriam had seen several heads and a few hides of Olympic elk while in the region, and made arrangements with local hunters to secure specimens for him later in the year after the elk had put on winter pelage. A specimen sent to him from the Olympic Peninsula later that year became the type specimen for the Roosevelt elk (1897). Merriam noted in his field journal that while timber wolves were said to be common in the mountains, there were "no coyotes, and no foxes of any kind." (Coyotes were not reported from the Olympic Peninsula until around 1910.) Other animals "said not to occur in the Olympics are Sheep, Goats, Porcupines, Coyotes, Foxes, Grisly [sic] Bear" (Merriam, Field Journal 1897:36, Library of Congress).

Merriam, having also visited Mount Rainier that August, was interested in the differences in plants and animals found in these two locales. Merriam's papers at the Bancroft Library include several pages of notes listing plants and animals that he found to be present on Mount Rainier, but not in the Olympics. In a typed manuscript, Merriam explores the reasons for these differences.

The gap that separates the Olympic Mountains from the Cascade Range, the only other mountains of the region, is only about a hundred miles wide and is filled by the dense forest already mentioned, affording continuity of range for species inhabiting the mixed Transition and Canadian zones, but the higher parts of the Olympics, falling within the Hudsonian and Alpine zones, have been disconnected from corresponding zones to the north and east for at least several million years, a period long enough to admit of a considerable amount of differentiation in the species stranded here. Contrasting the faunas and floras of the two regions, some highly interesting differences appear. The flora of the Olympics is rich

and varied and comprises a number of types not known from the Cascade Range. The fauna, on the other hand, at least as far as the land vertebrates are concerned, is rather meagre and is not known to include a single specific type not found in the Cascades. . . . Among mammals, perhaps the most striking peculiarity of the region is the species it lacks. There are no Mountain Sheep, Goats, Porcupines, Coyotes, Foxes, or Grizzly Bears in the Olympics. (MSS titled "The Olympic Forests" and "The Olympic Mountains," undated. C. Hart Merriam Collection, Carton No. 3, Bancroft Library, University of California, Berkeley).

Merriam's papers at the Bancroft Library contain a popular article on the mountain goat authored by Merriam (the periodical in which it appeared is not identified) and an article by him on the taxonomy of the mountain goat, which appeared in Science in January 1895, showing Merriam's particular interest in this animal. The popular article identifies the range of the mountain goat as extending from the Rocky Mountains in Idaho and the Cascades in Washington north through British Columbia and the coast ranges of Alaska to the Kenai Peninsula. It does not include the Olympic Peninsula.

In 1897, during the months of May and June, Edward A. Preble and R. T. Young of the U. S. Biological Survey also visited the Olympic Peninsula. Their observations and collecting activities, however, were confined to birds and small mammals on the western side of the peninsula, in the vicinity of Neah Bay, La Push, and Quinault.

VIII. 5. Field Columbian Museum Expedition, 1898

In July 1898, a party from the Field Columbian Museum (Field Museum of Natural History) of Chicago arrived to spend about three months collecting animal specimens in the Olympics. They particularly wanted to find Roosevelt elk in their summer range in the interior mountains. They camped in the Elwha Valley, then crossed to the west side of the river and spent three weeks at Happy Lake before moving to the vicinity of nearby Boulder Lake, at an elevation of about 4300 feet. "The summits on the south of this lake were so broken by jagged ridges, impassible [sic] ravines, snowfields of uncertain depths and yawning chasms, that progress in any direction was out of the question" (Elliot 1899:245) -- i.e., it was good mountain goat habitat. Not being able to find a suitable trail to cross to the upper Soleduck Valley from Boulder Lake, they returned to the Elwha Valley and travelled by trail to lakes Sutherland and Crescent, continued up the Soleduck Valley, and crossed over into the Bogachiel Valley, where they at last were able to obtain five specimens of elk. Altogether the expedition collected between 500 and 600 specimens, including some large mammals -- elk, deer, and bear -- "with few exceptions embracing all the species known to inhabit the region"

(Elliot 1899:246). In the catalogue, prepared by D. G. Elliot, curator of mammals, describing 30 species and subspecies of mammals from the Olympic Mountains, no mountain goat is described and the mountain goat is not mentioned as one of those few exceptions.

VIII. 6. State of Washington, 1898

In 1898 the State Fish Commissioner (who was also the ex officio State Game Warden) reported on the status of ungulates in western Washington, listing deer, elk, mountain sheep, and mountain goats as present in the Cascade Mountains, and only deer and elk as present in the Olympic Mountains.

The section within the limits of the Cascade mountains and contiguous territory contains great numbers of several varieties of deer and a limited number of elks, mountain goats, and mountain sheep. The western part of the state, within the section embraced by the Olympic mountains and its spurs, contains a great many elks and deer of several varieties. In years past the elks ruthlessly have been killed during the deep snows, and if the hunter is allowed to employ the same methods in the future, this, the noblest species of game found within our border will become extinct or nearly so (Little 1898. Cited in Schullery 1984:38).

VIII. 7. F. M. Gaige, 1919

In July and August 1919, F. M. Gaige, of the University of Michigan-Walker Expedition, collected 131 mammal specimens in the vicinity of Lake Cushman, including a few that were collected on a short trip to Mt. Steel. Gaige collected only small mammals. Most were taken near the post office at Lake Cushman, at an elevation of about 570 feet.

VIII. 8. U. S. Biological Survey, 1917-1921

During 1917 through 1921 several members of the U. S. Biological Survey carried out investigations in Washington state. In 1918, Vernon Bailey again visited the Olympic Mountains in April and May, stopping in the Elwha Valley at Humes ranch and hiking up the Hoh Valley, to a ranger cabin about 17 miles beyond Fred Fisher's ranch. In 1921, Walter P. Taylor and George C. Cantwell, who had been custodian of the Federal bird refuges off the coast of the peninsula, along with William T. Shaw, and Harold St. John of Washington State University, and W. G. Cassels, spent from late June until early September exploring the Olympic Mountains, spending time in the Elwha Valley, at Hurricane Ridge, at Happy Lake and Boulder Lake, at the headwaters of the Elwha, Dosewallips, and Quinault rivers, and in the Soleduck and Hoh valleys. Their itinerary included five days above timberline at the head of Little River and on Hurricane Ridge, and five days in the vicinity of the headwaters of the Dosewallips, both areas that have recently been frequented by goats.

Bailey, Taylor and Cantwell wrote reports on the mammals of the Olympic Mountains. Copies of these reports were obtained from the Smithsonian Institution Archives. Taylor's report lists 40 species of animals observed in the Olympics, including notes on where they were seen or collected, or where they were seen or taken by local informants -- such as their packer, Oscar Peterson; Billy Everett, who owned Olympic Hot Springs; Chris Morgenroth, forest ranger; Grant Humes; William Stewart, USFS fire guard and "veteran trapper;" and E. B. Webster, all of whom knew the Olympics intimately (Field Report, Mammals, Summer 1921, Box 104, Record Unit 7176, Smithsonian Institution Archives [SIA]). Cantwell's report discusses 37 (mostly the same) species (Field Report, Mammals, July 1-Sept. 29, 1921, Box 100, Record Unit 7176, SIA). None of these reports mentions mountain goats in the Olympics.

In 1917 reports on mammals in various locations in Washington state, W. P. Taylor does mention mountain goats occurring along the Cascades, in Kittitas, Pierce, Chelan, Yakima, and Klickitat counties. He reports that according to Frank Bryant, a former game warden at Yakima, goats were not at that time on Mount Adams. They were, however, increasing in numbers on Mount Rainier. Bryant also mentioned that there were perhaps a dozen goats on Chair Peak in King County (Special Report on Game Species, Oct. 1917, Box 103, Record Unit 7176, SIA). In 1919, Taylor made extensive wildlife observations on Mount Rainier. His field notes contain lengthy observations on mountain goats. In addition to sightings of goats, Taylor also discusses observations of goat tracks, droppings, and trails (Field Notes, 1919, Box 104, Record Unit 7176, SIA). Taylor was accompanied by J. B. Flett, Mount Rainier naturalist. Flett told Taylor about other areas in western Washington where he had observed goats, mentioning Mount St. Helens and Goat Rocks. Flett was familiar with the Olympic Mountains. He recounted bear observations in the Olympics to Taylor, mentioning that he had made his first trip into the Olympics in 1897. It seems likely that if Flett had observed goats in the Olympics, he would have related this observation to Taylor. And given the thoroughness of Taylor's goat observations on Mount Rainier, it seems likely that if there had been any traces of mountain goats in the Olympics, he would have noted them.

In 1929, W. P. Taylor and W. T. Shaw, formerly of Washington State College, published a provisional list of Washington's land mammals. These biologists, who had done several years of field work in the state, list the mountain goat as occurring in the Cascade Mountains, north to the Canadian border, south at least to Goat Rocks, east to the vicinity of Lake Chelan, and west to Mount Baker and Mount Rainier. The

subspecies, Oreamnos americanus missoulae, was reported to have once occurred in the Blue Mountains in the southeastern part of the state, but there were no specimens from that area, and Walter Dalquest, in his catalogue of Washington mammals, is of the opinion that this report was based on a misidentification (Dalquest 1948:406).

VIII. 9. State of Washington, 1938-1940

In its fourth biennial report, the Washington State Game Commission stated that a study of mountain goats had been conducted during the biennium by a department biologist. "Previously the Department had little conclusive data available on the habits, habitat and rate of reproduction of this animal" (1940:72). The mountain goat study, written by Niilo A. Anderson, states:

No mountain goats are native to the Olympic Mountains, but two forms have been planted there and are reported to be increasing in numbers. Of these, four animals of the form Oreamnos americanus columbiae were introduced from Banff, Alberta, in 1924 [1 January 1925], and eight animals of the Oreamnos americanus kennedyi group were introduced from Alaska and released in 1929 and 1930 (Anderson 1940:2).

For an account of the introduction of mountain goats into the Olympic Mountains and their subsequent dispersal, see the paper by Bruce Moorhead and Victoria Stevens (1982). Inquiries to the Washington State Division of Archives and Records Management, the Department of Wildlife, and Olympic National Forest turned up no additional information concerning the historical presence of goats in the Olympic Mountains.

IX. DISCUSSION

This review of historical records of wildlife observations on the Olympic Peninsula includes conflicting reports concerning the presence of mountain goats. Spanish explorers, S. C. Gilman, and a newspaper summary of the Press Expedition mentioned that goats were present. In addition, several nineteenth-century ethnographic writers, as well as the Spanish explorers and Captain Vancouver, mentioned the use of mountain goat wool by Native Americans in the Puget Sound region. On the other hand, at least three other pre-1925 discussions of Olympic Peninsula wildlife state positively that goats were not present. Early naturalists describing the known range of mountain goats in North America do not include the Olympic Mountains. Several biologists writing about Washington mammals, after the 1920s, state that mountain

goats were not native to the Olympic Mountains. The remainder of the reports by recreationists and wildlife biologists which list Olympic mammals do not include goats.

Because goats were not mentioned in the majority of cases, however, it does not logically follow that they were not observed or were not present. To assert this would be to succumb to the "fallacy of negative proof" -- claiming that because these observers provided no evidence of goats, they prove that goats weren't there (Fischer 1970). Nevertheless, the considerable amount of negative evidence (failures to mention goats among mammals observed in the Olympics) does not lack significance. By examining the thoroughness and quality of, and the reasons for, the observations of those who do not mention goats, a reasonably accurate assessment can be made of whether or not such observers would have mentioned goats if they had noticed them, and how likely they would have been to have seen them if, in fact, goats had been present. Thus, in comparing and assessing the relative credibility of the various reports, it is necessary to consider carefully (1) the training and experience of the observers, (2) their familiarity with the region and purpose for exploring it, (3) the extent and thoroughness of their explorations activities and opportunities, (4) their familiarity with the habits of wildlife, particularly mountain goats, and (5) the informational detail provided in their observations. When such factors are all taken into consideration, some of the observations clearly assume more reliability than others.

The initial references to "wild goats" reported by the Spanish explorers are problematic for several reasons. Manuel Quimper, who provided the first account of an exploration of the Strait of Juan de Fuca, in his general description of the strait, stated that "Buffalo, stags, deer, wild goats, bears, leopards, foxes, hares, and rabbits feed on their luxuriant pastures" on the south side of the strait. Quimper anchored for a while at Dungeness and explorations were conducted north and east of that anchorage; and later on the way out of the strait, he sailed into Freshwater Bay and Neah Bay. These are the only points on the Olympic Peninsula that he visited. No inland explorations were attempted. Since mountain goat habitat in the summer is generally in high rocky areas above timberline, at locations fifteen or more miles inland from these coastal points, it is highly unlikely that Quimper actually saw mountain goats.

Eliza and Pantoja, who the following summer pursued explorations among the islands to the north of the eastern end of the strait and anchored for about three weeks in Discovery Bay, echoed Quimper's general statement concerning animals along the strait. Eliza merely confirmed that "All the animals are also found

which occur in the description of the Estrecho de Fuca by Don Manuel Quimper," after giving a specific and detailed description of an elk that had been shot at Discovery Bay. Likewise, Pantoja's general statement of animals present is essentially a repetition of Quimper's: "On both coasts, particularly on the shores, different kinds of pasture are very common on which feed buffalo, stags, deer, wild goats, hares and rabbits." Pantoja also described the elk and mentioned specific animals seen near Discovery Bay.

In addition to the unlikelihood of seeing mountain goats grazing near sea level, the reference to wild goats is equivocal because the accounts available in English are translations of eighteenth-century Spanish. This problem is illustrated by the mention of buffalo. The translator notes that the Spanish word "cibolos," which he translated as buffalo, was being applied to elk by the explorers, who had not seen this animal before and had no Spanish name for it. (Pantoja referred to the elk shot at Discovery Bay as "a quadruped without tail.") The ambiguity inherent in translation is also illustrated by the word that is translated as "leopards," which the translator explains were "probably cougars, also spotted animals and quite common on the Olympic Peninsula" (Wagner 1933:188). Since adult cougars are not spotted, this leaves one to wonder if perhaps the cat referred to may have been the bobcat, which is spotted.

Catherine H. Blee has described the confusion that resulted from the use of the Russian word "iaman," often translated as "wild goat" or "wild sheep," for the small Sitka black-tailed deer by nineteenth-century Russian settlers in Sitka, Alaska. Dall sheep are not found on Baranoff Island where Sitka is located, and the mountain goat was introduced in 1923. None was seen prior to that time by Americans on the island. Nevertheless, there were repeated references to "iaman" in nineteenth-century Russian-language documents. Archeologists found no goat or sheep bones at nineteenth-century sites, but they did find faunal material from the Sitka deer. Russian speakers at Sitka had applied their word "iaman" to refer to a goat-sized deer. Blee notes that:

It was not unusual for Old World emigrants to name unfamiliar North American fauna for similar animals in their homeland. English-language examples abound: the American wapiti was called an "elk". . . . The animal that Americans have named a "moose" is referred to as an "elk" in Europe. The American bison was likewise called a "buffalo" and the pronghorn an "antelope" in popular literature; neither terminology is correct taxonomically. Notably, the American mountain goat is not a goat at all, but is rather a type of antelope (Blee, 1989:229).

Blee recommends a multidisciplinary and broader contextual approach when "deciphering the identity of animals described in literature dating to past centuries and written in languages other than English."

Moreover, the difficulty of identifying animal species mentioned in early accounts is not limited to the problems of translation between languages and European transpositions; English common or colloquial names were applied very casually and inconsistently through the nineteenth century. Again, the mountain goat serves as a good example of this situation. According to Burroughs (1961), Alexander Mackenzie apparently referred to mountain goats in 1789 as "white buffalo." Lewis and Clark used the term "goat" throughout their diaries to refer to the pronghorn antelope. They also consistently referred to mountain goats as "sheep," which led initially to the animal being misclassified by scientists into the sheep genus Ovis.

Another unconvincing aspect of the early Spanish references to the presence of goats along of the Strait of Juan de Fuca is their very general nature. It is not apparent that they are based on any specific sighting at a given time and place. They are more of a "passive" assertion that "goats are found there." In contrast are the very detailed descriptions given by Eliza and Pantoja of the elk that was shot at Discovery Bay. It is very certain that the Spaniards were describing an elk. There is no such authentic, firsthand, descriptive account of a mountain goat.

The Spanish had reasons to suppose that there were "wild goats" in the areas that they explored, which included Bellingham Bay, where mountain goats are found in the nearby Cascade Mountains, and the continental coast of British Columbia, where mountain goats inhabit the Coast Range. They also observed the widespread use of goat, dog, and perhaps sheep wool by Native Americans in the areas that they visited, and did not always distinguish the difference. They were offered wool blankets, dogskins, and "sheepskins" in trade. Along the coast of British Columbia in Toba Inlet, a Spanish crew found a carved plank that apparently depicted goats. However, it is not probable that they saw goats grazing in pastures along the southern coast of the Strait of Juan de Fuca.

Vancouver, in the summer following Eliza's exploration, noted, in addition to dog wool, the use of another type of finer wool, and was curious about its source. He assumed "the animal from whence the raw material is procured, to be very common in this neighborhood," but "could not obtain the least information" about that animal until he saw mountain goat skins near Bella Bella, British Columbia, a year later (Meany 1907:136). Wool obtained from mountain goats in the Coast Range and the Cascades was widely traded along the coast of British Columbia, on Vancouver Island, and throughout the Puget Sound area (Schalk 1993). Most likely it was the widespread use of goat wool among Olympic Peninsula tribes that led some

nineteenth-century explorers and writers to assume that mountain goats were present in the Olympic Mountains.

Another problematic reference to goats on the Olympic Peninsula appears in a column accompanying narrative accounts of the Press Expedition in the 16 July 1890 Seattle Press. A column on page 20 titled "Found in the Olympics" over the name of C. A. Barnes, a member of the expedition, contains the unelaborated sentence, "One goat was seen by the party." Both Charles Barnes and James Christie, the leader of the expedition, compiled personal journal accounts of their adventures which were printed in full in the same issue of the Press. Nowhere in these more detailed accounts do either Barnes or Christie mention the sighting of a goat. These narratives do recount sighting, hunting, shooting, eating, and seeing the tracks of various other game animals -- including elk, deer, bear, wolf, wildcat, cougar (tracks), rabbit -- and catching trout. The reference to the goat is another "passive" report--"one goat was seen." Neither the goat, the date, nor the circumstances of the sighting are described. It is not specified that it is a mountain goat, and not a settler's domestic goat at large in the homesteaded portion of the Elwha Valley where the expedition spent several weeks. If a mountain goat is meant, it is unusual that the sighting of such a game animal in the Olympics would not have been noted in the detailed daily journal entries of the explorers at the time it occurred. It should also be added that none of the members of the Press Expedition were naturalists. They were ex-soldiers, Indian fighters, prospectors, and cowboys, with the exception of Harris B. Runnalls, a doctor, who left the expedition before it had entered the mountains. They made other errors in natural history--mistaking the drumming of ruffed grouse for the rumbling sound of nonexistent geysers, misidentifying Mount Carrie as Mount Olympus, and discovering a four-foot thick ledge of silver, a metal not since found in the Olympics.

Samuel C. Gilman's mention of mountain goats in the Olympics is similarly another "passive" statement: "In addition to elk and bear, before mentioned, are deer, mountain goat, cougar, beaver, otter, fisher, wildcat, marmot, geese, ducks, grouse, partridge, quail, pelican, and many smaller or less desirable birds and animals." It is not related to any specific observation of the animal. Gilman was a civil engineer rather than a naturalist. A descriptive account of Gilman's and his father's trip into the mountains, as told to a Seattle reporter, gives no specific animal sightings other than the mention of shooting elk. The article that appeared in National Geographic in 1896 is a broader, more general account of the features of the Olympic Peninsula.

It was submitted for publication only a few days before Gilman died at the age of thirty-six, and may have been edited without his review. Among the early expeditions, that of Lieutenant O'Neil in 1890 was the most thoroughly organized and systematically executed, involved the most personnel, and was the most comprehensive in scope, covering a broad portion of the eastern and southern Olympics. In addition, O'Neil had explored the northern range east of the Elwha River in 1885. Three naturalists accompanied the 1890 expedition. Private Harry Fisher, although not trained as a biologist, accompanied the expedition naturalists. The detailed observations in his narrative seem to reflect the influence of the naturalists Henderson and Bretherton in his use of scientific nomenclature and species identifications. Although some of the naturalists' accounts and field notes are available, and O'Neil provided a lengthy descriptive summary of the expedition, it is Fisher's narrative, recorded on a daily basis, that is the most comprehensive and informative. He made detailed journal entries describing the terrain, plants, and animals he observed. Fisher and the naturalists travelled with small survey parties that often climbed peaks and looked for the best routes to locate trail. The area he covered included the route the Gilmans explored the preceding fall, and much additional territory. Fisher spent much of three months in summer examining high country that offered excellent mountain goat habitat. Moreover, he actively searched for wild goats and sheep with a telescope. He reported that none were seen. It is reasonable to believe that there were probably not any to be seen in the areas he visited.

Soon after the publicity surrounding the Press Expedition, and even before O'Neil's expedition had finished constructing its mule trails, prospectors and sportsmen began venturing into the Olympics. Newspapers and magazines from the 1890s and early 1900s contain numerous additional accounts of recreationists who made trips into the mountains. Considerable hunting activity occurred on the Olympic Peninsula during the latter part of the nineteenth century and in the early twentieth century. Elk were so heavily hunted that there were proposals in the early 1900s to create a national park on the Olympic Peninsula principally as an elk sanctuary. Preservation of elk was a major impetus behind the creation of Mount Olympus National Monument in 1909. Bear, deer, cougars, and wolves were also hunted by settlers, prospectors, loggers, and sportsmen who visited the peninsula from Seattle and elsewhere. By 1930 the wolf had been hunted, trapped, and poisoned into oblivion on the peninsula. However, the Olympic Peninsula was not noted in sportsmen's literature as a place to observe or hunt mountain goats before the introduction of the animal. Mountain goats are large, conspicuously white animals. Nineteenth-century observers reported that they

could be seen "from a great distance feeding in large droves" where they were present. Yet numerous accounts that usually mention the major game animals found during an excursion in the Olympics -- elk, deer, bear, and sometimes wolves, do not mention mountain goats. However, such accounts do occasionally mention encountering a cougar, a much less conspicuous and more reclusive animal.

The wildlife observations of longtime local residents who spent much of their adult lives hiking (and building) the trails of the Olympic Mountains, provide especially credible information. Some of these local observers were professional hunters, trappers, and outfitters who made a living by their knowledge of where to find wildlife. Grant Humes was one such person. A large collection of Humes family letters covering more than 35 years contains no mention of mountain goats, although these letters represent only scattered observations, and not a comprehensive treatise. However, E. B. Webster of Port Angeles, a publisher, outdoorsman, conservationist, amateur botanist, and observer of wildlife, was acquainted with Humes and several other Olympic Peninsula sportsmen, hikers, and state, county and Forest Service wildlife managers. His book, The King of the Olympics, a collection of early observations about Olympic Peninsula wildlife, embodies much local knowledge of the native fauna. Webster's statement that mountain goats had never been present on the Olympic Peninsula probably represented the consensus of those local outdoorsmen who knew the Peninsula best.

The most credible early wildlife observations are probably those related by naturalists and biologists who had wide field experience, whose purpose was expressly to survey, describe, and collect the fauna, and who spent a considerable amount of time in those areas that provide goat habitat. Of particular interest is the catalogue of large and small mammals collected by the biologists from the Field Museum in Chicago, who spent three months on the Olympic Peninsula in 1898, which makes no mention of mountain goats. In addition, field reports of several members of the U.S. Biological Survey, covering the period from the 1890s to 1921, fail to record the presence of mountain goats in the Olympics. A group of these biologists, highly experienced in making wildlife observations and knowledgeable of where to look, spent more than two months in the Olympics in 1921, some of it in areas that could provide goat habitat. They searched not only for the animals themselves, but also for their tracks, trails, wallows, droppings, and swatches of hair. Their reports listed not only the mammals that they observed or collected, but also those about which they obtained reliable information from knowledgeable local residents. These investigators were comparing the

various life zones of the Olympics with equivalent life zones in the Cascade Mountains, where mountain goats are present. Therefore, they would have been especially alert for any evidence of mountain goats. Dr. C. Hart Merriam, one of the pre-eminent American wildlife scientists and director of the U. S. Biological Survey, visited the peninsula in 1888 and 1897 and sought out information on animals from local hunters and trappers, game wardens, taxidermists, and museum curators, as well as making his own field observations and being familiar with those of his colleagues. His manuscript notes state that mountain goats were not found on the Olympic Peninsula. (Merriam was also aware of S. C. Gilman's National Geographic article; a copy of it is located with his papers in the Library of Congress.)

R. Lee Lyman has argued that "mountain goats might not have been recorded because appropriate areas were not surveyed" (1988:14). However, there was considerably more early exploration than Lyman reports. Lyman does not consider the 1885 and 1890 O'Neil expeditions, nor the Press Expedition. Both O'Neil expeditions, but especially that of 1890, covered large areas that presently constitute mountain goat range. The Field Museum expedition in 1898 spent several weeks at elevations above 4000 feet in the vicinity of Boulder Lake and Mount Appleton, an area where mountain goats are currently found. The 1921 Biological Survey team visited the high meadows on Hurricane Ridge and the headwaters of the Dosewallips River, areas that support concentrations of introduced mountain goats. E. B. Webster made more than 200 trips to timberline, many of them more than a week in duration. Forest ranger Chris Morgenroth was familiar with every trail across the Olympics, and remote areas that had no trails. So was Elwha Valley pioneer Grant Humes. Each of the latter outdoorsmen would have been familiar with almost every conceivable area of the Olympic Mountains during the 25 years preceding 1925. Not only did these men leave written accounts of their observations, but Biological Survey members interviewed them. None of these expeditions or knowledgeable sources reported finding mountain goats, or any evidence of their presence. Based on the thoroughness of the wildlife observations they did report, it is reasonable to assume that if these experienced observers had indeed known of mountain goats in the Olympics, they would have reported them.

The Fund for Animals has cited three sources to support a contention that mountain goats are native to the Olympic Mountains: the 1896 National Geographic article, the 1890 Seattle Press article, and John Dunn's 1844 comment that the Indians at Cape Flattery wove blankets of goat wool. Randall Schalk (1993) has demonstrated that the historic use of goat wool does not prove the presence of mountain goats on the

Olympic Peninsula. The other two references to goats being present on the peninsula are unsupported by any observational detail. Neither account provides any information on the circumstances, location, or date of a specific goat sighting, nor a description of the animal. When weighed against the numerous, detailed observations provided by skilled wildlife observers who did not find evidence of goats during this same period, such reports are clearly of questionable credibility. Establishing the composition of the historic fauna of the Olympic Mountains has required the consideration of many accounts from various sources and a careful evaluation of their reliability. No compelling evidence has been found in the present review to suggest that mountain goats actually occurred on the Olympic Peninsula prior to their introduction in 1925.

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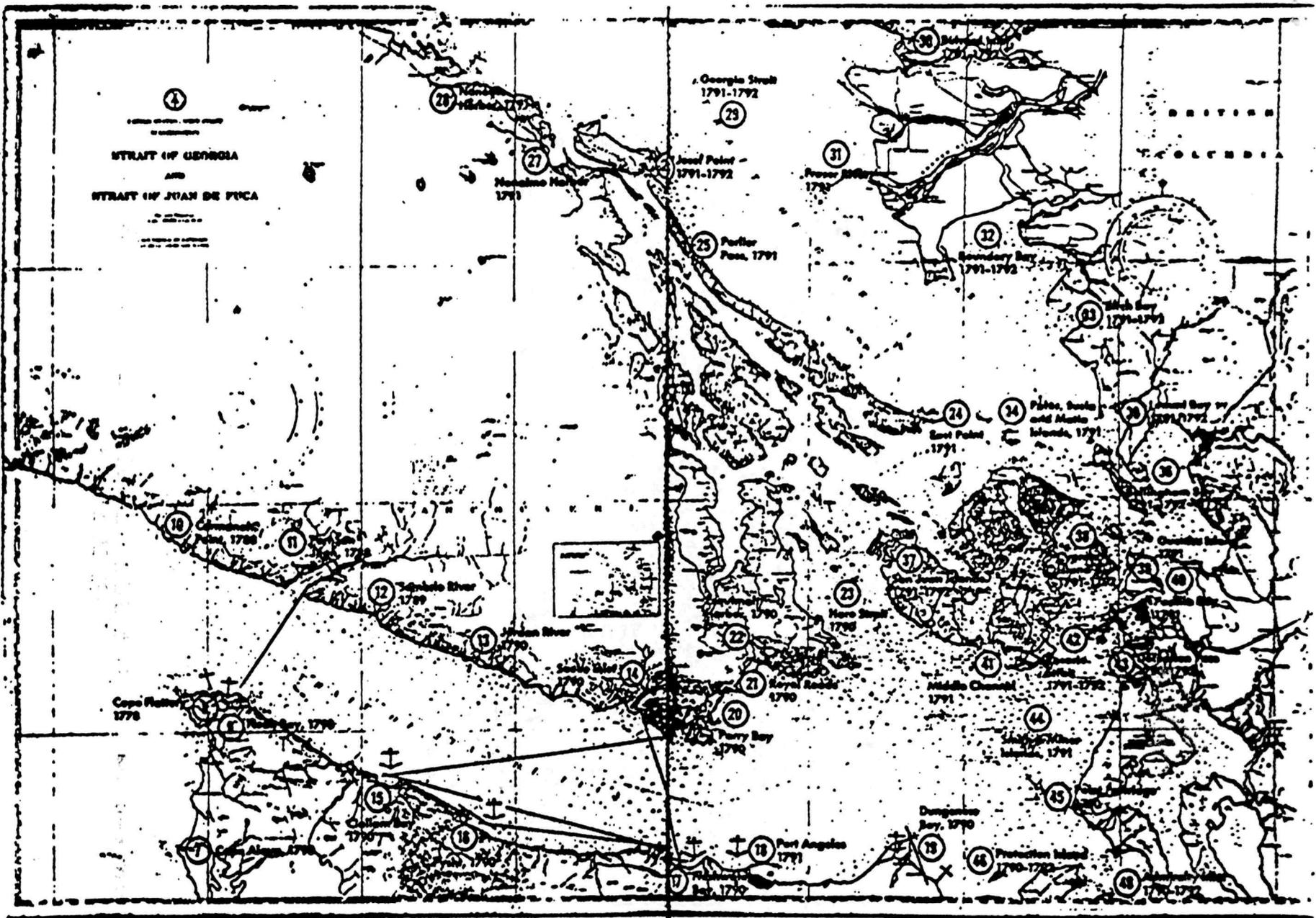
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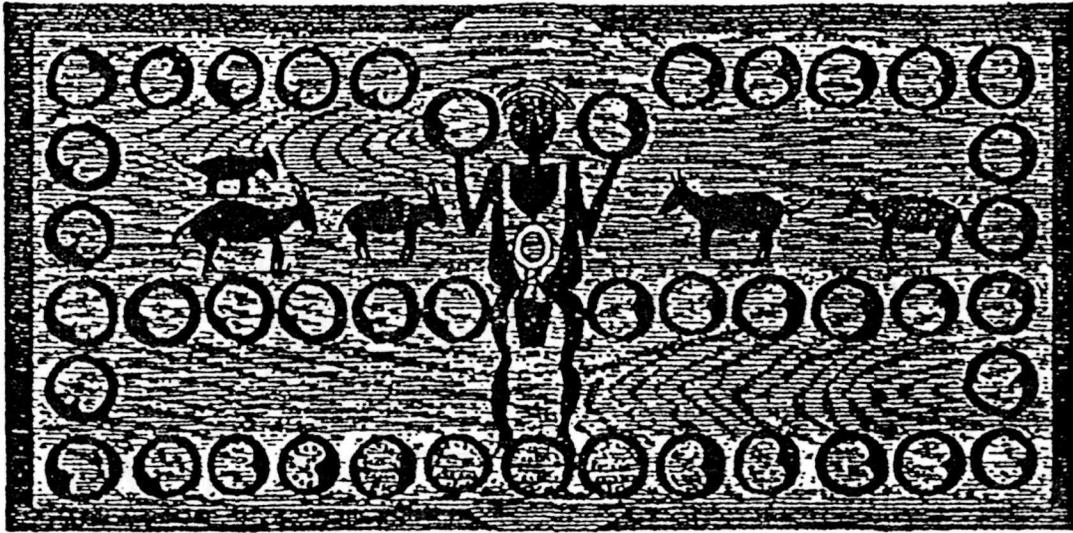
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FIG. 1 Spanish Exploration Routes.
 Anchors represent anchorages. Crosses represent landings.
 Solid lines indicate bearings.
 From Whitebrook, Coastal Exploration of Washington



Strait of Juan de Fuca, San Juan Islands, and Strait of Georgia

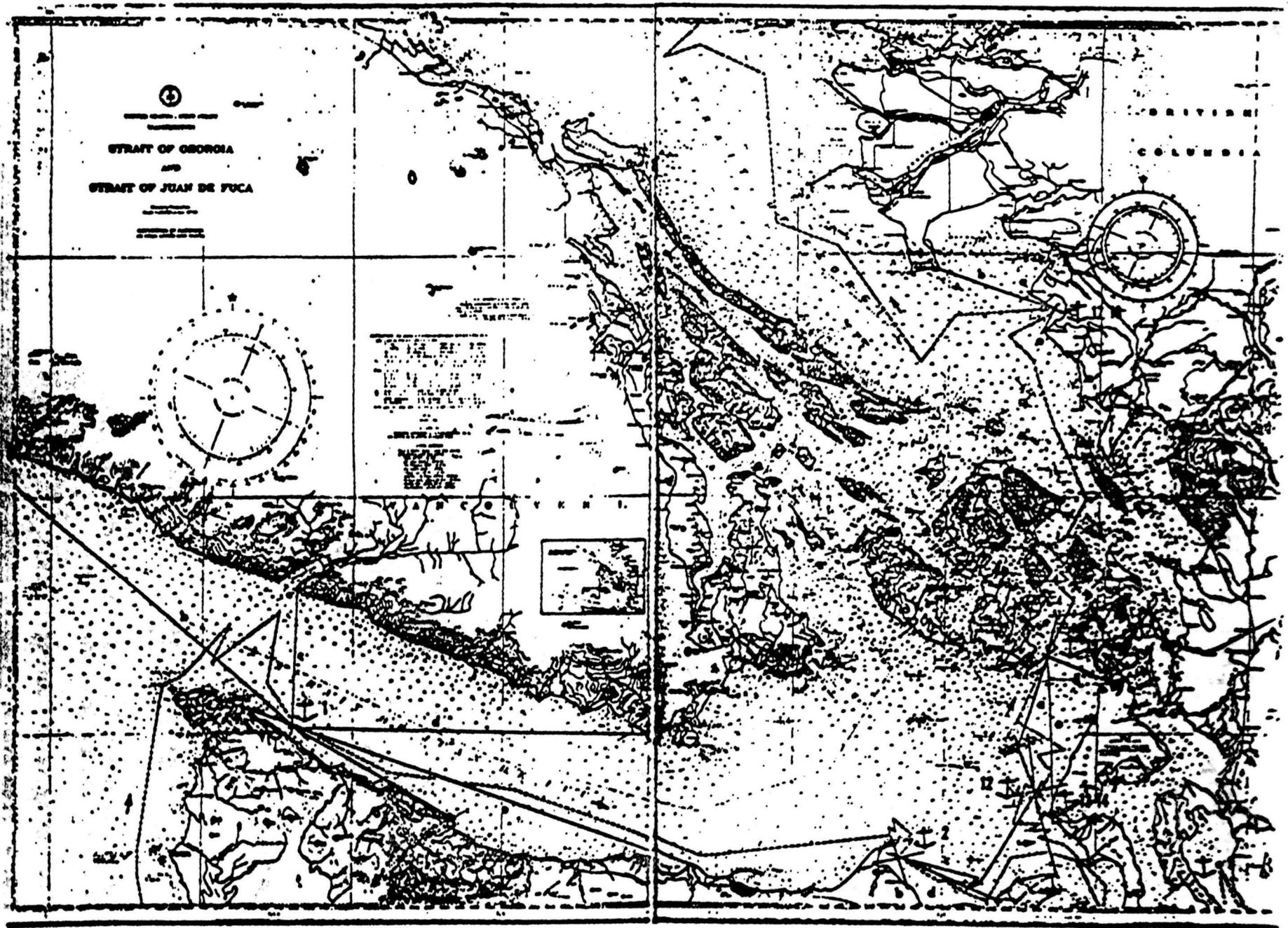


Carved board found at Canal de la Tabla

FIG. 2

From Espinosa y Tello, A Spanish Voyage to Vancouver and the Northwest Coast of America

FIG. 3 Vancouver's Route (dotted line)
Solid lines indicate bearings.
From Whitebrook, Coastal Exploration of Washington

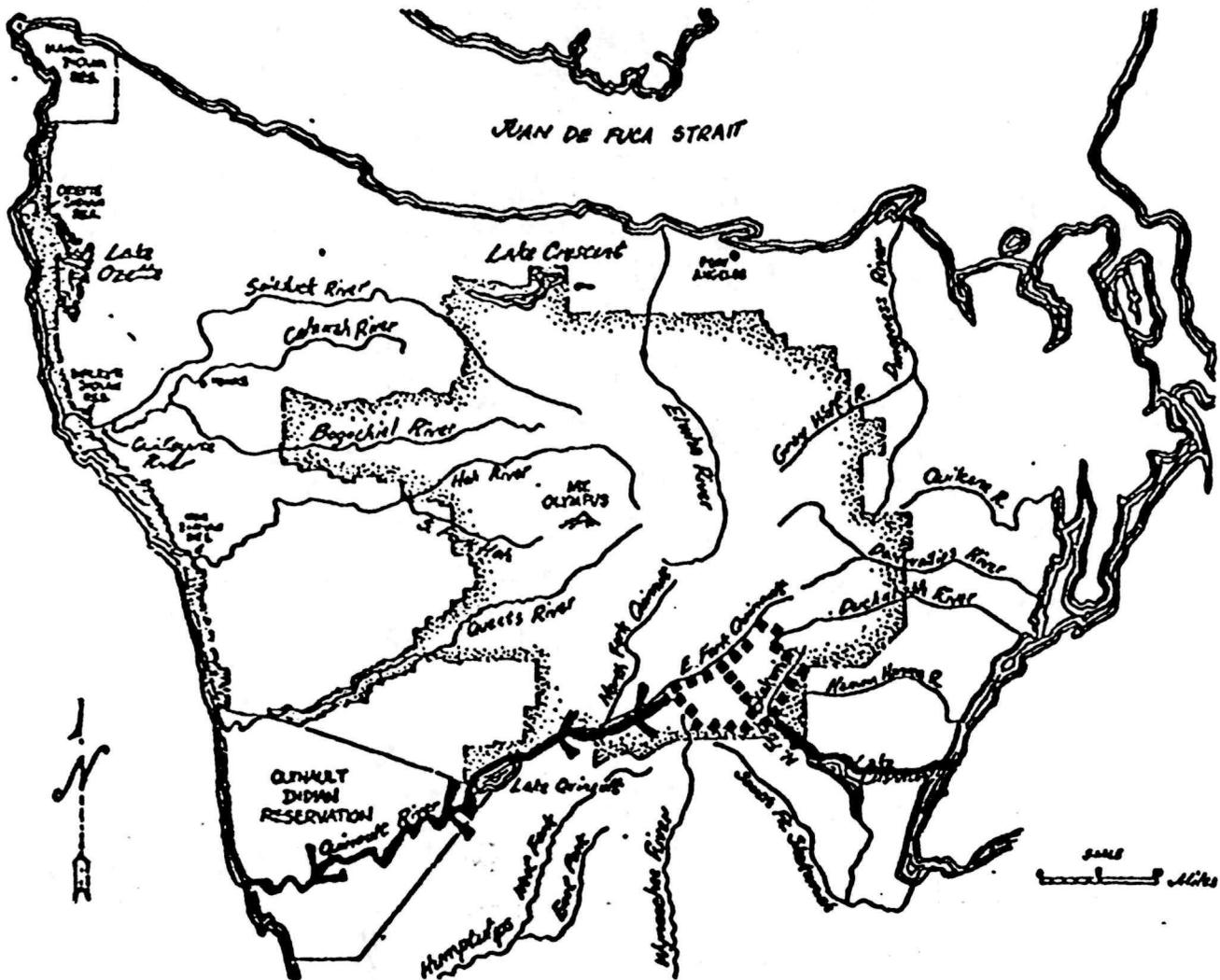


Strait of Juan de Fuca

and Strait of Georgia

Olympic Peninsula Olympic National Park

Routes Of Interior Exploration



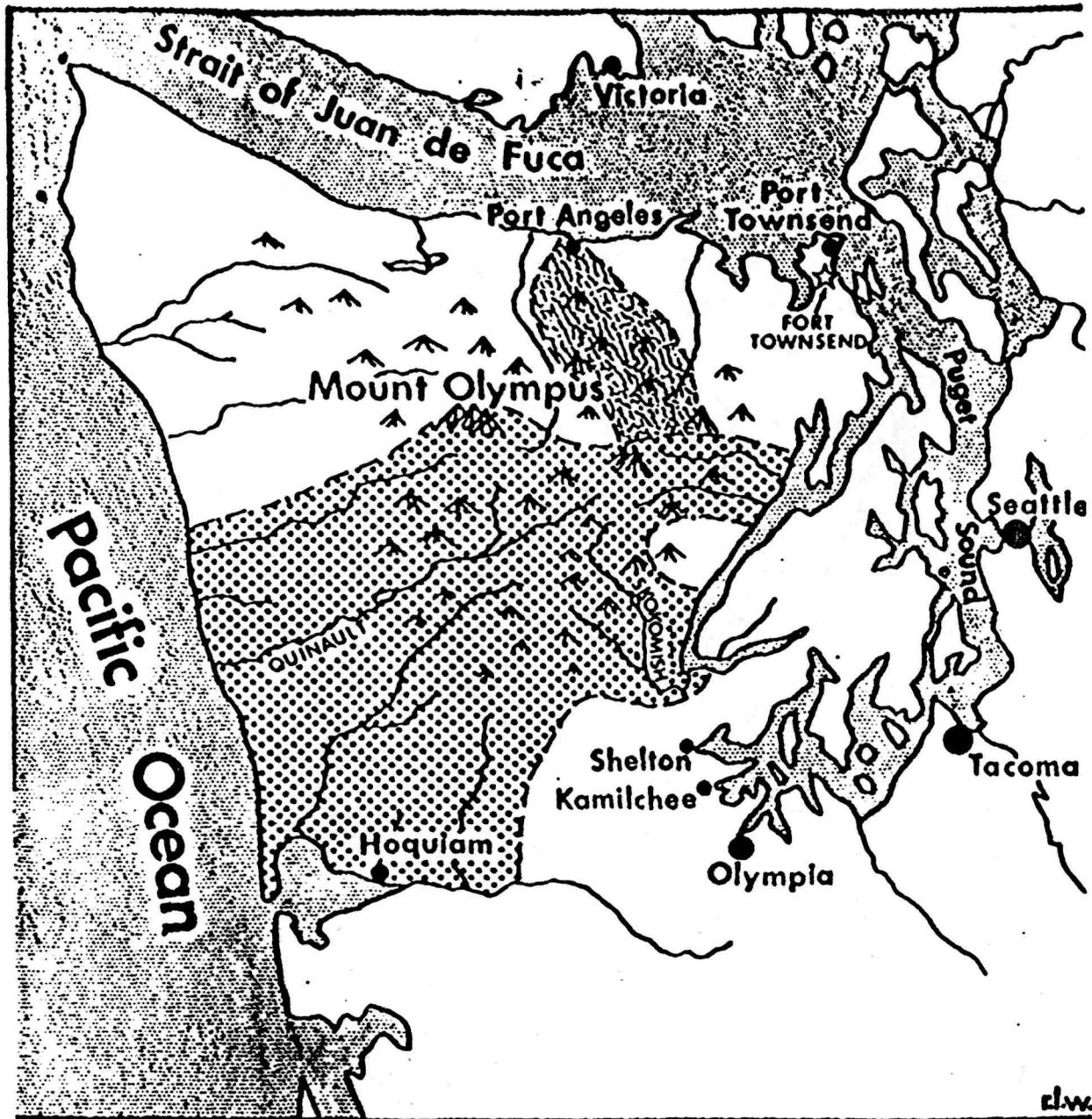
Legend

- Matkinson Expedition, 1878
- - - - - Possible Route

Derived from a collaborative effort of P. Crawford, R. Dalton, R. Kaune, R. Olson, and E. Schreiner, 1984.

Base map by Keith Hoofnagle, 1983.

FIG. 4 From Evans, Historic Resource Study, Olympic National Park



cl.w.

MAP NO. 21



AREA EXPLORED BY LIEUTENANT O'NEIL

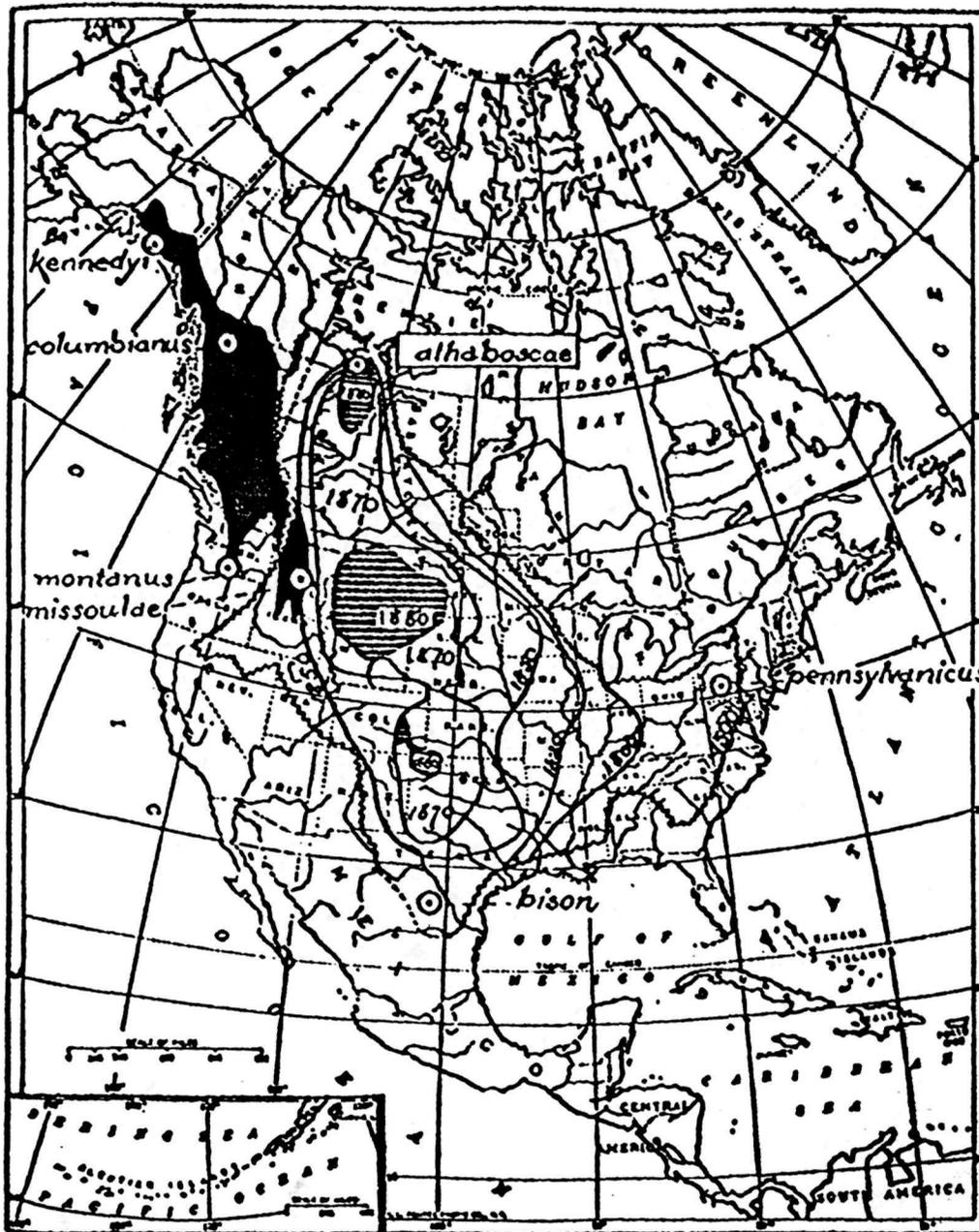


1885 EXPEDITION



1890 EXPEDITION

FIG. 7 From Wood, Men, Mules, and Mountains



MAP VII.—RANGES OF THE WHITE GOAT AND THE AMERICAN BUFFALO

By E. T. Seton with help of the Biological Survey, and (for the Buffalo) reference to the maps of Dr. J. A. Allen and Dr. W. T. Hornaday.

Range of the White Goat in primitive times, and practically unchanged to-day, in solid black. It lies chiefly in British Columbia, but overlaps the primitive range of the Buffalo in Montana and Idaho.
 Range of the American Buffalo in outline and heavy shading.