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The House Full of Otters: Recalling Human–Sea Otter Relationships on an Indigenous Oregon Coast

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The House Full of Otters

Recalling Human–Sea Otter Relationships on an Indigenous Oregon Coast

DOUGLAS DEUR, PETER HATCH, AND HANNAH WELLMAN

FOR COUNTLESS GENERATIONS, Native peoples of what is now called the Oregon coast have lived alongside sea otters (*Enhydra lutris*) and sustained myriad connections to this community of mammals in the nearshore sea. Hunting sea otters along the ocean shore, they fashioned the pelts — silky and dense with glossy hairs — into warm and chiefly robes, emblematic of high status and noble birth. Sea otter pelts were valuable as trade goods and as a source of prosperity. Although tribal ancestors often used the pelts of river otters (*Lontra canadensis*), sea otters, possessing the densest fur in nature, stood apart. These maritime otters brought wealth in many forms, well worth the difficulty and danger of traditional hunting and trading ventures in the turbulent seas. Sea otters loomed large in coastal peoples' story cycles, having vast cultural values and meaning — as truly transformational beings, with their own sentience and cosmological power. Sea otter hunting required specialized skills and Traditional Ecological Knowledge — specialized Indigenous knowledge of environmental phenomena, accumulated and transmitted over many generations of observation and direct interaction. And, as attested by elders of earlier times, sea otters were key participants in a complex web of ecological relationships; through their appetite for shellfish, sea otters

OHQ *does not publish articles focused on Native history without authorship or peer-review by at least one Native knowledge-holder. This article has benefited from involvement and review by a number of Native knowledge-holders from tribes of the Pacific Northwest. Among them is co-author Peter Hatch, an enrolled member of the Confederated Tribes of Siletz Indians, who also serves as a staff History and Archaeology Specialist for his tribe. Another knowledge-holder, enrolled in an Oregon tribe, also served as an anonymous peer-reviewer and advised* OHQ *when considering this article for publication.*

SEA OTTERS are not only an ecological keystone species but also arguably a cultural keystone species that features prominently in the language, ceremonies, and narratives of Native peoples. This illustration by Siletz otter activist Dave Hatch was adapted from a wood carving by Hatch's father, Army Corps of Engineers Col. Kenneth Hatch (Siletz/Aleut), and serves as the logo for the Elakha Alliance. *Elakha* is a Chinook word for sea otter.

helped sustain rich kelp beds that supported diverse marine life and contributed to Native subsistence in myriad ways.

The sea otter therefore was not only a biological keystone species on the Oregon coast, as addressed in the introduction to this special section — shaping the ecosystem in which the animals lived through their voracious consumption of sea urchins, and in turn, supporting the development of biologically rich kelp forests along the historical coastline.[1] The sea otter also has, arguably, been a "cultural keystone species" — one that features "prominently in the language, ceremonies, and narratives of native peoples

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TRADITIONAL SEA OTTER hunting canoes often resembled the famously large oceangoing dugout cedar canoes of ocean coast tribes, but were much smaller — only big enough for a single paddler in back and a hunter in front — allowing the team to readily navigate rocky coasts and roiling surf. This 1913 image of two unidentified men near Point Grenville shows a similar type of canoe from the Washington coast, used to hunt sea otter and other marine mammals.

and can be considered cultural icons."[2] As described in the introduction to this special section, beginning in the eighteenth century, the trade in sea otter and other furs became an impetus for early and sustained contact with the non-Native world, bringing commercial fur trading, non-Native settlements, and epidemic diseases that would forever transform Native societies.

Although sea otters evidently have been highly significant in Native cultures and economies for millennia, the full nature of this relationship can be difficult to surmise from available published sources, where details remain vague and contested.[3] Fur traders' chronicles were largely written from non-Native perspectives, giving us only a fragmentary glimpse of Native peoples' presence, let alone their practices, values, and knowledge of sea otters. Native voices are largely silent in the written record of the time, and a century passed from the frenzied peak of cross-cultural sea otter trade in the early nineteenth century to anthropologists' and linguists' written documentation of coastal peoples in Oregon during the early twentieth century. Most elders interviewed by anthropologists lived well after the extirpation of sea otters from their traditional territories, the forced removal of Native peoples from their coastal homelands, and the near collapse of the cultural traditions related to sea otter hunting and trade. As such, the oral tradition

that comes down to us about what sea otters meant to tribal ancestors, which is explored here, is necessarily fragmentary, retrospective, and requiring thoughtful and humble interpretation.

Many have worked to reverse the expiration of both otters and otter knowledge in Oregon. Many tribal cultural advocates have been key to this effort, including the late Dave Hatch, Siletz otter activist, founder of the Elakha Alliance, and father to one coauthor of this article, and the late Don Ivy, Chief of the Coquille Indian Tribe, who we had sought to coauthor this article before his untimely passing. Academic researchers such as Roberta Hall (emeritus, Oregon State University) have worked alongside tribal cultural specialists to document sea otters' significance through research into the archaeological record.[4] Here, we compile the fragmentary references to Native peoples' relationship with sea otters from many sources — this being the first thematic synthesis of such information in a single overview. We draw inspiration from the work of these founding figures, offering a glimpse of the human-otter relationships of the past with the purpose of fostering an understanding of this shared Oregon inheritance and contributing to ongoing discussions of cultural and environmental restoration on Oregon's coast.

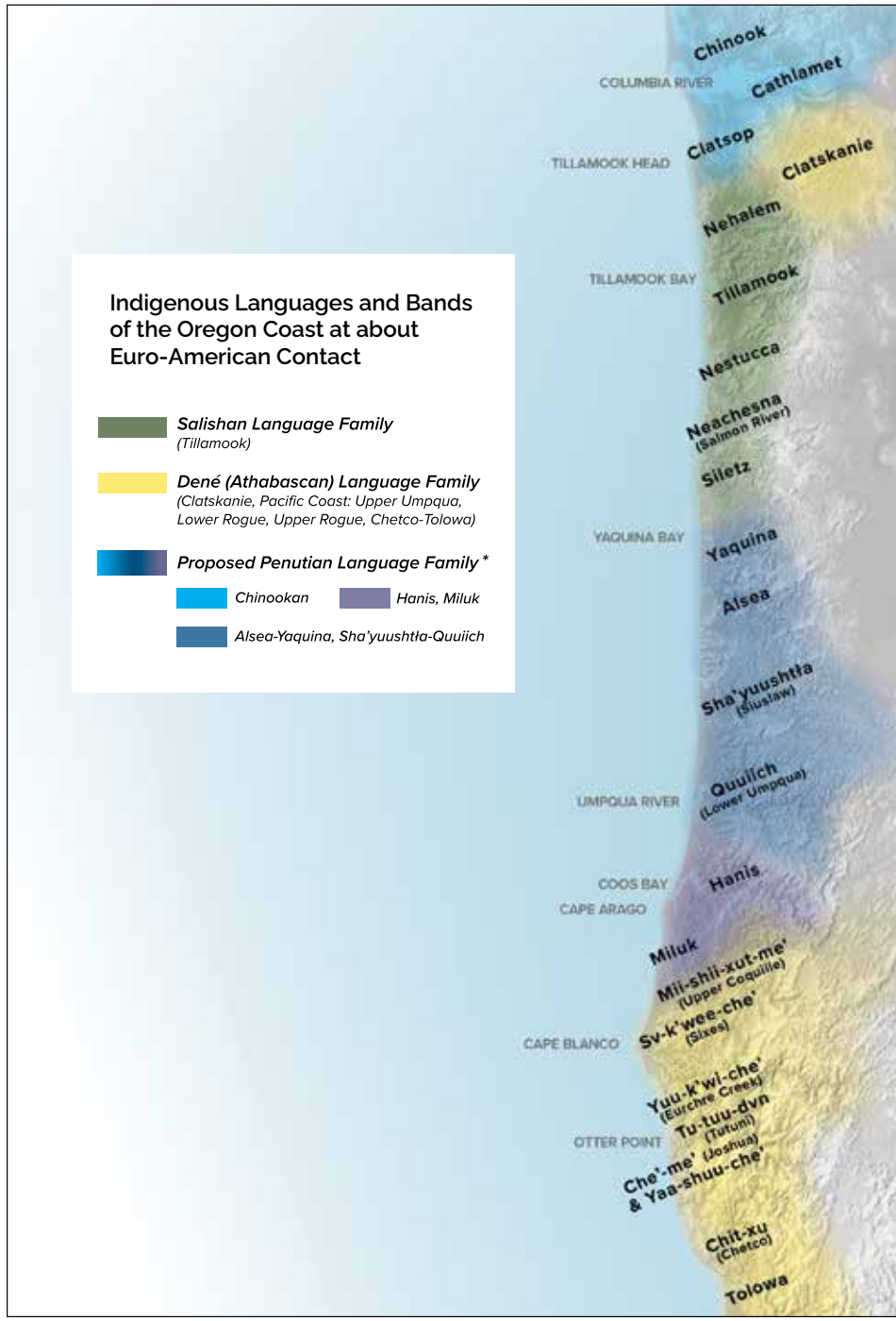
The evidence available to us is largely twofold; Native oral tradition and the archaeological record unveil these lost human-otter interactions. Augmenting and corroborating these lines of evidence are descriptive ethnographic studies and written accounts of firsthand witnesses, many already incorporated into the historical literatures of the region. Sea otters are embedded clearly in oral traditions pertaining to the distant past — including oral traditions famously robust and enduring across generations.[5] As discussed in the brief archaeological section near the end of this article, otter bones are persistent in midden sites (archaeological accumulations of refuse, such as shell and bone left by Native harvesters) along the coast dating from over 5,000 years of human history — and very often appearing in the same places celebrated for their sea otter hunting potentials in oral tradition. A consistency and resonance exists between the lines of evidence, a mutual confirmation that hints at the significance of sea otters over deep time. Here, we provide a thematic overview of available knowledge regarding this unique and enduring relationship between Native nations and the sea otters of the Oregon coast.

ETHNOGRAPHIC ACCOUNTS OF SEA OTTERS AMONG NATIVE NATIONS IN OREGON

The oral traditions of coastal tribes in Oregon offer insights about the meaning and significance of sea otters across deep time and along the full length of the coast. Accounts drawn here from many sources provide a broadly representative view of human-otter relationships of the distant past

to the near present. Some tribes are well represented in written literatures, such as those discussing the Chinookan peoples of the lower Columbia River region who played a central role in the commercial fur trade of the late eighteenth and early nineteenth centuries.[6] In other contexts, the published record is thin, mainly consisting of fieldnotes of late-nineteenth- and early-twentieth-century anthropologists and linguists who worked to document tribes along the full length of the Oregon coast. It is important to bear in mind how much the Oregon coast had already changed by the time of these exchanges. While interviewees were highly knowledgeable on all manner of traditional practices, reminiscences of sea otter hunting were understandably scarce — and some peril exists in assuming that their accounts provide a full or accurate image of the past. Speaking of his efforts to record Chinook elder Emma Luscier's traditional knowledge of sea otter hunting, for example, anthropologist Verne Ray noted: "The availability of these animals must not be judged in terms of conditions today when most of the species are almost extinct. So far as the Chinook were concerned the supply was literally inexhaustible."[7] He wrote that interviewees recalled that sea otters "furnished the Chinook with many fine robes and blankets . . . and formerly were very abundant and easily caught because of their timidity" but that many other aspects of the human-otter relationship had been forgotten or could not be recalled on the basis of firsthand knowledge.[8]

FACING PAGE: This map is modified from one that was developed for the Oregon Historical Society's *Experience Oregon* exhibition, itself based on a map published in *Atlas of Oregon* (2001). The revisions, by co-authors Douglas Deur and Peter Hatch, advance names and spellings that originate from Indigenous languages, while retaining terms familiar in Oregon history. Broadly, readers should conceptualize this region before contact as a dense constellation of independent villages clustered on every habitable waterway and linked both within and, crucially, across linguistic boundaries by interlocking social, cultural, economic, and kinship ties. A single map cannot begin to list every self-identified people, let alone fully illustrate interconnectedness, temporal change, or other fundamental nuances. The demographic collapse that accompanied epidemic diseases, wars, and the reservation system during the first two centuries of European and American contact concealed these nuances even more so, just as it marginalized Indigenous languages. English language ethnonyms (names for human communities) were adopted across this diverse region in helter-skelter fashion over time, often institutionalizing mispronunciations or outright misnomers in Indigenous names. Where feasible on this map, names are rendered in the teaching alphabets of existing Indigenous language instruction used by coastal tribes. (Note that for 'v' in Dené words read 'ə' in the International Phonetic Alphabet.) As tribal communities have struggled, survived, and reasserted themselves, updates such as those provided here are appropriate and necessary.



* *Each language within a "family" is distinct, and relatedness does not mean mutual intelligibility. In some cases only linguists can readily discern a shared origin. Speakers of English and Norwegian, for example, both speak Germanic languages, and speakers of English and Nepali both speak languages in the Indo-European family. Linguists have long debated whether a family of related Penutian languages existed among North America's West Coast tribes and, if so, which languages fit within it. Most linguists now accept that several Oregon languages were Penutian. For understanding historical events, however, readers should conceptualize even closely related languages like Alsea-Yaquina and Sha'yuushtła-Quuich (Siuslaw-Lower Umpqua) as distinct.* **See caption on facing page for more information.**

In spite of the many disruptions of Native communities and the extirpation of sea otters over the past two centuries, however, significant oral tradition remains, handed down like gifts across time. These accounts confirm that the hunting of sea otters was an ancient pursuit of enduring cultural significance. Story cycles and accounts of everyday events speak of the importance and prestige of sea otter furs, the methods of hunting, and the role of sea otters in spiritual and economic life. We assemble references from tribes along the full length of the Oregon coast, especially quotations from past elders, to produce a clearer picture of these relationships. The accounts shared by these individuals suggest the depth and richness of the tribes' ancestral relationships with sea otters — a relationship that has persisted, in certain ways, despite the nineteenth century extirpation of sea otters from Oregon's ocean shore.

A NOBLE LIFE, WRAPPED IN FURS OF PRESTIGE AND VALUE

If one clear message resounds in the oral traditions and historical accounts of sea otters, it is that sea otter pelts were of rare prestige and value. Somewhat similar to other Northwest coast tribes, from northern California to Alaska, coastal tribes in what is now Oregon observed protocols for who might receive sea otter pelts, and sea otters were emblematic of rank and chiefly status.[9] On the north coast of Oregon, ownership of a sea otter robe was a clear marker of the wearer's high status. Luscier explained in the 1930s that "the most valuable of all furs [was] the sea otter. Two skins of this last animal were required for each robe."[10] In that same decade, Louis Fuller, a Salmon River Tillamook man, explained to Homer Barnett the stark contrast in everyday attire between "Rich man's dress [including a] sea otter cape, skirt of some skin (coon etc.) with hair on, reaching the knee" and a poor man's "cape & skirt of woven inner maple bark."[11] Firsthand non-Native chroniclers of north coast tribes such as Alexander Ross consistently noted that "the chief's robe is made of sea-otter skin and other valuable furs."[12] Meriwether Lewis observed Chinook, Clatsop, and Tillamook nobles wearing sea otter robes throughout the winter of 1805–1806: "the most esteemed and valuable of these robes are made of strips of the skins of Sea Otter net together with the bark of the white cedar or sil-grass. these strips are first twisted and laid parallel with each other a little distance assunder, and then net or wove together in such manner that the fur appears equally on both sides, and unites between the strands. It make[s] a warm and soft covering."[13] Summarizing a litany of explorers' accounts, John Gill said of the Chinookans: "Finer skins were also worn, the beaver and the priceless sea otter among them."[14]

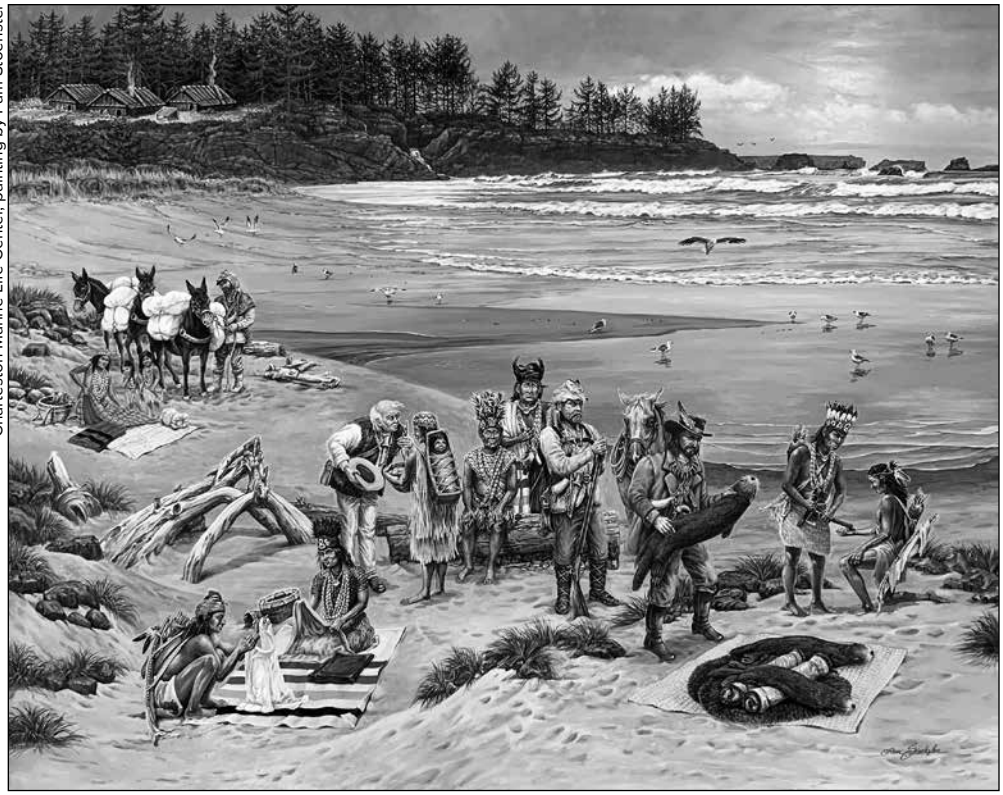
Southward along Oregon's coast are similar patterns. Leona Ludson (Alsea and Yaquina) and John Albert (Alsea), explained to anthropologist

Philip Drucker that "a few men of great wealth had robes of the silky black or brown fur of the sea otter, which were, so to speak, crown jewels."[15] Albert elaborated, explaining that an Alsea headman worked, ate, and "dressed the same" as common people, except on ceremonial occasions, when he "would wear an otter skin (robe), if he had one, and more dentalia than a poor person."[16] Tellingly, Ludson gave the word *kīautcṭ sōqwiq'* literally 'chief-blanket' as the Alsea term for a sea otter robe.[17] Those elders who contributed to the anthropological research of a century ago described nothing equal to sea otter robes as regalia marking social distinction and prestige.

While the fur of the sea otter clearly was the main object of the hunt, other parts of the otter held significance, too. The use of sea otter teeth in the adornment of oceangoing cedar canoes, as observed among Chinookans at the Columbia River mouth, had aesthetic but likely cosmological significance and designation of chiefly status, too.[18] At least a few individuals apparently used the flesh of sea otter for food; this practice was reported by Luscier, for example, although such uses may have been inconsequential in some cases — a practical use of meat that would otherwise have gone to waste.[19]

Especially for the chiefly families of Native communities, sea otter fur might play some role in a person's life from the cradle, as baby blanket and wrap, to the grave. Accentuating the great wealth of a child born to the sister of a sea otter hunter, one Clatsop-Chinook narrative describes a family of modest means suddenly obtaining great sea otter wealth: "Then the brother said: 'What kind of a blanket will you make for your son?' In the morning he went down to the beach and there he found two small sea-otters. He said: 'Oh, my poor nephew, this will be your blanket.' He took them up to the house and said to his sister: 'I found these sea-otters.' Then she was very glad. . . . Every day he went down to the beach, and every time he found two sea-otters. And their house was full of sea-otter skins."[20] Wrapping such a boy in sea otter pelts served not only to provide luxuriant warmth and comfort, but also to mark his family's ascendance into the status of Native nobility.

Elders also widely reported sea otter pelts as part of marriage dowries. In Northwest coast Indigenous societies, people — especially those of higher status — were generally expected to marry outside their villages. And, among Oregon coast tribes, brides generally relocated to their husbands' villages, with payment of a dowry to the bride's family — commensurate with her status — compensating them for the loss of a productive member of their household and formalizing the connection between the two families.[21] Euro-American authors often have obscured this deeper social significance, deriding the practice as the shameless buying and selling of women. Even still, coastal elders also sometimes described the practice in sharply transactional terms. Melville Jacobs's notes record Hanis Coos speaker Frank Drew explaining, for



Charleston Marine Life Center, painting by Pam Stoehsler

WITH THEIR LUSTER and signal of wealth, sea otter pelts were prized luxury trade goods well before European contact. This painting by Pam Stoehsler (Lower Umpqua) depicts Jedediah Smith and his party in 1828 trading sea otter and other furs with Native coastal people near present-day Coos Bay, Oregon. In the background, a Native village lies near what is now Yoakam Point, near the mouth of Coos Bay.

example: "One sea otter hide is valued as one woman!" — apparently thirty-five to forty times the value of a beaver pelt in a dowry exchange.[22] Jim Buchanan (Hanis Coos) discussed fundamentally similar practices: "Ten fathoms of beads (elkachic) [dentalia], a couple of blankets, an otter-hide, or a canoe, was the usual price paid for a girl. A chief's daughter was priced higher."[23] Coquelle Thompson (Upper Coquille), a long-lived culture bearer on the Siletz Reservation, gave John P. Harrington a vivid, blow-by-blow account of a hypothetical marriage negotiation, casting himself as the prospective suitor:

They buy a woman for so much. I make an offer of so much money, and the wife's folks turn it down, aint satisfied, say that aint enough. Then I offer more, adding sea-otter skins. All is done by envoy. Then the girl's parents come over, and after eating I present to them otterskins, bow, basket cap, & the money.

They accept. They treated each other fine, equal. All pitch in and make a new good-sized house to move into.[24]

Many non-Native travelers of the contact-period coast — of the very late eighteenth and early nineteenth centuries — noted similar negotiations for brides and dowries, involving the exchange of sea otter pelts. This was especially the case on the well-traveled Columbia River estuary. Capt. Charles Bishop visited the Columbia in 1795 aboard the *Ruby* and reported a dowry given to Chinook chief Shelathwell for one of his daughters, including "twenty Slaves twenty Sea otter Skins a Cannoe and twenty leather War Dresses."[25] While a clerk at the Astoria fort in the 1810s, Ross Cox wrote of a son of the prominent Chinook chief, Concomly, proposing marriage to a woman at the fort: "He told her, that if she would become his wife, he would send one hundred sea-otters to her relations."[26] Although early non-Native observers might not always have understood them as such, these were chiefly offers, asserting the wealth of the suitor's people while offering to share it with their expanding network of kin — all the while acknowledging the incalculable value of the sea otter in Native societies.

And, as with other high prestige goods, sea otter robes were interred with dead nobility, as clothing or blankets left to embrace the body of the deceased. This practice is referenced, for example, in a 1911 account shared by Charles Cultee. After a Clatsop woman's Cathlamet husband had died: "In the evening she arrived and brought two sea-otters which she intended to tie to his body. They had cut their hair and his slaves had been divided."[27] To place sea otter pelts in the burial of a loved one, in the carved canoe or cedar box containing their remains, was a sacrifice, a show of respect, and perhaps was linked to expectations of enduring chiefly duties in the life beyond. In these ways and many others, sea otter pelts figured prominently at every stage of a noble's life.

Accordingly, in the storytelling traditions of coastal tribes, references to a character dressed in sea otter clothing or possessing many otter pelts served as a concise literary device to introduce that character as chiefly. In one story cycle mentioning a party coming ashore in Chinook country, for example, Jaybird beholds people in sea otter clothing and instantly recognizes their status: "These must be great chiefs, for they wear sea-otter robes."[28] In a Miluk Coos narrative we behold Crow, who teasingly casts off his lowbrow bird identity to the young woman he then marries: "A fine looking man lay there. His clothes were sea otter furs."[29] In another Chinook narrative, a chief returns home to his wives from long journeys, and having achieved newfound wealth, "he gave them everything, the sea-otters and a piece of whale meat each."[30] No more needs to be said; the sea otters do the talking.

Many stories feature lucky characters whose good fortune comes as sea otters washed ashore or feature striving characters who attempt to hunt sea otters to improve their station. Especially among Chinookan peoples, stories depict sea otters as emblematic of a "chiefly transformation," because sea otter wealth allows people of modest means to achieve meteoric success.[31] A Chinook story recounts a scabby and inconsequential man transforming into a handsome chief by supernatural means: "The old man came and went to the canoe. He shook himself. Then [his scabs fell off and] he had a fine sea-otter blanket on. He went into the canoe and the girl carried him across. He was a beautiful chief. He married the sisters and the youngest one became his head wife. He married them all."[32] Another Chinook narrative speaks of a chiefly being, Ca'xaL, who consoles and ennobles a boy by throwing away the boy's everyday blanket and giving him a sea otter blanket. Later, they prepare Ca'xaL's house in a chiefly manner: "They went back and swept the whole house. They carried everything into the house, his whale, his sea otters, and his abalone shells."[33] Historically, several Chinookan chiefs experienced meteoric accumulations of wealth and influence with their entry into the global sea otter trade of the contact period — most notably the Chinook chief, Concomly, who monopolized trade at the Columbia River's mouth and was reputed to even rest on piles of sea otter furs and have slaves pave his path with sea otter furs when interacting with non-Native traders.[34] The people who shared stories of Ca'xaL and other ancient chiefs with anthropologists a century ago must have perceived connections between those ancient oral traditions and the lived experiences of Chinookan leaders they had known in their nineteenth-century childhood. That resonance remains as striking today as it must have been then.

With all their luster and chiefly connotations, sea otter pelts were prized luxury trade goods well before European contact. Oral tradition and other historical sources suggest that coastal tribes built their wealth in part by trading coastal goods with inland upriver tribes, providing maritime goods including sea otter pelts in exchange for inland goods.[35] Similarly, the oral traditions of the inland neighbors of Oregon's coastal tribes — in the Willamette Valley or the valleys of the upper Umpqua and Rogue Rivers — speak of their quest for sea otter furs. If they could not be obtained in trade, they might be obtained through raiding; in an 1877 account, for example, Tualatin elder Peter Kenoyer listed sea otter skins among the many treasures brought back by his father *kám·atc* from a long-ago raiding expedition through the central Willamette Valley and Oregon coast.[36]

In some accounts, otter pelts seem to have served coastal tribes not only as a trade good but also as a medium of high-order exchange that functions like currency — with a value standardization on par with dentalium shell

money.[37] Willis E. Everette, an early ethnographer who traveled through the Siletz Reservation in 1882 and compiled one of the earliest written vocabularies of Tututni, was unequivocal: "the 'Highest Standard of Value', that these Indians possess, is the 'Skin of the Sea Otter'; it is worth one Brace of 'tcût:á:qûs' [dentalium], or $300." Remarkably, Everette parenthetically adds that despite this unparalleled value, "at present, there are none among them."[38] Otter pelts "constituted wealth," as one author summarized, in not only symbolic ways but also as sources of standardized trade wealth akin to legal tender, contributing to coastal nations' prosperity.[39]

Understanding the role of sea otter pelts as a well-established medium of exchange puts into context the widely reported experiences of European traders and explorers who witnessed the arrival alongside their ships of Native people in canoes, bearing bundles of sea otter pelts.[40] It also places in context the high, but also firm, prices sought for pelts by Native traders. As members of the Lewis and Clark Expedition reported, sea otter pelts were at once widespread and coveted. William Clark wrote in 1805: "In the Evening 7 Indians of the Clatt Sopp nation, opposit Came over, they brought with them 2 Sea orter Skins, for which the[y] asked Such high prices we were uneabled to purchas, with[out] reduceing our Small Stock of merchindize on which we have to depend in part for a Subsistance on our return home."[41] The same month, John Ordway wrote that "the Natives value their Sea otter Skins verry high, our officers being anxious to purchase a robe made of two of those animels, they offered great prices in cloaths trinkets &.C. but they would not take any thing except blue beeds. at length they purchasd the Robe for a beeded belt which [Sacajawea] had. these animels are scarse & hard to kill."[42] The value of these furs already had been established and calibrated by Native leaders well before the arrival of fur-trading explorers or, indeed, any European ship; far from launching a new market, Lewis and Clark, and the traders on European ships, were simply stepping into a bustling, luxury fur market and an organized system of monetary exchange that had been generations in the making.

ORAL TRADITIONS OF HUNTING: CHALLENGES, METHODS, AND PLACES

The parallel collapses of Oregon's Indigenous population and sea otter population, noted in the introduction to this special section, meant that intensive, traditional sea otter hunting did not survive long into the nineteenth century, although oral traditions retain vestiges of the nature and mechanics of the hunt. Clearly, hunting otters was not a simple, easy, or safe operation. The surf on Oregon's exposed ocean coastline can be treacherous, especially in winter. High surf and winds threatened to swamp or tumble oceangoing

Robert J. Losey

SINGLE-PIECE HARPOON HEADS, such as the ones pictured here from the Par-Tee archaeological site on Oregon's north coast, were likely used for hunting marine mammals, including sea otters. Other tools likely used included multi-piece harpoons and projectile points.

dugout canoes traveling close to the rocky shore, potentially threatening the lives of hunters, and these same conditions made sighting and approaching otters difficult in the roiling surf. Elders' accounts therefore suggest that sea otter hunting was a seasonal activity, relegated to the calmer and warmer months of the year. If storms and seas rose violently, even in the warmer months, sea otter hunters apparently stowed their canoes and stayed ashore until the weather passed.[43]

Evidence points to the use of specialized sea otter hunting canoes to navigate the perennially turbulent seas, particularly on Oregon's north coast. Such canoes have been described in detail in sources about coastal tribes in Washington, and identical canoes are implied by certain Oregon oral traditions, too.[44] These accounts describe very small and maneuverable two-person versions of the tribes' traditional oceangoing cedar canoes — suitable for moving quickly and adroitly through churning, often rocky seas. In these canoes, one person — generally sitting in the stern, or rear, of the canoe — was the principal paddler while the other person sitting toward the bow, or front, was the principal hunter. The paddler could pull the canoe through surf, between rocks and waves, using their paddle for both propul-

sion and rudder — being able to turn tightly, move through narrow spaces between rocks, or change direction in waves without being rolled.

Such canoes had other advantages, too: sea otters were easily alarmed by approaching hunters, elders noted, and when startled could dive hastily out of hunters' range — requiring hunters to be stealthy and silent in approach. The smaller canoes aided in this purpose, as did specialized otter-hunting paddles, designed to make only minimal noise in calm waters. Such paddles came in multiple forms along the coast. Gabriel Franchère recorded these types of paddles among the Chinookans of the early nineteenth century, noting broad paddles with a tip carved like an inverted crescent: "The object of the crescent shape of the blade is to be able to draw it, edge-wise, through the water without making any noise, when they hunt the sea-otter, an animal which can only be caught when it is lying asleep on the rocks, and which has the sense of hearing very acute."[45]

When approaching otters, hunters had to make a quick and decisive strike. Oral tradition suggests that, even with a cautious and quiet approach, typically only one otter could be obtained per raft, as others scattered after the first strike. A fortuitous hunt might bring two otters. Through speed, persistence, travel among multiple hunting sites, or some combination, an exceptional hunter might obtain five or six, although these higher numbers may result from the introduction of firearms during the international fur trade of the late eighteenth and early nineteenth centuries.[46] Otters sleeping in rafts — groups of otters drifting together, often holding on to one another with their paws while they dozed — were ideal targets. Beyond the fact that they were numerous and potentially drowsy, otters also accumulate air in their dense fur after a long bob on the surface. The otters therefore required extra moments to recognize approaching danger and, due to the abundance of air trapped in their fur, more time to submerge, giving hunters extra time to strike.[47] Oral traditions sometimes mention hunting at night, when largely diurnal otters could be approached in these somnolent rafts.[48]

Story cycles recalled by Oregon's tribal elders attest to these themes: otters are elusive, and their pursuit requires a combination of skill and good fortune. Some suggest that otter hunts could be either productive or fruitless, and potentially perilous in either case. Canoe paddlers had to navigate the surf when hunting at sea, pulling close enough to kill otters with hand weapons at close range. An account shared with May Mandelbaum Edel by Tillamook elders Clara Pearson and Emma Adams, and regarding Nehalem and Clatsop residents of what is today Seaside, describes hunting sea otters in the waters near present-day Tillamook Head, in what appears to be a specialized two-person hunting canoe. As translated by Douglas Deur (co-author of this article) and M. Terry Thompson, their account begins:

There was a teenage boy
who lived with his parents and his sister.
She was just a young girl.
Often this boy canoed out in the ocean.
His sister went along with him.
He hunted sea otter there.

Many other people tried to hunt sea otters in the ocean.
They could never catch any.
This boy, however, always got one,
and sometimes two.
Yet when his sister did not go along,
he came back with nothing.
His otter catch was nothing but wind.[49]

The same story narrative, from a Clatsop-Chinook perspective, was shared with Franz Boas by elder Charles Cultee in the late nineteenth century: "There was a town the chief of which had died. His two children were grown up; one was a girl and one a boy. Early every morning the people went out to hunt sea-otters. The girl was always in the stern of the canoe [i.e., serving as the paddler, rather than the hunter]. At dark they returned home."[50] In each case, the two-person canoe, the uncertain success of the hunt, the several hours' search through suitable offshore habitat for otters — all come through in the narrative. The theme of elusive otters and futile otter hunts was even worked into oral traditions of the cosmos. Lottie Evanoff (Hanis Coos), for example, reported that Coos oral traditions of *məɬɬi·k'w̓* the star constellation also known as Pleiades, describe the stars as representing a close-packed bunch of sea otters, fleeing two canoes of hunters in perpetual pursuit.[51]

Another challenge is that otters can be difficult to see or identify by canoers traversing the tumbling surf. This phenomenon is suggested by a number of story cycles describing sea otters as the subjects of mistaken identities. Again translating from the Tillamook:

In the middle of the sea they saw a sea otter.
Gatc'ñ¿á´u [the spirit being, Ice] took his bow and shot it. The arrow struck it.
The sea otter dived below the ocean's surface.
It did not come up.

They paddled hard and came ashore.
When they got to land a chief came to them.
He said, "Why did you shoot my dog?"

Gatc'ñ¿a´u said, "We didn't shoot any dogs.
I only shot a sea otter."

"That was my dog," the chief said. "He nearly died.
You'll have to pay me. You must give me two slaves.
Then my heart will be good."

So it happened. They gave him two slaves.[52]

Versions of this story cycle appear in other accounts from tribes on the north coast of Oregon, with references to accidentally shooting a chief's dog mistaken for an otter in the churning sea, then having to make large repayments to settle the debt — a possible warning of the consequences of reckless hunting at sea.[53] Similar stories of otter escapes are also woven throughout the traditions of central and southern coast tribes. James Buchanan (Hanis Coos) narrated a detailed version of a story sometimes called "The Woman who Married a Merman," where the protagonist returns home dressed in her dowry of five sea-otter hides. Her five brothers mistake her for a sea otter; they pursue her back and forth in their canoe, fruitlessly firing arrows all the while. They lose many arrows, which the woman collects and gives to her sons.[54]

Gear used for the ocean hunt included several types of tools. Darts propelled with a throwing stick or arrows shot by a bow were sometimes tied to a cord and a float to prevent the otter's descent into the water. As the pierced otter struggled, the hunter could approach and strike it with a spear. After frequent interactions with Chinookan sea otter hunters at the mouth of the Columbia River in the early nineteenth century, chronicler Robert Stuart noted:

On certain occasions they use darts, which are adapted with the greatest judgement to the different objects of the chase . . . for Seals & sea otter, they use a false point, inserted in a socket at the end of the dart, which parts on the least effort of the animal to dive, remaining in its body: a string of considerable length is fastened to this barbed point, and twisted round the wooden part of the dart; this serves as a float to direct them to the animal, which, having the stick to drag after it, soon tires and becomes an easy prey; (it however requires skill to humour it, perhaps equal to our angling.) The boards used in throwing these darts are very judiciously fixed, in semblance of a gutter, which enables the natives to cast them with great exactness to a considerable distance.[55]

The spear used to dispatch and bring the otter aboard is sometimes described as barbed, to hold the otter fast, as Lewis observed of Chinookans: "the spear or gig is used to take the sea otter, the common otter, spuck [juvenile sea otter], and beaver. Their gig consists of two points or barbs."[56]

These practices resemble the traditional methods used to hunt other marine mammals, such as seals, and elder Annie Miner Peterson (Hanis Coos), speaking to anthropologist Philip Drucker about traditional methods for harpooning pinnipeds, hinted that sea otters were hunted in the same way.[57]

Hunting sea otters by bow, spear, or dart from canoes is suggested in several stories from the central and southern Oregon coast, where there also are more accounts of hunting from the shoreline. Drew explained to Melville Jacobs that the Coos technique prior to the advent of firearms was that "sea otter were either clubbed on rocks when asleep, or shot."[58] In another instance, Drew stated that otters "are watched for and shot with arrows when they come on the rocks. They are very seldom gotten and proportionally prized."[59] Such hunting may have been uniquely suited to the many coves and fissures among the offshore rocks in Coos territory, such as in the vicinity of Sunset Bay and Cape Arago. Peterson uniquely suggested that some hunters "swam out to where [otters were] sleeping on kelp."[60] Together, these hunting narratives give a strong overall impression: that tribal ancestors hunted otters avidly but with great difficulty, and they developed locally specialized technologies and skills to hunt in the turbulent seas.

Taken together, collections of oral histories and ethnographic accounts suggest that just about any suitable habitat — that is, any rocky shoreline along the coast — was at one time hunted for sea otters. Still, certain key places appear prominently in oral traditions. Beyond the Tillamook Head hunting waters, there were many other places to the south, such as Otter Rock, the headlands extending from Cape Arago to Coos Bay, and several rocky places along the shores of Curry County. Not surprisingly, archaeological sites containing sea otter bones now exist nearby to these places, as we show in the relevant section below.

Otter Rock, on the margins of Cape Foulweather, sat near the southern end of Tillamook traditional lands, Louis Fuller explained that the Euro-American name for the offshore rock coincided with the Tillamook name, *ʾas·hí·higl ʃá·ntʃis*, literally 'sea otter rock.' Fuller clearly recalled the detailed descriptions of otters hauling themselves onto the offshore rock, noting "there is just one sea-otter frequented rock, the other being too high for them to climb." This was a prime hunting place: "in the olden time they killed sea-otters there, went out in a big canoe."[61] Tribal use of this place for otter hunting continued well into the reservation era, as described in the article immediately following this one.[62]

Perhaps no one place is mentioned as frequently in available oral traditions as the rock-studded coast just south of Coos Bay, from Coos Head and Yoakam Point to the promontories of Cape Arago. The strong cultural memory of sea otters outlived Oregon's sea otter populations in this network of headlands,

beaches, and coves. Evanoff recalled that this was outstanding otter habitat, with kelp that "used to be in such a bed at Rocky Point that you c[oul]dn't paddle across, it was almost like land. Also much grew at South Beach. This is the sea-otter's bed."[63] Drew recalled that "Sea otter can be gotten at one place in Coos County near Sunset Bay."[64] Peterson also recalled that sea otters were hunted "esp. at South Bay" in likely reference to South Cove on Cape Arago.[65]

Elders recalled several places farther south that were important for otter hunting — particularly places where otters came ashore to rest. Ida Mecum (Coquille Miluk) recalled that her people "occasionally got sea otter hides" and that the otters "came ashore at Whiskey Run," just north of modern-day Bandon.[66] Billy Metcalf (Joshua and Chetco) recalled sea otters came in during rough seas on the Chetco coastline, where they could be "clubbed in tidewater pools early in A.M." and remembered an unnamed woman who hunted seven otters in a single morning.[67] Sam Van Pelt (Chetco) reported to the *Oregonian* that he recalled sea otter "were seen by the acre afloat on the ocean amongst the sea kelp" in former times, apparently along what is today the Curry County coast.[68] Other recollections are much more detailed. Ada Collins (Euchre Creek) gave a vivid description in the 1940s of an offshore rock slightly north of Cape Blanco that belonged to her grand-uncle Tyee Whiskers (a Sixes River headman). She described the rock as having an open center "like a tub" and that "sea-otters go swimming around inside there," adding that "my grand uncle w[oul]d kill anybody if he found anybody out there, he was the owner of that place, he went out there almost daily in his own canoe" to protect and use this rich hunting ground and seabird rookery.[69] Ada named the place *manθáé* (literally 'house-rock'), and the physical description of the location and hollow middle matches modern day Gull Rock, sitting between the mouth of the Sixes River and Cape Blanco.[70] Elder Lucy Smith (Joshua) recalled leaving the Coast Reservation with her mother as a young girl and spending her formative years in her family's homelands on the lower Rogue River.[71] She clearly recalled her mother taking her to gather mussels on a small headland near modern-day Gold Beach, which her mother called *xáɬt'aʃ θàe* (literally 'sea otter rock,') because it "was a flat rock sticking out of the ocean out from that point and sea otters coming along rested on that."[72] The description matches today's Otter Point. These specific and well-remembered sites remained alive in cultural memory even eighty years after the vast majority of the Dene-speaking peoples of Curry County had been driven from their homelands and sea otters had been extirpated from Oregon's coast. In spite of wrenching changes to the human and natural geographies of the state, the cultural memory of otters endured.

SPIRIT OTTERS: IN THE SEA AND AMONG HUMANS

Native oral histories also describe sea otters as being on a similar cosmological plane as humanity. Native people have understood sea otters, like most animals, to be social and sentient, possessing their own spirits and power. Beyond this, tribal narratives sometimes depict otters as liminal beings — transitional between marine mammals and humans, bearing some resemblances to our human selves. Such themes abound in unpublished accounts of the "transformer times" in Native oral histories — when an era of strictly spirit beings comes to an end and "transformers" prepare the world for the humans yet to come.[73] In narratives from that transitional period, humans and spirit beings paddle out to sea, encountering distant villages and houses filled with sea otter people. Spiritually potent, these beings live much like humans in their villages and remain in an intermediate state, transforming in form and behavior between human and otter versions of themselves. Again translated from the Tillamook accounts:

> Out at sea, Gatc'ñ¿au went sea otter hunting.
> He was never able to catch a sea otter.
> As the paddlers went, he saw a light-colored otter with a white face.
> They wanted to get that one, and that one alone.
> In their canoe they followed this otter.
> They shot arrows at it.
> Then the otter disappeared.
>
> Finally, they saw a village along a beach.
> They paddled ashore and walked into the village.
> Oh, there was a woman there in the longhouse,
> a big, good looking woman with light skin.[74]
>
> That woman had arrows with her.
> Gatc'ñ¿au said, "Oh, look — these are some of our arrows."
> She was that sea otter.
> A man, one of Gatc'ñ¿au's paddlers, said to her,
> "I want you. Can I marry you?"
> That otter woman said "Yes. I will go with you."
> This woman joined them.

In the narrative, this woman holds extraordinary spiritual powers. She carries in her bag a gift, a power that would grant humans immortality. Regrettably, the crew offends the woman as they attempt to bring her home to their Nehalem village, and:

This woman jumped into the water.
She swam away like a sea otter.
The men almost killed Gatc'ñ¿au for his mistake.
They came back home without the woman.

This event, forever consigning the people of Nehalem to a mortal life, is echoed in a related narrative. A similar version told by Louis Fuller (Salmon River Tillamook) casts sea otter and river otter as two chiefly daughters offered to Coyote in marriage for his services to the peoples his crew assist on their winding journey; the two slip out of the canoe near journey's end. "And they swim to that rock and sun theirselves on the rock — and that is how, the otter come, to this country, they claim, in the story. And sea otter, kept on this side of the ocean."[75] In one Chinook account, a man drifts ashore on an island far at sea and is taken in and hidden by a woman there, and "they reached a house which was full of sea-otters," although in this narrative, it is unclear whether the otters are living or dead.[76] Tillamook oral traditions recalled by elders such as the late Joseph Scovell echo these accounts, describing humans who could pass through rocky headlands in what is today northern Tillamook County to become marine mammals (seals or otters) in the ocean, swimming to sea to harvest fish or shellfish and then returning to human form when done.[77] Such accounts of intermediary or shape-shifting otter people are widespread across the Northwest coast and the wider region where sea otters occur, echoed somewhat in well-documented Tlingit "kusktaka" figures.[78]

Accounts of marriages with transformational sea otter people appear along the length of the Oregon coast.[79] William Smith (Alsea), for example, recounted a narrative of five "thunderer brothers" who made a trip across the ocean to search for their lost sister. In the surf, they see a shape and fire arrows wildly at empty foam. On reaching the ocean's other side, they meet Sea Otter, their sister's new husband, and find one of their arrows hanging in his house.[80] Accounts by the Coos and Coquille allude to a chief's daughter from the rocky outer coast just south of Coos Bay's mouth who marries a sea otter man and lives among his otter people in a house in the sea. After some awkwardness caused by the marriage between species (the woman's relatives shoot arrows at the otter family as they approach), this marriage forges a bond and enduring reciprocal relationship between the two communities, who share gifts of vital ocean foods and arrows.[81] Elders Agnes Johnson and Peterson, both Hanis Coos, recalled these accounts, presented in writings and presentations by members of the Wasson family (Coquille) in more recent times.[82] Peterson identified the story as Miluk Coos in origin and placed the events in the land and seascape so strongly associated with sea otters between Bastendorff Beach and Cape Arago Lighthouse.[83] In the story as recalled

by Peterson, a willful young Coos woman refuses all suitors but becomes mysteriously pregnant while swimming. Her ashamed family casts out her illegitimate son, who she cares for in secret. One day she finds a handsome young man caring for the infant, who reveals himself to be the baby's father and a young headman of the sea otter people. He whisks her off to his home out to sea, and she passes the tests expected of a daughter-in-law; they live happily and have a second son. Hunting near shore, her husband and sons see her parents still grieving the woman's apparent death. For her dowry, she loads "two canoes . . . full of such valuables, which were to pay for her and make her marriage right" and brings them to her human family, returning to the ocean with a final admonition:

They (he and his people) are not sea otters. They are persons. Just their clothes are sea otter (hides). As long as you live, that long a time then he (sea otter) will always give you whale. As long as I have my own skin, that long a time you will see me, even if only one person be alive. And that is how they will see my children. When all the people have died, then they will not be seen any more.[84]

Notably, Peterson assigned this story to the literary genre of relatively recent historical events happening among historical human beings (*lagáuyát̓as*) as opposed to origin and transformation narratives about earlier eras (*hɛ́ɛ́djit*). In other words, she understood that the ongoing relationship founded on the story's events was not depicted as existing between two groups of supernatural beings but as being between actual Coos people and sea otters.[85]

In some Oregon tribes' oral traditions, the very rocks where sea otters are found are depicted as gifts from the Creator or other benevolent beings from the beginning of human time. References suggest a male transformer being "who made the . . . otter rocks" on the north coast, along with many other productive resource sites such as camas patches and salmon fishing sites.[86] Otter habitat and hunting sites appear to have been created in transformer time, not only to prepare the natural wealth of the world but also to provide hunting sites for the people who would later occupy the world.[87] Otter hunting sites, in their own way, were likely understood as sacred places.

The prestige of sea otters, as well as these many cosmological aspects of the species, contributed to their fur having shamanic value and power. Although details are cryptic, elders seem to have described people possessing "sea otter power," presumably obtained through ceremonial engagement with the animal's spirit and conferring special abilities.[88] Tillamook story cycles speak of a good shaman who protected travelers from another, evil and vindictive shaman: "He kept his supernatural powers in a bag of sea-otter skin, which he opened as soon as the enemies came. When they saw the contents of the bag they fell down dead."[89] Certain otters were especially powerful in

this regard. Oral traditions describe anomalous otters with white fur, signifying additional spiritual or other properties. The reference to "white otters" or light-colored otters is common, for example, in the Tillamook tales shared by Clara Pearson, and may explain the singular focus on the light-skinned sea otter being in Gatc'ñ¿au's hunting narrative. Early-twentieth-century author B.F. Jones reported an oral tradition attributed to the ancestral people near Otter Rock, noting that "at that time, as now, the white furred sea otter was a great prize, and worth half as much as an empire to the tribe that possessed one. And the possession of a white sea otter pelt, it was thought, would give the tribe which owned it power over all others."[90] These accounts might reflect some cultural memory of tribal ancestors seeing genuine color variation, not only among juvenile otters but also because the Oregon coast provided an interface between Northern and California sea otters — and therefore occasional sightings of Northern otters, which can possess lighter fur.

The high cultural valuation and significance of sea otters clearly did not imply Native avoidance of otter-hunting, as was the case with many other species — from salmon to elk, from beavers to bears. Native hunters were singularly effective — before, during, and after the apex of Oregon's integration into the global commercial fur trade. Still, the killing of otters almost surely created cosmological tensions and debts, calling on hunters and traders to show respects, ritually and otherwise, as part of the hunt and other dealings with otters. Elsewhere on the Northwest coast, sea otter hunting involved extensive ritual preparation — fasting, ritual cleansing, and more — in ways that ameliorated dangers but also showed respects and rebalanced relationships with a species at once sentient and spirited, but also prey.[91] While transmission barriers and cultural sensitivities limit available documentation, available clues — recollections of modern tribal elders, or ritual traditions extended to other prey species — tentatively suggest that tribes in today's Oregon also observed similar rituals as part of the traditional sea otter hunt.

THE DEEP PAST: SEA OTTERS IN OREGON'S ARCHAEOLOGICAL RECORD

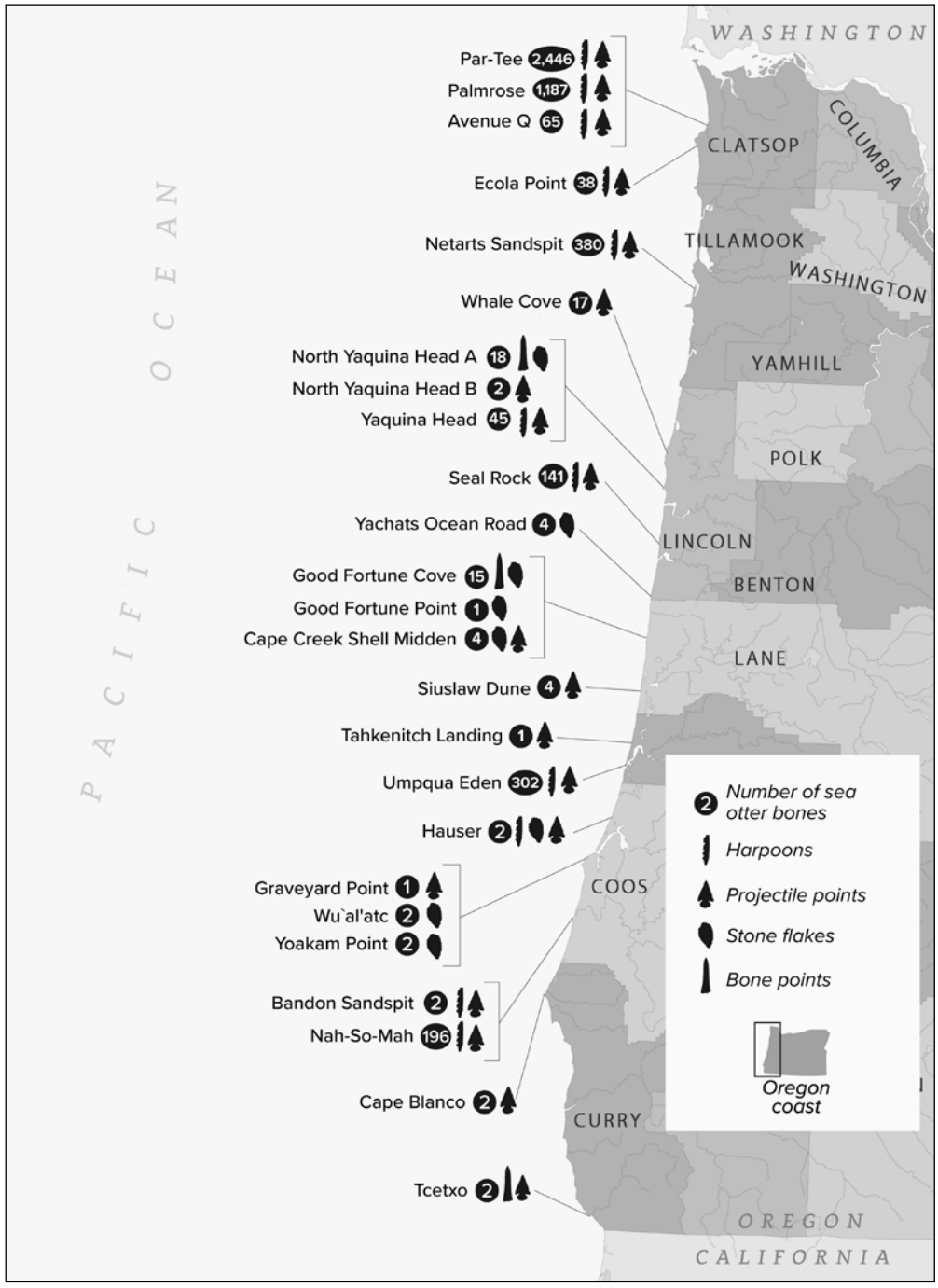
Driven to extinction in Oregon by the global commercial fur trade and subsequent local hunting (discussed in the following article), tangible evidence of sea otters' significance can seem elusive. Yet archaeological remains from before Euro-American arrival clearly demonstrate the importance of sea otters to tribal ancestors. Here we provide an overview of reported sea otter remains recovered from archaeological sites in coastal Oregon. The analysis provides a welcome additional line of evidence, consistent with tribal oral tradition and affirming the significance of resident sea otters to tribal communities.

Archaeological evidence demonstrates that the hunting and use of sea otters was widespread on the Oregon coast prior to Euro-Americans' arrival as traders and, later, settlers.[92] In 2019, anthropologist Roberta Hall published an overview describing sea otter remains from selected coastal Oregon archaeological sites. Importantly, she determined that sea otters, based on raw count, were frequently ranked in the top three marine mammals found in Oregon coastal archaeological sites.[93] Sea otters' numbers in these sites sometimes surpassed other key marine mammals, including the Steller sea lion (*Eumetopias jubatus*), the harbor seal (*Phoca vitulina*), the California sea lion (*Zalophus californianus*), and the fur seal (*Callorhinus ursinus*).[94] Hall's findings indicated that sea otters were a "prominent species" harvested by Native hunters for millennia prior to Euro-American arrival in the late eighteenth century.[95] Building on Hall's research, Hannah Wellman (a co-author on this article) searched archaeological reports from coastal Oregon, generating a list of twenty-five archaeological sites containing sea otters.[96] Other documented coastal Oregon archaeological sites that likely contain sea otter remains are not discussed here, and likely many more containing sea otters have yet to be located or excavated. This study focuses on the twenty-five where we could substantiate sea otter remains. Wellman also concluded that sea otters ranked as the first, second, or third most numerous species in all twenty-five sites, except Whale Cove.[97] Many of these sites also contain two major classes of tools likely used for sea otter hunting: stone projectile points and bone or antler harpoons, consistent with descriptions in oral and ethnographic records.[98] Sea otter remains are found in all types of sites — from the locations of large major villages to those of temporary and seasonal camps, where people would locate to tend and harvest resources.[99] Many of the sites containing proportionately large numbers of sea otter remains also align with the locations of otter hunting sites described in Native oral tradition. Tillamook Head near modern Seaside, for example, seems to have been an epicenter of sea otter stories in Native oral tradition, while the Par-Tee, Palmrose, Avenue Q, and Ecola Point sites surrounding this headland have yielded a total of 3,736 sea otter bones to date (facing page).[100]

The archaeological record suggests a deep history of sea otter use. Most sites with recorded sea otter remains date from the start of the Late Holocene (about 3000 BP, or years before present) to the contact period,

FACING PAGE: Compiling data from reports written between 1985 and 2022, the authors focused on twenty-five archaeological sites where sea otter remains have been reported. Sea otters ranked as the first, second, or third most numerous identified species by bone count in all twenty-five sites, except Whale Cove.

Archaeological Sites with Documented Sea Otter Remains and Hunting Tools



Jenny DuVander, created for the *Oregon Historical Quarterly*

but some date from even earlier times.[101] The settlement that became the Tahkenitch Landing site, for example, was occupied through the Middle and Late Holocene (about 5200–3000 BP), and Avenue Q and Yaquina Head yielded radiocarbon dates slightly earlier than 3000 BP.[102] Native hunters harvested sea otters over a long range of time, and their harvests were also geographically widespread — more or less evenly distributed along the full length of the coast (see map on p. 287).

A question yet to be resolved is whether tribal ancestors on the Oregon coast were only skinning sea otters for their pelts, or if they also removed meat to use as food. As with the ethnographic record, archaeological sources provide tantalizing hints of food use. At Yaquina Head, Rick Minor reported a single sea otter bone, along with other animal bone fragments, in association with fire-cracked rock that may indicate cooking.[103] At the Par-Tee site, pelts were clearly systematically removed, but intensive cutmarks across sea otter skeletal remains overall also suggest, at the very least, occasional consumption of otter meat.[104] Archaeologists who have analyzed sea otter remains from Seal Rock and Umpqua-Eden have interpreted them as reflecting pelt removal as well as "fileting" and "dismemberment," both activities that indicate processing of the animal for dietary consumption.[105] To date, most archaeological reports for the relevant sites do not include this level of detail but simply list sea otter among the species identified. Further detailed analysis and discussion regarding dietary consumption and use for pelts is warranted.

Effects of the expanded fur trade that began in the eighteenth century and the later sea otter extirpation also appear in the archaeological record, albeit indirectly (we do not have physical remains of sea otters hunted during the global commercial fur trade). Oregon sea otter remains from archaeological sites have been the focus of DNA studies that compare the genetic relationships between ancient Oregon sea otters and surviving populations elsewhere on the Pacific coast.[106] These DNA studies show that the Pacific sea otter population had substantial genetic diversity and connectivity, which declined measurably as the Euro-American fur trade decimated sea otter populations.[107] These studies also suggest that sea otters on the Oregon coast may have represented a transitional population between southern and northern sea otters.[108]

Archaeological evidence makes this point certain: long before the arrival of non-Native people, tribal ancestors hunted sea otters, removed their pelts, and sometimes may have consumed their meat. Although the archaeological record is unavoidably incomplete, it presents diverse lines of evidence, illuminating and corroborating the long-term relationship between tribal ancestors and sea otters of the Oregon coast, as demonstrated in oral tradition.

CONCLUSIONS: SEA OTTERS IN OREGON COASTAL PEOPLES' PAST, PRESENT, AND FUTURE

The elimination of sea otters from Oregon's coastal waters over the past two centuries has resulted in incalculable losses, too often forgotten or obscured from view. The absence of otters over such a long period has changed public memory, allowing Oregonians to collectively forget what sincerely abundant coastal ecosystems might look like, or how ancient human relationships with sea otters might manifest in the contemporary cultural expression of tribes in Oregon.[109] Nevertheless, this review of the material and cultural evidence of the deep history of sea otters' presence can help us trace the contours of that relationship — allowing all of us, including non-Native people, to begin to comprehend the meaning of sea otters to Indigenous people in Oregon from time immemorial until just a few generations ago. The sea otter clearly served as a biological and cultural keystone species — of singular importance as a source of chiefly robes and regalia, and as an animal of spiritual meaning and acknowledged ecological significance. The trade in sea otter pelts helped open the door to non-Native settlement, transforming Native societies in both uplifting and devastating ways. Sea otters appear in every episode of Oregon's history, since time immemorial through colonization, and their significance cannot be forgotten.

And clues continue to amass with time. Otter bones continue to be identified in archaeological sites along the state's coastline, while archival accounts and the oral tradition of tribal ancestors continue to offer tantalizing hints of this ancient relationship. Despite all the cultural and economic importance of otter robes in the memory of Oregon coastal elders, regrettably, no historic sea otter regalia from Oregon appears to exist in contemporary public or private collections. Yet, additional clues might surface — not only in Oregon, but also in the untapped fur trade records of Europe and eastern North America, in the museums of Asia, and beyond — reflecting the truly international scope of the fur trade built upon Native hunting and trading.

Despite their absence for more than a century, the cultural importance of sea otters has endured. In the present era, tribal members work to raise awareness of the cultural and ecological importance of Oregon's missing sea otters. Certain tribes seek to include teaching of sea otters' importance within their cultural programs and in public education efforts across the state. Some seek to reincorporate sea otter fur into ceremonially important regalia. While otter fur is no longer available from Oregon waters, furs occasionally are obtained from Alaska tribes, living where the otter population has rebounded.[110] Meanwhile, many federally unrecognized descendants of the Chinookan traders still seek federal status; ironically, even as otters remain absent from the Oregon coast, references to the rich history of sea otter trading appear

in petitions for federal recognition by tribes devastated and scattered by the commercial fur trade.[111]

Through continued cultural activity, documentation efforts, and tribal participation in entities such as the Elakha Alliance (where two of the co-authors of this article serve or advise), tribes sustain the integrity of their cultural traditions related to sea otters and build opportunities to kindle a homecoming for the animals themselves. With these efforts come opportunities for the rebirth of cultural traditions and coastal ecologies long extirpated from Oregon's coast. We hope the present article serves as another touchstone in this multigenerational effort to heal the people, the lands and waters, and all the living beings in this place we now call Oregon.

NOTES

The authors wish to thank the many elders — of the past and present — who have contributed their knowledge and expertise regarding Oregon's sea otter heritage. This includes the elders of generations ago, such as Clara Pearson, Annie Miner Peterson, Louis Fuller, Emma Luscier, Charles Cultee, Emma Adams, Lottie Evanoff, Frank Drew, Coquelle Thompson, Ida Mecum, Ada Collins, Lucy Smith, and Billy Metcalf—who shared their knowledge so openly with early chroniclers. And this includes the elders of our time, who contributed so much to the documentation of sea otter's enduring cultural value — such as Dave Hatch, Don Ivy, George Wasson, Cliff Snider, and Joe Scovell — helping bring portions of these oral traditions into our present times. For technical guidance and research support, we also wish to thank Roberta Hall, Madonna Moss, Rick Minor, M. Terry Thompson, Tricia Gates Brown, Rochelle Bloom, Jamie Hebert, Brendan Deur, Anna Deur, Robert Kentta, Nick Viles, Carson Viles, and Cameron La Follette.

1. L.S. Mills, M.E. Soule and D.F. Doak, "The Keystone-Species Concept in Ecology and Conservation," *BioScience* 43:4 (1993): 219–24; D.R. Laur, A.W. Ebeling, and D.A. Coon, "Effects of Sea Otter Foraging on Subtidal Reef Communities off Central California," in *The Community Ecology of Sea Otters. Ecological Studies (Analysis and Synthesis)*, vol. 65, ed. G.R. VanBlaricom and J.A. Estes (Berlin and Heidelberg: Springer, 1988), 151–68.

2. Ann Garibaldi and Nancy Turner, "Cultural Keystone Species: Implications for Ecological Conservation and Restoration," *Ecology and Society* 9:3 (2004): 1.

3. James R. Gibson, *Otter Skins, Boston Ships, and China Goods: The Maritime Fur Trade of the Northwest Coast, 1785–1841* (Seattle: University of Washington Press, 1992); Donald B. Zobel, "Ecosystem Use by Indigenous People in an Oregon Coastal Landscape," *Northwest Science*, 76:4 (2002): 304–14; Thomas Vaughan and Bill Holm, *Soft Gold: The Fur Trade and Cultural Exchange on the Northwest Coast of America* (Portland: Oregon Historical Society, 1982).

4. Roberta L. Hall, "Dick Ross, Dave Hatch, and the Elakha Alliance," in *Reflections on Forty Years of Oregon Archaeology, Papers in Honor of Dr. Richard E. (Dick) Ross, 1932–2017*, ed. Dennis G. Griffin and Thomas E. Churchill, A*ssociation of Oregon Archaeologists Occasional Papers* No. 10 (2019): 122.

5. See May Mandelbaum Edel, "Stability in Tillamook Folklore," *Journal of American Folklore* 57:224 (April–June 1944): 116–27. On the enduring significance of sea otter oral traditions in the Chinookan world, see Elizabeth

A. Sobel, *Social Complexity and Corporate Households on the Southern Northwest Coast of North America, A.D. 1450–1855* (Ph.D. diss., University of Michigan, 2004), 196.

6. See chapters in Robert T. Boyd, Kenneth M. Ames, and Tony A. Johnson, eds. *Chinookan Peoples of the Lower Columbia* (Seattle: University of Washington Press, 2013).

7. Verne F. Ray, "Lower Chinook Ethnographic Notes," *University of Washington Publications in Anthropology* 7:2 (1938): 113.

8. The use of the term *timidity* here appears to reference the celebrated docility of the sea otters, their calmness and lack of defenses, rather than implying shyness or fearfulness that might impede the hunt. Still, by the time of Ray's research in the 1930s, oral tradition on aspects of sea otter use was limited: "All of the early writers speak of sea otter robes in use by the Chinook, but it is not as certain whether they used the flesh for food or not." Ibid, 114.

9. See, for example, *José Mariano Moziño, Noticias de Nutka: An Account of Nootka Sound in 1792 by José Mariano Moziño,* I.H Wilson, editor and translator (Seattle: University of Washington Press, 1970), 14.

10. Ray "Lower Chinook Ethnographic Notes," 137.

11. Homer G. Barnett, "Indian Tribes of the Oregon Coast—Book 1," Homer Garner Barnett Papers [hereafter Barnett Papers], box 2, National Anthropological Archives, Smithsonian Institution, Suitland, Maryland [hereafter National Anthropological Archives].

12. Alexander Ross, *Adventures of the First Settlers on the Oregon or Columbia River,* ed. Milo Milton Quaife (Chicago, Ill.: The Lakeside Press, 1923), 96–97.

13. Meriwether Lewis, March 19, 1806, entry in Gary Moulton, ed., *The Journals of the Lewis & Clark Expedition* Vol. 6. (Lincoln: University of Nebraska Press, 1990), 434. This point is later repeated almost verbatim, often without clear attribution, in later sources. See, for example, Thomas Myers, "Killamucks, Clatsops, &c.," in *A new and comprehensive system of modern geography; mathematical, physical, political and commercial, Comprising a perspicuous delineation of the present state of the globe with its Inhabitants and Productions...,* Volume II (London: Sherwood, Neely, and Jones, 1822), 706–709; and Hubert Howe Bancroft, *The Native Races of the Pacific States of North America, Volume I: Wild Tribes* (London: Longmans, Green, and Co., 1875), 230.

14. John Gill, *Gill's Dictionary of the Chinook Jargon*, Fifteenth ed. (Portland, Ore.: J.K. Gill Co., 1909), 7.

15. Philip Drucker, "Contributions to Alsea Ethnography," *University of California Publications in American Archaeology and Ethnology* 35:7 (1939), 91.

16. Ibid., 92.

17. Philip Drucker, "Oregon Coast—Notebook 4," MS 4516 item 78, p. 17, National Anthropological Archives. Throughout this article we present a number of Native terms, drawn from a diverse range of tribal languages and language families. The spellings and orthographies used to record these terms by past anthropologists and linguists varied considerably from source to source, researcher to researcher, over the course of two centuries or more. Even today, consensus on precise spelling sometimes proves elusive due to such factors as the absence of living speakers of these languages, spelling conventions employed by individual tribal cultural programs, and varying spelling interpretations and conventions among certain linguists. With all this in mind, we present in this article the spellings only as they appear in the original sources, and make no effort to update those terms in light of contemporary spelling conventions employed by individual tribes or professional linguists.

18. Peter Corney, *Voyages in the Northern Pacific* (Honolulu, Hawaii: Thomas G. Thrum, 1896), 55–63.

19. John Peabody Harrington, "Alaska/Northwest Coast: Quinault /Chehalis/ Cowlitz /Yakima/ Chinook/Chinook Jargon," (1942–1943), reel 17, p. 400, 428, John Peabody Harrington Papers [hereafter Harrington Papers], National Anthropological Archives. This comports with accounts of other tribes in the region; speaking of Quinault, Ronald Olson notes, "The meat was dried for food." Ronald L. Olson, *The Quinault Indians*, University of Washington Publications in Anthropology, 6:1

(Seattle: University of Washington, 1936), 49.

20. Cultee in Franz Boas, *Chinook Texts*, Smithsonian Institution, Bureau of Ethnology, (Washington, D.C.: U.S. Government Printing Office, 1894), 52.

21. Melville Jacobs, *Coos Narrative and Ethnologic Texts* (Seattle: University of Washington Press, 1940), 72–73; Elizabeth Derr Jacobs, *The Nehalem-Tillamook: An Ethnography* (Corvallis: Oregon State University Press, 2003).

22. Melville Jacobs, Notebook 91, p. 27, Field Notebooks (languages): Coos, unpublished notebooks, Melville Jacobs Papers (Coll. 1693) [hereafter Jacobs Papers], microfilm edition, series 9, reel 10, University of Washington Libraries and Special Collections, Seattle, Washington [hereafter UW Special Collections]. In another passage, Drew explained further: "One sea otter hide = one woman. A stack of 35 or 40 beaver hides would buy a woman. Land otter hides might also be given for a woman; it was valued a little higher than beaver, because of better quality fur. Sea otter and dentalia were more valuable. Two fine dentalium strings equaled a large fine sea otter skin." M. Jacobs, Notebook 92, p. 28, Melville Jacobs Papers, microfilm edition, series 9, reel 10, UW Special Collections.

23. Henry Hull St. Clair, "Traditions of the Coos Indians of Oregon," *Journal of American Folklore* 22:83 (January–March 1909): 26.

24. Harrington, "Alaska/Northwest Coast: Southwest Oregon Athapascans," reel 25, p. 854–55, Harrington Papers, National Anthropological Archives.

25. T.C. Elliott, "The Journal of the Ship Ruby," *Oregon Historical Quarterly* 28:3 (September 1927): 277.

26. Ross Cox, *Adventures on the Columbia River, including the Narrative of a Residence of Six Years on the Western Side of the Rocky Mountains, among Various Tribes of Indian Hitherto Unknown,* Volume I (London: Henry Colburn and Ricard Bentley, 1831), 288–89.

27. Charles Cultee in Franz Boas, *Kathlamet Texts*, Smithsonian Institution Bureau of American Ethnology, Bulletin 26 (Washington, D.C.: Government Printing Office, 1901), 249.

28. Edward Curtis, "The Chinookan Tribes," *The North American Indian,* Volume 8 (Norwood, Mass.: Plimpton Press, 1911), 121.

29. Melville Jacobs, *Coos Myth Texts*, Vol. 8, No. 2, University of Washington Publications in Anthropology (Seattle: University of Washington, 1940) 170–71.

30. Boas, *Chinook Texts*, 87.

31. For a characteristic non-Chinookan example, see Annie Miner Peterson in M. Jacobs, *Coos Myth Texts*, 133–35.

32. Cultee in Boas, *Chinook Texts,* 85.

33. Boas, *Chinook Texts,* 132.

34. See, for example, J.F. Santee, "Comcomly and the Chinooks," *Oregon Historical Quarterly*, 33:3 (Fall 1932): 271–78; Pierre Jean De Smet *Life, Letters and Travels of Father Pierre Jean de Smet, S.J., 1801–1873* Volume 2, eds. H.M. Chittenden and A.T. Richardson (New York: Francis P. Harper, 1905), 443; Evelyn Hankel, "The Earth People," *Cumtux* 1:1 (Winter 1980): 31–33; and Ray "Lower Chinook Ethnographic Notes," 58.

35. Ray, "Lower Chinook Ethnographic Notes," 100–101.

36. Albert S. Gatschet, Leo J, Frachtenberg, and Melville Jacobs, *Kalapuya Texts: Part III* (Seattle: University of Washington Press, 1937), 163.

37. See Cora Du Bois, "The Wealth Concept as an Integrative Factor in Tolowa-Tututni Culture," in *Essays in Anthropology Presented to A.L. Kroeber* (Berkeley: University of California Press: 1936), 50; Philip Drucker, "The Tolowa and their Southwest Oregon Kin" *University of California Publications in American Archaeology and Ethnology* 36:4 (1937), 225; and Richard A. Gould, "The Wealth Quest among the Tolowa Indians of Northwestern California" *Proceedings of the American Philosophical Society* 110:1 (February 1966), 67–89.

38. Willis E. Everette, NAA MS 78, p. 107, National Anthropological Archives.

39. Sobel, *Social Complexity and Corporate Households on the Southern Northwest Coast of North America*, 196; Olson, *The Quinault Indians*, 49.

40. See, for example, [Robert] Haswell's Log of a Voyage Round the World on the Ship *Columbia Rediviva* and the *Sloop Washington*,

in T.C. Elliott, "Captain Gray's First Visit to the Columbia," *Oregon Historical Quarterly* 29:2 (Summer 1928): 168, 171..

41. William Clark, November 23, 1805, in Moulton, *The Journals of the Lewis & Clark Expedition*, 81.

42. John Ordway, "Sergeant Ordway's Journal," in *The Journals of Captain Meriwether Lewis and Sergeant John Ordway kept on the Expedition of Western Exploration, 1803–1806*, ed. Milo M. Quaife (Madison: State Historical Society of Wisconsin, 1916), 313.

43. Harrington, "Alaska/Northwest Coast: Quinault /Chehalis /Cowlitz /Yakima/ Chinook/ Chinook Jargon," p. 67, Harrington Papers, National Anthropological Archives.

44. Ibid. For Alsea elder John Albert's depiction of such a canoe, see P. Drucker, "Alsea — II 12N," MS 4516 item 23, number 12, p. 6, National Anthropological Archives.

45. Gabriel Franchère, *Narrative of a Voyage to the Northwest Coast of America in the Years 1811, 1812, 1813 and 1814*, trans. and ed. J.V. Huntington (New York: Redfield, 1854), 246–47.

46. Olson, *The Quinault Indians*, 47–49.

47. Harrington, "Alaska/Northwest Coast: Quinault, Cathlamet, Chehalis, Chinook," reel 18, 987, Harrington Papers, National Anthropological Archives.

48. Olson, *The Quinault Indians*, 47.

49. This account was developed from accounts by residents of the Tillamook Bay tribal community in 1931, recorded by May Mandelbaum Edel, edited and translated in Douglas Deur and M. Terry Thompson, *South Wind Traveled in Winter: A Collection of Nehalem-Tillamook Stories*, unpublished manuscript in author Douglas Deur's possession. Some Tillamook narratives provided here are also linked (although worded and sequenced much differently) to episodes discussed in Elizabeth Derr Jacobs and Clara Pearson, *Nehalem Tillamook Tales* (Corvallis: Oregon State University Press, 1992), while also being referenced in places in E.D. Jacobs, Nehalem Tillamook research notes, Jacobs Papers, UW Special Collections.

50. Cultee in Franz Boas, *Chinook Texts,*

51. Harrington, "Alaska/Northwest Coast: Lower Umpqua and Coos, reel 22, p. 706, Harrington Papers, National Anthropological Archives.

52. Deur and Thompson, *South Wind Traveled in Winter*. The repayment could wipe away the debt of nearly killing the chief's dog. The repayment with two slaves suggests this was a significant debt.

53. See Franz Boas, "Traditions of the Tillamook Indians," *Journal of American Folklore* 11:40 (January–March 1898): p. 30, for such an incident shared by Nestucca informant Hyas John. Tillamook consultant Louis Fuller shared similar accounts. See L. Fuller, Aluminum Disk NAA INV.00001229, side 1, Jack P. Marr, recorder, Harrington Papers, National Anthropological Archives.

54. Leo J. Frachtenberg, *Coos Texts* (Washington, D.C.: General Printing Office, 1913), 157–63.

55. Robert Stuart, *On the Oregon Trail: Robert Stuart's Journey of Discovery,* ed. K.A. Spaulding (Norman: University of Oklahoma Press, 1953), 40. See also Olson, *The Quinault Indians,* 49.

56. Meriwether Lewis, January 15, 1806, in Moulton, *The Journals of the Lewis & Clark Expedition*, 208.

57. P. Drucker, "Oregon Coast—Notebook 1," MS 4516 item 78, p. 31, National Anthropological Archives.

58. M. Jacobs, Notebook 92, p. 92, Jacobs Papers, UW Special Collections.

59. M. Jacobs, Notebook 91, p. 27, Jacobs Papers, UW Special Collections.

60. P. Drucker, "Oregon Coast—Notebook 1," 46.

61. Harrington, "Alaska/Northwest Coast: Alsea/Siuslaw/Coos," reel 23, p. 101–102, Harrington Papers, National Anthropological Archives.

62. Cameron La Follette, Richard Ravalli, Peter Hatch, Douglas Deur, and Ryan Tucker Jones, "Invisible Slaughter: Local Hunters on the Oregon Coast," *Oregon Historical Quarterly* 124:3 (Fall 2023): 298–323.

63. Harrington, "Alaska/Northwest Coast: Alsea/Siuslaw/Coos," reel 22, p. 765, Harrington Papers, National Anthropological Archives.

64. M. Jacobs, Notebook 91, p. 27, Jacobs

Papers, UW Special Collections. Although Frank Drew spent very little of his life in his ancestral Coos County, this seems likely to reflect understandings in the oral tradition; in 1856 a Coos man named Chu-wally guided author William Wells to these very same coves. William V. Wells, "Wild Life in Oregon," *Harper's New Monthly Magazine*, October 1856, 599.

65. P. Drucker, "Oregon Coast — Notebook 1," 31.

66. Ibid., 26.

67. Barnett, Notebook 1, 55. The phrasing in the fieldnotes gives no specific location and leaves tantalizing ambiguity about whether Metcalf referred to tidepool areas on rocky shores or possibly tidewater estuaries.

68. Sam Van Pelt, "Before the White Man: an Indian's Story," *Sunday Oregonian magazine,* February 5, 1939, transcribed by Ben Truwe, https://www.truwe.sohs.org/files/before%20the%20white%20man.html (accessed August 18, 2023).

69. Harrington, "Alaska/Northwest Coast: Southwest Oregon Athapascan," reel 26, p. 370, Harrington Papers, National Anthropological Archives.

70. Ibid.

71. The shrinking boundaries of the Oregon coastal lands initially set aside as an Indian reservation on November 9, 1855, led to shifting naming conventions in the nineteenth century, which have been the subject of disagreement among scholars. Briefly, contemporaneous sources generally use Coast Reservation up to when an 1865 executive order struck out the middle, dividing it into two non-contiguous tracts. By 1875, when Congress reduced the lands further, it refers to the whole as the "Alsea and Siletz Indian reservation" after the Agency and Sub-Agency on each respective parcel. See Charles J. Kappler, ed., *Indian Affairs: Laws and Treaties*, Vol. 1 (Washington, D.C.: Government Printing Office, 1904), 157. Thereafter the remnant is generally referred to as the Siletz Reservation. The authors have strived to use the term current to the events discussed. Among many worthwhile treatments, see E.A. Shwartz, "Sick Hearts: Indian Removal on the Oregon Coast, 1875-81" *Oregon Historical Quarterly* 92:3 (Fall 1991): 228–64; and David G. Lewis and Robert Kentta, "Western Oregon Reservations: Two Perspectives on Place," *Oregon Historical Quarterly* 111:4 (Winter 2010): 476–85.

72. Harrington, "Alaska/Northwest Coast: Southwest Oregon Athapascan," p. 542, Harrington Papers, National Anthropological Archives.

73. In some oral history collections, these transformer times are treated as their own epoch, with their own signature events, logic, and cosmological significance. See, for example, Jacobs and Pearson, *Nehalem Tillamook Tales*.

74. Light-colored skin is often mentioned as a sign of beauty in Nehalem Tillamook stories.

75. Louis Fuller, recorded by Jack P. Marr, Aluminum Disk NAA INV.00001229, Harrington Papers, National Anthropological Archive.

76. Cultee in Boas, *Chinook Texts,* 86. The text is ambiguous about whether these are living otters or pelts.

77. Joseph Scovell to author, personal communication, 2007, notes in author Douglas Deuer's possession. This is also suggested in May Mandelbaum (Edel) Tillamook fieldnotes, 1931. Unpublished notes in author's possession.

78. For a popular account of these beings, see Mary G. Beck, *Shamans and Kushtakas: North Coast Tales of the Supernatural* (Portland, Ore.: Alaska Northwest Books, 2003).

79. Most examples outlined here are from the south coast, but similar accounts of such marriages also abound on the north coast. See Elizabeth Derr Jacobs, Ethnographic Notes: Field Notebooks, Folklore, and Ethnography, Based on Three Months' Fieldwork among the Tillamook Salish, Garibaldi OR, MS. in Melville Jacobs Collection (Seattle: University of Washington Special Libraries, 1933–34) notebooks 76(12), 88(16).

80. Leo J. Frachtenberg, *Alsea Text and Myths* (Washington, D.C.: General Printing Office, 1920), 91–95.

81. Susan Wasson Wolgamott, "The Girl who Married a Sea Otter," in *The Stories we*

Tell: An Anthology of Oregon Folk Literature, eds. S. Jones and J. Ramset (Corvallis: Oregon State University Press, 1994), 262–63; George B. Wasson, Jr., "Growing Up Indian: An Emic Perspective" (Ph.D. diss., University of Oregon, 2001), 308–317.

82. For Agnes Johnson's version, see Barnett, "Indian Tribes of the Oregon Coast — Notebook 1," p. 8–9, Barnett Papers, National Anthropological Archives.

83. M. Jacobs, Notebook 94, p. 37.

84. M. Jacobs, *Coos Narrative and Ethnologic Texts*, 48–51. The concurrent decline of otters and the Native occupants of the coast during the nineteenth century might be implied by this prophetic statement.

85. This intergenerational link between sea otters, humans, and the sustenance derived from the ocean (for which the bonanza represented of a gray whale stranding serves as a synecdoche) arguably prefigures contemporary ecologists' understanding of the relationship between sea otters and the bounty of the nearshore ecosystems they inhabit.

86. Harrington, "Alaska/Northwest Coast: Tillamook," reel 20, p. 781, Harrington Papers National Anthropological Archives, 781; Douglas Deur and M. Terry Thompson. "South Wind's Journeys: A Tillamook Epic Reconstructed from Several Sources," in M.T. Thompson and S.M. Egesdal, eds., *Salish Myths and Legends: One People's Stories* (Lincoln: University of Nebraska Press, 2008), 2–59.

87. Harrington, "Alaska/Northwest Coast: Tillamook," Harrington Papers, National Anthropological Archives, 650.

88. E.D. Jacobs, Ethnographic Notes, Notebook 5(5): 1.

89. Boas, "Traditions of the Tillamook Indians," 33.

90. B.F. Jones, "Legend of Otter Rock or the Branding of the First Elk," *Oregon Daily Journal*, December 17, 1911, p. 10.

91. P. Drucker, *The Northern and Central Nootkan Tribes*, Smithsonian Institution Bureau of American Ethnology Bulletin 14 (Washington, D.C.: Smithsonian Institution, 1951), 169; E. Sapir and M. Swadesh, *Native Accounts of Nootka Ethnography* (Bloomington: Indiana University, Research Center in Anthropology, Folklore, and Linguistics, 1955), 53; M.M. Halpin and M. Seguin, "Tsimshian Peoples: Southern Tsimshian, Coast Tsimshian, Nishga, and Gitksan," in *Handbook of North American Indians, Volume 7: Northwest Coast,* ed., W. Suttles (Washington, D.C.: Smithsonian Institution, 1990), 267–71; I. McKechnie and R. Wigen, "Toward a Historical Ecology of Pinniped and Sea Otter Hunting Traditions on the Coast of Southern British Columbia," in *Human Impacts on Seals, Sea Lions, and Sea Otters: Integrating Archaeology and Ecology in the Northeast Pacific*, eds. T.J. Braje and T. C. Rick (Berkeley: University of California Press, 2011), 129–66.

92. See Zobel, "Ecosystem Use by Indigenous People in an Oregon Coastal Landscape," 309. For similar conclusions from other parts of the Northwest, see McKechnie and Wigen, "Toward a Historical Ecology of Pinniped and Sea Otter Hunting Traditions on the Coast of Southern British Columbia," 129–66.

93. Hall, "Dick Ross, Dave Hatch, and the Elakha Alliance," 122.

94. Ibid.

95. Ibid.

96. Ibid.; suggestions from Rick Minor, personal communication, 2021.

97. Ann C. Bennett and R. Lee Lyman, "Archaeology of Whale Cove (35LNC60)," in *Prehistory of the Oregon Coast: Effects of Excavation Strategies and Assemblage Size on Archaeological Inquiry*, ed. R. Lee Lyman, (San Diego, Calif.: Academic Press, 1991), 241–77.

98. Rick Minor, *Rediscovery of Tcetxo: A Village of the Chetco Indians on the Southern Oregon Coast,* vol. 365, Heritage Research Associates Report (Eugene: Heritage Research Associates, 2012), 50; Thomas J. Connolly, *Human Responses to Change in Coastal Geomorphology and Fauna on the Southern Northwest Coast: Archaeological Investigations at Seaside, Oregon,* University of Oregon Anthropological Papers 45 (Eugene: University of Oregon, 1992), 62–63; George E. Phebus and Robert M. Drucker, *Archaeological Investigations in Seaside, Oregon: An Intermediate Report on the Excavations of Two Major Archaeological Sites*

at Seaside, Oregon, Through September, 1977 (Seaside, Ore.: Seaside Museum and Historical Society, 1979); Robert J. Losey, "Communities and Catastrophe: Tillamook Repsonse to the AD 1700 Earthquake and Tsunami, Northern Oregon Coast" (Ph.D. diss., University of Oregon, 2002), 385, 388; R. Lee Lyman, *Prehistory of the Oregon Coast: Effects of Excavation Strategies and Assemblage Size on Archaeological Inquiry* (San Diego, Calif.: Academic Press, 1991), 121–22; Mark Tveskov, "The Coos and Coquille: A Northwest Coast Historical Anthropology" (Ph.D. diss, University of Oregon, 2000)," 51; Lee W. Lindsay and Sylvia Lindsay, "Prehistoric Tools and Implied Activities," in *People of the Coquille Estuary: Native Use of Resources on the Oregon Coast: An Investigation of Cultural and Environmental Change in the Bandon Area Employing Archaeology, Ethnology, Human Biology, and Geology*, ed. Roberta L. Hall and Don Alan Hall (Corvallis, Ore.: Words & Pictures Unlimited, 1995), 153; Rick Minor, *Archaeological Investigations at the Ecola Point Site, Northern Oregon Coast* (Eugene: Oregon State Museum of Anthropology, 1991), 66; Linda A. Clark, "Archaeology of Seal Rock (35LNC14)," in *Prehistory of the Oregon Coast: Effects of Excavation Strategies and Assemblage Size on Archaeological Inquiry*, ed. R. Lee Lyman (San Diego, Calif.: Academic Press, 1991), 196, 204; Rick Minor and Robert R. Musil, "Description of Artifacts," in *Yaquina Head: A Middle Archaic Settlement on the North-Central Oregon Coast*, ed. Rick Minor. Heritage Research Associates Report, vol. 100 (Eugene, Ore.: Heritage Research Associates, 1991), 126.

99. Roberta L. Hall, "Nah-so-Mah Village, Viewed Through Its Fauna," Corvallis: Department of Anthropology, Oregon State University, 2001; Connolly, *Human Responses to Change in Coastal Geomorphology and Fauna on the Southern Northwest Coast: Archaeological Investigations at Seaside*; Thomas J. Connolly and Guy L. Tasa, *Archaeological Evaluation of the Avenue Q Site (35CLT13)* (Eugene, Ore.: Museum of Natural and Cultural History, 2004); Losey, "Communities and Catastrophe"; Lyman, *Prehistory of the Oregon Coast;* Minor, *Archaeological Investigations at the Ecola Point Site, Northern Oregon Coast*; Minor, *Rediscovery of Tcetxo*; Rick Minor and Ruth L. Greenspan, *Archaeological Investigations for the Proposed Baldiyaka Interpretive Center, Coos County, Oregon,* vol. 176, Heritage Research Associates Report (Eugene, Ore.: Heritage Research Associates, 1995); Rick Minor and Ruth L. Greenspan, *Archaeological Test at the Cape Blanco Lighthouse Shell Midden, Southern Oregon Coast,* vol. 216, Heritage Research Associates Report (Eugene, Ore.: Heritage Research Associates, 1998); Rick Minor and Ruth L. Greenspan, *Archaeology of the Cape Creek Shell Midden, Cape Perpetua Scenic Area, Central Oregon Coast* (Eugene, Ore.: Oregon State Museum of Anthropology, 1995); Rick Minor and Ruth L. Greenspan, *The Hauser Site: Archaeological Evidence of a Paleo-Estuary in the Oregon Dunes, South-Central Oregon Coast* (Eugene, Ore.: Oregon State Museum of Anthropology, 1998); Rick Minor et al., "The Siuslaw Dune Site: Archaeology and Environmental Change in the Oregon Dunes," *Changing Landscapes: Proceedings of the Third Annual Coquille Cultural Preservation Conference* (North Bend, Ore.: Coquille Indian Tribe, 1999), 82–102; Rick Minor and Kathryn Anne Toepel, *The Archaeology of the Tahkenitch Landing Site: Early Prehistoric Occupation on the Oregon Coast,* Heritage Research Associates Report 46 (Eugene, Ore.: Heritage Research Associates, 1986); Rick Minor et al., *Archaeological Investigations in the Cape Perpetua Scenic Area, Central Oregon Coast,* vol. 40, Heritage Research Associates Report (Eugene, Ore.: Heritage Research Associates, 1985); Rick Minor, Kathryn Anne Toepel, and Ruth L Greenspan, *Archaeological Investigations at Yaquina Head, Central Oregon Coast,* vol. 59, Heritage Research Associates Report (Eugene, Ore.: Heritage Research Associates, 1987); Phebus and Drucker, *Archaeological Investigations in Seaside, Oregon*; Guy L. Tasa, Todd J. Braje, and Thomas J. Connolly, *Archaeological Evaluation of Sites Within the Yachats Ocean Road Project (35LNC48 and 35LNC63)* (Eugene, Ore: Museum of Natural

and Cultural History, 2004); Mark Tveskov, "The Bandon Sandspit Site: The Archaeology of a Proto-Historic Coquille Indian Village," *Changing Landscapes: Proceedings of the Third Annual Coquille Cultural Preservation Conference* (North Bend, Ore.: Coquille Indian Tribe, 1999), 43–59; Tveskov, "The Coos and Coquille"; Roger H. Colten, "Prehistoric Coastal Adaptations at Seaside, Oregon: Vertebrate Fauna From the Palmrose and Par-Tee Sites," *The Journal of Island and Coastal Archaeology* 10:2 (2015): 253–76; Moss and Losey, "Native American Use of Seals, Sea Lions, and Sea Otters in Estuaries of Northern Oregon and Southern Washington," 167–95.

100. Hannah P. Wellman, "Fur or Food? Native American Use of Sea Otters (*Enhydra lutris*) on the Oregon Coast Prior to European Contact and Extirpation, *Journal of Archaeological Science: Reports* 43:103485 (June 2022); Greenspan and Crockford, "Vertebrate Faunal Remains," 124–27; Minor "Archaeological Investigations at the Ecola Point Site," 37; Colten, "Prehistoric Coastal Adaptations at Seaside, Oregon," 261.

101. C. Melvin Aikens, Thomas Connolly, and Dennis Jenkins, *Oregon Archaeology*, (Corvallis: Oregon State University Press, 2011), 235.

102. Rick Minor and Kathryn Anne Toepel, *The Archaeology of the Tahkenitch Landing Site: Early Prehistoric Occupation on the Oregon Coast*, Heritage Research Associates Report, vol. 46 (Eugene, Ore.: Heritage Research Associates, 1986), iii.; Thomas J. Connolly, *Human Responses to Change in Coastal Geomorphology and Fauna on the Southern Northwest Coast: Archaeological Investigations at Seaside, Oregon*, University of Oregon Anthropological Papers 45 (Eugene, Ore.: University of Oregon, 1992), 45; Rick Minor, *Yaquina Head: A Middle Archaic Settlement on the North-Central Oregon Coast*, Heritage Research Associates Report, vol. 100 (Eugene: Heritage Research Associates, 1991), iii.

103. Minor, *Yaquina Head: A Middle Archaic Settlement on the North-Central Oregon Coast*, 57.

104. Wellman, "Fur or Food?," 2

105. R. Lee Lyman, *Prehistory of the Oregon Coast: Effects of Excavation Strategies and Assemblage Size on Archaeological Inquiry* (San Diego, Calif.: Academic Press, 1991), 151–153, 227.

106. Kim Valentine, Deborah A. Duffield, Lorelei E. Patrick, David R. Hatch, Virginia L. Butler, Roberta Hall, and Niles Lehman, "Ancient DNA Reveals Genotypic Relationships among Oregon Populations of the Sea Otter (Enhydra Lutris)," *Conservation Genetics* 9 (2008): 933–38; Shawn Larson, Ron Jameson, Michael Etnier, Terry Jones, and Roberta Hall, "Genetic Diversity and Population Parameters of Sea Otters, Enhydra lutris, before Fur Trade Extirpation from 1741–1911," *PLoS One* 7:3 (March 2012): 1–10; Hannah P. Wellman, Rita M. Austin, Nihan D. Dagtas, Madonna L. Moss, Torben C. Rick, and Courtney A. Hofman, "Archaeological Mitogenomes Illuminate the Historical Ecology of Sea Otters (Enhydra Lutris) and the Viability of Reintroduction," *Proceedings of the Royal Society B: Biological Sciences* 287 (September 2020): 1–9.

107. Larson et al., "Genetic Diversity and Population Parameters of Sea Otters, Enhydra Lutris, before Fur Trade Extirpation from 1741–1911."

108. Ibid.; Valentine et al., "Ancient DNA Reveals Genotypic Relationships among Oregon Populations of the Sea Otter (Enhydra Lutris)"; Wellman et al., "Archaeological Mitogenomes Illuminate the Historical Ecology of Sea Otters (Enhydra Lutris) and the Viability of Reintroduction.

109. This is a widespread phenomenon in human understandings of change in the natural world. See Daniel Pauley "Anecdotes and the shifting baseline syndrome of fisheries," *Trends in Ecology and Evolution* 10 (1995): 430.

110. Rebecca J. Dobkins, "Exhibit Essay: Life Stories for New Generations: The Living Art of Oregon Tribal Regalia," *Oregon Historical Quarterly* 110:3 (Fall 2009): 426–28.

111. For example: Office of Federal Acknowledgement, Evidence for Proposed Finding Against Federal Acknowledgement of the Tchinouk Indians of Oregon, United States Department of the Interior, Office of Federal Acknowledgment, 1985, 19.