

Appendices

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APPENDIX A

Tribal Consultation Letters

Appendix A. Tribal Consultation Letters

On behalf of the Department of the Interior, the Cultural/Tribal Sub-team conducted government-to-government consultations with the six basin tribes. The following are the letters sent to each tribal government inviting consultation.

[INSERT SIX LETTERS HERE]

APPENDIX B

Cultural Practices of the Yurok Tribe

Appendix B. Cultural Practices of the Yurok Tribe

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APPENDIX C

Cultural Practices of the Resighini Rancheria

Appendix C. Cultural Practices of the Resighini Rancheria

The Indians of the Resighini Rancheria are Yurok people, and thus share their cultural practices and values in common with the general culture described in the previous section for the Yurok Tribe. Resighini tribal members have always participated in the Yurok ceremonies. The Resighini Rancheria did not provide any further written summary information specific to their position on the current operations affects to Trust resources.

The original “Merin” proposal to create the Resighini Rancheria described the “228-acre” tract of land as “agricultural” with conditions that are “ideal for farming or dairying.”¹ However, the value of the land as agricultural was directly connected to the loss of the traditional fisheries. In past years, commercial and subsistence fishing was a primary means of economic and subsistence support for the Yurok along the Klamath River. With the closure and restrictions on tribal fishing, the Yurok lost this means of support. The “fish wars” and accompanying litigations of the 1970s and 1980s reinstated Yurok fishing rights. Resighini operated some federally funded fish restoration projects in the late 1970s and issued the first fish ID cards to traditional Indian fishing people of the lower Klamath. The Hoopa-Yurok Settlement Act further confirmed that the Yurok Tribe had fishing rights, but Rancheria members were left out of that settlement with the exception that they were provided an option to join with the newly organized Yurok. Tribal members were required to sign government issued checks to receive settlement funds per a specified amount should they choose to retain their Resighini membership status. Some signed their names under duress. But overall, the Rancheria members rejected that option. Instead, the Resighini members have supplemented their income from several business opportunities such as a casino and a café, a campground, a small lumber mill, and a facility for gravel extraction.

The proposal to form the rancheria tells a broader story of the diminished opportunities for the native people whose traditional means of support and subsistence (in this case, the fish) has disappeared. The Rancheria members, the document suggests, might find outlets for “craftwork” or get jobs as tourist guides.

The city of Klamath is a tourist and sportsman’s town and will furnish a ready market for garden products and Indian craftwork. Also, this tract of land, lying along the Klamath River and close to the town of Klamath, will afford the Indians an opportunity to develop a market for their services as guides for sportsmen and tourists.²

A diminished fishery affects recreational opportunities as well as opportunities for the Rancheria's tourist guide service.

¹ “Purchase of Land: Indian Reorganization Act, Hoopa Project No. 1: Hoopa Valley Indian Agency, Del Norte County, California.” Signed by Henry J. Merin, assistant land negotiator.

² Ibid., 2.

APPENDIX D

Cultural Practices of the Hoopa Valley Indian Tribe

Appendix D. Cultural Practices of the Hoopa Valley Indian Tribe

This section is a description of the cultural practices of the Hoopa Valley Indian Tribe. The information is drawn primarily from the Trinity EIS. The text reiterates the information in Chapter 4: Six Tribal Governments in the Klamath Basin. Also in this appendix is the text of a tribal submission describing the impacts on the tribe by construction and operation of the Klamath dams.

The Trinity River is of unique and irreplaceable value to the Hupa. It is a vital natural resource that is the foundation of their social and cultural way of life. At its most basic level, the river has always been a source for food and other necessities of daily Hupa life. The river also provides basket materials, fishnet materials, and means of transportation. Even rocks from the river are used by Hupa people to practice their cultural ways. That every traditional Hupa village was located and built along the Trinity River underscores the vital importance of the river to Hupa culture and traditions. One of these villages, *Me'dilding*, "boat-place," was named for its proximity to the river and its central importance as a boat landing. The Trinity River is traveled during religious ceremonies and in recreational activities; it is integral to the Hupa language and its oral tradition and truly represents the binding force of the community.³

Hupa use of the river developed over a long period of time, as evidenced by the complexity of their religious ceremonies and practices. Early contact and early ethnographic periods, from 1850 to 1930, indicate that uses of the Trinity River by the Hupa people were directed toward fisheries and religious ceremonies (ceremonies that involve prayers offered by people trained to make medicine), and that such activities were highly integrated.⁴

CULTURAL PRACTICES

Fishing

Many natural foods were available to the Hupa, with salmon and acorns providing the bulk of the native diet. When the salmon thronged the Trinity each spring and in fall when they spawned in its upper reaches, the year's supply of fish was taken by a variety of efficient devices.⁵ During the spring run, fishermen, standing on platforms erected over suitable pools and eddies, dipped the salmon out with long-handled nets. Other methods of capturing salmon included fish dams, gill nets set in still pools, and long dragnets hauled by groups of fishermen. Where water conditions permitted, salmon were impaled with bone-pointed harpoons.⁶

Quantities of salmon flesh, sliced thin and smoke-dried, were preserved for winter use. The commonest method of cooking fresh salmon was broiling on pointed sticks propped up near the fire, where the flesh took on the flavors of the smoke.⁷

³ Trinity DEIS/EIR (October 1999), 3-215.

⁴ Goddard, n.d. [citation incomplete]

⁵ Kroeber and Barrett (1960).

⁶ Wallace (1978), 164-165.

⁷ Ibid., 165.

Another fish of importance was the steelhead, a sea-running trout that returned to the river to spawn. Sturgeons, valued not only for their mass of flesh but also for the glue obtained from their heads, were caught in fewer numbers. Lamprey eels, migrating upstream in the spring, were much relished. Surplus stocks of all three were preserved for future consumption by drying in the smoke of fires. Trout and other varieties of small fish present in the rivers throughout the year were sometimes taken with hook and line.⁸

The Fish Dam

Each fall the Hupa built a weir, or fish dam, across the Trinity River. The dam was assembled through a cooperative effort of all Hupa men. Its construction began in the summer prior to the fall salmon run (September/October) after the Yurok's ritual establishment of the Cappell fish dam above the mouth of the Klamath River. The dam was built from stakes driven into the river bottom in pairs, crossing near the top, and tethered together. A lattice on the upper side of the dam served to stop the upward migration of salmon. Fish swarming against the obstruction were scooped up by men strategically positioned on small platforms along its top. The weir was constructed communally and placed in alternate years near one of two principal settlements. Hupa men fished the fall salmon run at the dam until the first high water washed out the dam.⁹

Construction of the fish dam presents a good example of the interconnection of the material and economic aspects of Hupa life with the spiritual aspects, how vital the river is to Hupa experience, and how Hupa culture has been adversely impacted by declining river health.

Trade and Barter

The Hupa traded chiefly with the coastal Yurok. From them they received their canoes, which their own lack of redwood prevented them from manufacturing, and dried sea foods, especially surf fish, mussels, and salty seaweed. Most of the Hupas' dentalia, which were shells used for money, probably were acquired through the same channel, although it must have been passed back and forth from tribe to tribe and village to village for generations. The goods the Hupa provided in return are less definitely known, but seem to have consisted of acorns and other inland foods and perhaps skins. The Hupa were generally friendly with the inland Yurok and the Karuk, but the goods of these tribes were too similar to those of the Hupa for bartering to be attractive. Sporadic commerce was also conducted with other Indian groups.¹⁰

Religious Practices

Religious beliefs and practices played an important role in everyday life for the Hupa people. An almost endless series of taboos had to be scrupulously observed, daily supplications were made for health and wealth, and preventive acts were performed to ensure luck. In addition, each person was supposed to maintain a devout frame of mind throughout the day, particularly during important group rituals when reverent thoughts by participants and onlookers were considered essential for their success.¹¹

⁸ Ibid.

⁹ Trinity DEIS/EIR (October 1999), 3-215–3-216.

¹⁰ Wallace (1978), 168.

¹¹ Wallace (1978), 174.

Ceremonies and Rituals

The religion of the Hupa is based on individual effort through ritual cleanliness as well as ceremonies that bring the entire tribe together. The tribes of the region, including the Hoopa, practice the annual World Renewal Ceremonies, which involve songs and dances that have been preserved for generations. The Hoopa and Yurok tribes also practice the White Deerskin Dance. These rituals are associated with the river as well as with medicine—medicine administered to cure sickness, but also roots, herbs, or bark used to promote both physical and spiritual health. The Brush Dance, for example, is a social event as well as a healing ceremony in which certain tribal members dance, sing, make medicine, and pray to bless a particular sick child or infant. Involving men, boys, and young girls, the dance takes place in a specially designated pit. The spectators, seated on benches around the pit, also pray and thereby help in the spiritual treatment of the child.¹²

The Hoopa Valley Indians continue to conduct many of their traditional religious ceremonies, and the cultural significance of the Trinity River is captured in many of these ceremonies. Ancient religious sites on the river, still used in tribal rituals today, were believed to be designated by spiritual deities at a time beyond living memory. Prayers conducted at the dances are directed toward the well-being of everyone, and food, particularly fish, is shared with all who attend.¹³

The greatest divinity for the Hupa people is *Yimantuwingyai*, “the one lost (to us) across (the ocean),” also known as *Yimankyuwinghoiyan*, “old man over across,” who establishes the order and condition of the world and is the leader of the *kihunai*, or ancestors. *Yimantuwingyai* seems to be a combination of the tricky and erotic *Wohpekumeu* and the more heroic *Pulekukwerek* of the Yurok, who is also similar to the Hupa *Yidetuwinyai*, “the one lost downstream.” A myth concerning *Yidetuwinyai* tells of the time when the sun and earth alone existed. From them were born twins, *Yidetuwinyai* and the ground on which men live. This particular cosmogony has not been found among the Yurok or Karuk and may have reached the Hupa through the influence of more southerly tribes.¹⁴

Traditional Dances

The White Deerskin and Jump Dances, the Flower Dance, and the Brush Dance all demonstrate the importance of the river flows to the Hupa people and how vital the rivers are to Hupa familial and tribal material well-being and self-esteem. Unfortunately, the Hupa report that, although these dances and other religious ceremonies have continued in modern times, the decline of the Trinity River’s health has made their practice increasingly difficult for Hupa medicine people, dancers, and others. Thus, the adverse impacts of an unhealthy river extend beyond the fisheries to religious ceremonies, affecting everyone from the very oldest tribal elders to newborn infants and future generations.¹⁵

Hupa White Deerskin Dance and Jump Dance¹⁶

With two major ceremonies celebrating world renewal, the White Deerskin Dance and the Jump Dance, the Hupa honor the Earth and the Creator for providing sustenance and for allowing the continuance of the tribe. As is much of Hupa culture, both ceremonies are closely tied to the river. In fact, one Hupa

¹² Hoopa Valley Indian Reservation website, <http://www.hoopa-nsn.gov/culture/history.htm>.

¹³ Trinity DEIS/EIR (October 1999), 3-216.

¹⁴ Kroeber (1925), 134.

¹⁵ Trinity DEIS/EIR (October 1999), 3-216.

¹⁶ Information in this section is from Trinity DEIS/EIR, (October 1999), 3-216–3-217.

name for the White Deerskin dance is *hun'q'ehch'idilye*, “along the river religious dance.” This important ceremony is conducted at village sites and resting places near the Trinity River and involves travel on the river.

The exact timing of the dances depends on the river and its waters. The White Deerskin Dance is held from late August into September. The Jump Dance follows 10 days after the conclusion of the White Deerskin Dance. Both dances are elaborate ceremonies that take place over a period of 10 days. In a ritual gesture, the Hupa offer salmon they have caught at their fishing sites for the ceremony and to share with the participants and attendees.

During the ceremony, the dancers set out from *Ta'k'imilding*, the main Hupa village in the northern part of the valley, and move from one village to the next. First, they go up the Trinity River to the major village in the southern part of the valley. Here they dance on the afternoon of their arrival, and again the next morning. Then they go by boat to a place on the river and dance one afternoon and one morning. In the afternoon they board boats that have been decorated for the ceremony.

The Boat Dance is a spectacular segment of the White Deerskin Dance involving dancing and singing while crossing the Trinity River. As the Boat Dance proceeds, the camps follow the dancers from the east side of the river to the west side. In this way, the dance echoes the river's flows and their connotation of river health. The next day, as the dance continues, the camps move again to different sites until the dance concludes.

Another Hupa ceremony, the Jump Dance, also takes place along the river. This dance, with its own dance steps, songs, and regalia, as well as daily feasting, is dedicated to the good of the world. The completion of the Jump Dance signals a blessing for the year to come, with the hope that all people may be satisfied with small quantities and have their needs met. Both the White Deerskin Dance and the Jump Dance depend on a healthy river for fish, basket materials, bathing, and ambiance. The flows of the river are also a central element of these dances as they influence the dancers' ability to travel the river as their ancestors did. The Hupa claim that as the river's flows have declined, so have the Hupa's ability to practice these ceremonies.

Hupa Brush Dance and Flower Dance¹⁷

The Brush Dance is held for the purpose of curing a sick baby or child. At Brush Dances camps are designated for the downstream Yurok people and for the Karuk people upstream on the Klamath River. Hupa people themselves traditionally bathe in the Trinity River each morning of the dance, and they use baskets made with willows growing along the river in the ceremony. The dance is called the Brush Dance because part of the ceremony requires the participants to fill their quivers with willow brush. (Operations along the Trinity River are thought to have reduced the abundance of willow brush and other basket-making materials vital to this dance.)

The Flower Dance is held at various Hupa towns along the river. The purpose of this dance is to train a girl who has just reached adolescence to lead a good life as an adult woman. The girl for whom the dance

¹⁷ Unless otherwise indicated, information in this section is from the Trinity DEIS/EIR (October 1999).

is held traditionally bathes at seven sacred places in the river during training in the Flower Dance ceremony.¹⁸

Oral Traditions

The Hupa language belongs to the Athabascan family, which relates them to some of the other tribes in the region and, more remotely, to the Athabascans from the interior of Alaska and northern Canada, as well as to the Navajos and Apaches of the American Southwest. The Hupa, with the Chilula and the Whilkut, formed a close linguistic unit, diverging considerably from the other dialect groups of California Athabascans.¹⁹ Although the Hoopa share a similar culture with other tribes in the Klamath basin region, the tribe has a distinct language.²⁰

The Hupa language reflects the essence of what it is to be Hupa and thus represents an important element in preserving the people's identity. As testament to the importance the Hupa place on their language, the tribal members have continued to pass their language on to successive generations in spite of pressures to stop speaking it. Tribal elders were forbidden to speak their language in school. Today, these same elders are currently teaching this complex indigenous language to Hupa children and others, conveying not only the language but simultaneously the cultural context in which it developed and flourished.²¹

TRIBAL SUBMISSION

Hoopa staff member Daniel Jordan submitted the following text for the record at the tribal consultation meeting held on November 8, 2010, in Sacramento, California.

IMPACTS ON HOOPA TRIBE FROM CONSTRUCTION AND OPERATION OF KLAMATH DAMS FOR THE NOVEMBER 8 MEETING IN SACRAMENTO

The Klamath Dams must be looked at in two parts, which are: 1), those associated with the FERC process (J.C. Boyle, Copco 1, Copco 2, and Iron Gate), and 2), the Link and Keno Dams which serves both FERC purposes, for which they were originally constructed, plus with respect to their roles associated with Klamath Project and agricultural development in the Upper Klamath Basin. Therefore, the EIS needs to look at the Secretarial Determination regarding the 4 dam removal proposal, as well as how the Klamath Dams (Link and Keno) facilitated the draining of wetlands and expansion of agricultural development.

Based on this approach, the following are impacts on the Hoopa Tribe as a result of construction and operation of the Klamath Dams:

Regarding J.C. Boyle, Copco1, Copco 2 and Iron Gate:

- Reduced water quality and increased water temperature

¹⁸ Bennett (1997), in Trinity DEIS/EIR (October 1999), 3-218.

¹⁹ Kroeber (1925), 128.

²⁰ Hoopa tribe website, <http://www.hoopa-nsn.gov/culture/history.htm>.

²¹ Trinity DEIS/EIR (October 1999), 3-221.

- Increased algae – causing impacts on net fishing and degradation of habitat (including for eels, fresh water mussels, and other users of sandy areas, etc.)
- Extinction of ocean-run steelhead, spring Chinook, Sockeye and Pink salmon species in the Basin
- Increased harvest pressure on Trinity fish stocks resulting from reduced Klamath-origin fish populations
- The overall transfer of Klamath River benefits to non-Indian development, including by reducing available fish for harvest by Tribal members

Regarding Link and Keno:

- Reduced water quality and increased water temperature due to ag pollution and run-off
- Killing of adult and juvenile stocks in the Klamath Basin (including Trinity stocks)
- Elimination of wetlands in the Upper Klamath Basin
- Inner-basin water transfers via Tule lake diversions and water reintroductions via Straits Drain
- Straits Drain pollution problems
- Expansion of ag development
- Facilitated industrial development, such as mills that float logs in the Keno Reach, and other forms of pollution and contaminants
- Reductions in ground water pumping resulting from expanded ag
- Watershed and stream bank degradation caused by livestock
- The overall transfer of Klamath River benefits to non-Indian development, including by reducing available fish for harvest by Tribal members

APPENDIX E

Cultural Practices of the Karuk Tribe

Appendix E. Cultural Practices of the Karuk Tribe

This section is a description of the history, cultural practices and affects on trust resources of the Karuk Tribe. The information is drawn from a document provided to the Cultural/Tribal Sub-team by the Tribe.²²

History

The Karuk Tribe has been a federally recognized entity since 1979.²³ The tribe occupies territory inland along the middle section of the Klamath River. The land is characterized by the steeply folded and faulted mountains typical of the lower and middle Klamath basin, where mountains range from 600 to 7,500 feet in elevation and give rise to a dendritic pattern of streams that empty into the Klamath and Salmon rivers.²⁴ In the 2000 U.S. Census, tribal membership was determined to be 2,702.²⁵ In 2004 the members was listed at 3,164,²⁶ Today, the Karuk are one of the largest tribes in California, with approximately 4,800 members. The Karuk maintain a down river office in Orleans, Humboldt County, a middle office in Happy Camp, Siskiyou County and an upriver office in Yreka, Siskiyou County.

The origins of the federal government's relationship with the Karuk Tribe are found in the negotiation of treaties between the United States and the various tribes of California in 1851. While these treaties were never ratified by congress, the Karuk never vacated its ancestral lands in the remote regions of Northern California along the Klamath River.

Redick McKee, Indian Agent responsible for negotiating treaties with the Indians of the Klamath, arrived at the confluence of the Trinity and Klamath rivers and over the next several days sent out runners to call to council the Indians of that district. A treaty council ensued shortly thereafter. On October 6, McKee signed a treaty with various tribes that provided for cessions of lands and authorized creation of a reservation in the vicinity of the forks, embracing most of the Hoopa Valley and the lower Trinity, down the Klamath River as far as Martins Ferry, and up the Klamath River to Red Cap Bar.²⁷ This treaty is commonly identified as "California Treaty Q." The Karuk were among the tribes covered by Treaty Q and some Karuk leaders signed the treaty.

In Treaty Q, McKee proposed a reservation to serve a large region occupied by multiple tribes speaking several different languages. The reservation was to be established for "the said tribes, their successors, and to such other tribes as the United States may hereafter remove from other parts of the valleys of the Trinity or Klamath rivers, or the country adjacent, and settle thereupon ..."²⁸

McKee's treaty party next ascended the Klamath River by a trail to the great fish weir at Hal-am-mu two miles above the confluence of Bluff Creek with the main river. At this point, McKee's group entered country unequivocally exclusively occupied by the Karuk Tribe. The men traveled on to Big Bar and Red Cap Bar and arrived on October 10 at Orleans Bar. McKee again assembled Indians believed by him, his

²² Unless otherwise indicated, the information in the Karuk section is from Salter (2010).

²³ Pritzker (2000), 129.

²⁴ Karuk tribe website, <http://www.karuk.us>.

²⁵ Ibid.

²⁶ California Department of Housing and Community Development (2004), 107.

²⁷ Gibbs (1853), 136-146.

²⁸ Kappler (1929), 117-1, 120.

son, and secretary to represent four bands. George Gibbs, the linguist and cartographer traveling with the party, wrote about the Karuk Tribe at the confluence of the Salmon and Klamath rivers:

We remained in camp for the purpose of treating with the rest of the bands belonging to this division of the Klamath. They do not seem to have any generic appellation for themselves, but apply the terms “Kahruk.”

Gibbs described McKee’s plan for the treaty at Orleans:

It was proposed to bring the whole of these [Karuk Indians] into the reserve on the Trinity; leaving the Shasta, upper Klamath, and Upper Trinity Indians, to fall within that [reservation] intended to be established above; and a treaty, supplemented to that at Durkee’s ferry [at Weitchpec on October 6, 1851].

The agreement with the Karuk Tribe at Orleans Bar was executed on October 12, 1851. It further confirmed the intention of the Bureau of Indian Affairs to affiliate them with the reservation identified as “A Treaty Supplementary to the Foregoing Treaty [of October 6, 1851].” The agreement of October 12 stated:

The undersigned chiefs, captains and head men of the Si-wah, Op-pe-o, He-ko-neck and In-neck tribes of bands of Indians, residing at and near the mouth of the Cor-a-tem or Salmon river, having had the terms and stipulations of the foregoing treaty, concluded at Durkee’s ferry on the 6th instant, fully explained to them by Redick McKee, Indian agent of the United States, having expressed an earnest desire to become parties to the said treaty in all its articles and stipulations, it is therefore agreed by and between the said agent and the said chiefs, &c., that the said bands be and hereby are admitted as parties to the same, and to the advantages thereof and become bound by the stipulations therein contained as fully in all respects as if they had been parties thereto originally.²⁹

This treaty supplement to Treaty Q—the “Treaty of Klamath” of October 6—thus tied the Karuk Tribe to the proposed reservation centering about the confluence of the Trinity and Klamath River.

On October 29, McKee opened another council and, on November 3, completed another treaty that set aside the lower or north end of Scott Valley for a reservation. It was executed on November 4, and is known as “California Treaty R.” The parties to Treaty R were the United States, on one hand, and the upper Klamath (or Karuk), Shasta and Scott’s River Tribes on the other. As did Treaty Q, Treaty R clearly established a government-to-government relationship and constituted unambiguous federal recognition (see the federal acknowledgment regulations at 25 C.F.R. § 83.8(c)(1)). It included the important fishery on the Klamath River and reached north to the Oregon border. This reservation was to hold the Indians of the main course of the Klamath, Scott and Shasta in this region—people from an estimated fifty villages.³⁰ In its negative land determination of October 8, 2004, the National Indian Gaming Commission conceded that Treaty R was a treaty with the Karuk Tribe.

²⁹ Kappler (1929), 1120.

³⁰ Kappler (1929), 1120.

Even though the treaties were not ratified, they served the purpose of clearly identifying the tribes with which the federal government was interacting on a government-to-government basis, both at the time of the treaties and subsequently thereto. This came into play only 13 years later with Congressional enactment of the California Indian Reservation Act of April 8, 1864, 13 Stat. 39 ("1864 Act"), which specifically limited to four the number of Indian reservations that could be established in California:

The 1864 Act's statutory limitation of four reservations was confirmed by the Supreme Court in *Mattz v. Arnett*, 412 U.S. 481, 489 (1973). The Hoopa Valley Reservation was identified by the *Mattz* Court as one of the lawful reservations established under that law at 412 U.S. 489-91: they were (a) Round Valley, (b) Mission, (c) Hoopa Valley, and (d) Tule River.

The Karuk Tribe was one of the Tribes for which the Hoopa Valley Reservation was established. In the Act of April 8, 1864, (the "1864 Act"), Congress directed the President to establish four Indian reservations in the State of California. In 1876, President Ulysses S. Grant formally defined the borders of the Hoopa Valley Reservation per Executive Order of June 23, 1876 (the "1876 Executive Order"). In 1891, President Benjamin Harrison extended the Hoopa Valley Reservation per Executive Order of Oct. 16, 1891 (the "1891 Executive Order"). The 1864 Act, the 1876 Executive Order, and the 1891 Executive Order gave the Karuk Tribe substantive rights to the lands and trust resources of the Hoopa Valley Reservation.

In addition, the Karuk Tribe has been specifically identified in federal litigation as one of the tribes for which the Hoopa Valley Reservation was established per *Jessie Short v. United States*, 12 Ct.Cl. 36 (1987). That the Karuk Tribe was upriver from the Hoopa and Yurok Tribes is well documented. A significant element in establishing the geographical placement of each of the tribes along the Klamath River was study of the linguistic distinctions among the three tribes. This was reported by a special team of Interior officials appointed to conduct a study of the Karuk Tribe for the purposes of establishing the Tribe's entitlement to federal recognition:

One of the basic problems since the signing of the treaty [of 1851] has been one of proper identification. We have found that the Karok Indians have been referred to as Karok, Klamath, Klamath River, Lower Klamath and Upper Klamath Indians. We have even seen the Karok Indians referred to as the Karouk Band of Klamath River Indians. However, the Klamath River Indians, i.e., Yurok, Hoopa and Karuk, are not a single entity since each belong to a different linguistic group. The Yuroks belong to the Algonkian; the Hoopas to the Athapascan; and the Karoks to the Hokan linguistic group. John V. Meyers and Mitchell L. Bush, "Status Brief—Karok Tribe of California," April 21, 1978.³¹

Indeed, until the Hoopa-Yurok Settlement Act of 1988, Karuk Indians enjoyed the same rights to hunt, gather, and fish as any other Indians of the reservation. However, the Hoopa-Yurok Settlement Act divided the reservation into two parcels with one being occupied and governed by the Yurok Tribe and the other by the Hoopa Tribe. This arrangement effectively terminated the hunting, gathering, and fishing rights of the Karuk Tribe and left the Tribe essentially landless.

³¹ Meyers and Bush (1978).

The Karuk Constitution is dated April 1985. The tribe's ancestral territory was about 1.4 million acres; today the tribe owns 652 acres in trust status. The Karuk Tribe is a Self-Governance Tribe under Indian Self-Determination Act of 1975.³² The Tribe maintains a robust Natural Resources Department.

The tribe operates three health clinics. Tribal members also work for the U.S. Forest Service. The Karuk Community Development Corporation maintains formal development plans. Important contemporary issues include health care, water rights, proper natural resource management, and land acquisitions.³³

Cultural Practices

Despite years of federal policy aimed at assimilation of native cultures, the Karuk Tribe has effectively maintained its cultural identity and traditional practices. This is due in large part to the remoteness of the Karuk homelands and the tenacity of the Karuk People. Indeed, although the natural resources the Tribe depends on, such as salmon and acorns, are severely degraded, Tribal members still engage in traditional hunting, gathering, and resource management activities. This includes preservation and use of Karuk language, basket weaving, fabrication of regalia, practice of traditional religious ceremonies, and stewardship of natural resources through use of fire and harvest management techniques. Although neighboring Tribes also have effectively preserved their cultural practices, it should be noted that although similarities exist and intertribal collaboration in resource management has been in effect for many years, the Karuk remain culturally distinct. This is evidenced by the fact that the Karuk, Yurok, and Hupa speak languages from separate and distinct language groups. However, many early ethnographers and federal representatives failed to recognize these cultural distinctions.

Although anthropologist Albert Kroeber visited the Karuk Tribe periodically beginning in 1900, the Karuk territory was remote; as a result, the tribe was less affected by the invasion of Europeans than their downriver neighbors, the Hupa and Yurok, and less studied by the wave of ethnographers of the late 19th and early 20th centuries. Almost four decades later, Kroeber wrote extensively on the relatively accessible Yurok, whose culture he tended to equate with the Karuk culture, considering the two as “indistinguishable in appearance and customs, except for certain minutiae.”³⁴ The inability of Kroeber and others to appreciate the rather significant differences in Karuk language and custom from neighboring tribes has led to decades of bureaucratic mishandling of Karuk issues.

Early ethnographers characterized the Karuk using the simplistic phrase, “a salmon and acorn people,” but the facts present a more complex picture. The Karuk Tribe in fact used the resources of the uplands for seasonal gathering of acorns as well as game, basketry materials, and other resources, and they used these sites for religious purposes rather than for habitation.³⁵ Archaeological excavations of the interior area of northwestern California support this analysis of the ancestral Karuk living in permanently settled villages near the river while continuing to exploit high-country resources. These studies indicate that, although major village settlements were located along the river systems, there were also sites on high ridges.³⁶ Additionally, some 160 late prehistoric sites on the upper Klamath River within Karuk ancestral

³² California Department of Housing and Community Development. California Indian Assistance Program (2004), 107.

³³ Pritzker (2000), 129.

³⁴ Kroeber (1925), 98.

³⁵ Kroeber (1925).

³⁶ Wylie (1976), in Salter (2010).

territory indicate that both site placement and population density were dependent on ease of fish procurement.³⁷

The cultural development of the very early period was followed by even greater cultural and social changes. The caches of smoked and sun-dried salmon and acorns of the Pacific Period³⁸ supported more than 100 ancestral Karuk villages along the Klamath and Salmon rivers. With a dependable source of food in place, a relatively dense population could exist through the long, hard winters of the Lower Klamath without having to migrate. Over time, the Karuk developed an elaborate sustainable lifestyle with ceremonial traditions that linked a large number of Karuk villages with each other and to downriver tribes.

Over thousands of years, the Karuk people honed land management to the level of a fine science. The tribe's conscious incorporation of ritual, spiritual, and technical elements for the management of vigorous ecosystems resulted in a system of land management and cultural perspectives among the Karuk and the neighboring tribes that enhanced and enriched the diversity of these systems. These management strategies were maintained on the grassroots level, not by a powerful command structure imposing its will on the land. Many of the Karuk cultural practices are founded in this awareness of and respect for the natural environment. These culturally basic natural resource management practices are still used by the Karuk and have been articulated in the Tribe's Eco-cultural Resources Management Plan.³⁹

THE KARUK VILLAGES: ESTABLISHMENT, LOCATION, AND ORGANIZATION⁴⁰

According to Karuk belief, from the time of the *Ikkareeyavsa* (the immortals who prepared the way for the coming humans), the tribe has lived in fixed villages along the Klamath and a portion of the Salmon River. As with the downriver Hupa and Yurok, who lived along the banks of the Trinity and Klamath rivers, Karuks established a long series of villages on favorable beaches, bends, benches, and fishing sites, centering life on the bounty and transportation provided by the rivers. The villages were composed of family houses and sweat lodges that the Karuk built from hand-split and adzed sugar pine or cedar planks.

Although they lived in these established villages near the abundance of the rivers, the Karuk used the higher land, where they camped for varying periods each year, for hunting and seasonal gathering of food and firewood. But the true villages were all found along the rivers, and they provided the thread joining Indian people from the upper Klamath basin to the coast. Villages were placed in advantageous locations on bluffs and bends of the Klamath River the length of Karuk territory.

³⁷ Chartkoff, and Chartkoff (1975), 172-179.

³⁸ Chartkoff and Chartkoff (1975, p. 146) define the term "Pacific Period" as an era that ended when contact was made between native Californians and Europeans and date it as 1769, the year of the first permanent settlement in California by Europeans—i.e., the mission at San Diego.

³⁹ http://www.klamathwaterquality.com/documents/Karuk_Ecological_Plan.pdf.

⁴⁰ Unless otherwise indicated, information in this section is from Salter (2010).

CRAFTSMANSHIP IN ARTIFACTS AND MONEY⁴¹

Anthropologist Alfred Kroeber viewed the material culture of the lower Klamath River tribes, including the Karuk, as no different from other native California cultures in range of inventions, but as excelling in craftsmanship and decorative qualities. Kroeber referred to this unique quality of these tribes as “deep seated and . . . manifest at almost every point.”⁴² He listed a range of material objects including slab houses, canoes, mauls, pipes, acorn stirrers, netting shuttles, spoons, and obsidian blades that the cultures of the lower Klamath River tribes shared with other California native cultures, but which in California’s northwest core area (Yurok, Hupa and Karuk), demonstrated “a different attitude, an appreciation of values which in the ruder central and southern tracts is disregarded.”⁴³ Outside the area, objects were likely to be made of relatively easily shaped wood and were left unadorned. In the Lower Klamath basin, the same object was likely to be fabricated of a more demanding raw material such as antler or stone and decorated with a level of interest not generally present elsewhere in California.

The same qualities of elaborate decoration and heightened detail that applied to cultural objects also applied to dentalia shell money. Money was known and prized throughout aboriginal California, but it was in the core culture area of northwestern California that the influence of money and the associated prices, fees, and fines reached a level of sophistication not witness elsewhere in native California.

FISHING AND ITS IMPORTANCE TO THE KARUK

The Karuk diet traditionally consisted mostly of salmon, deer, and acorns.⁴⁴ Fish, especially salmon, have always been a major food resource and the focus of ceremonies for the tribe. More recently, as the fish have become scarce, they have become an issue related to cultural sovereignty and survival of the people.

A variety of species of fish in addition to salmon continue to be available to the Karuk, and they use several methods, both traditional and contemporary, to catch them, according to the type of fish and conditions of the river.

Fishing Rights

Anthropologists Kroeber and Barrett described the Karuk as among a number of “core tribes” who were dependent on fish within a social system of enforced rights:

The best fishing places along the rivers were privately owned, sometimes by single individuals, sometimes jointly by several. In the latter case, a fishing place could be used by each owner in rotation, according to the proportionate share of his ownership. An owner might give someone else permission to fish there on the day or days when his turn would normally come. But no one was permitted to fish or to establish a new fishing place immediately downstream from a

⁴¹ Unless otherwise indicated, information in this section is from Salter (2010).

⁴² Kroeber (1925), 2.

⁴³ Ibid.

⁴⁴ Pritzker (2000), 129.

recognized fishing place ... most inferior fishing places, and a few excellent ones were not privately owned but were open or public.⁴⁵

The concept of ownership applied strictly to the right to fish and not to ownership of land along the river. Those tribal members who had what are still referred to as “rights” had, as was characteristic of the Karuk, degrees of flexibility in the ownership of those rights. Owners of rights at a particular fishery, for example, might sell those rights in whole or in part, or might give away surplus fish and allow other people to fish at the site of their ownership. These rights, which had the force of law, might be attained by inheritance, as a gift, or as payment for services. Women could own rights even if they did not fish themselves; a man, usually a relative, would often do the fishing at the site.

Species of Fish Within Aboriginal Karuk Territory⁴⁶

The Klamath River provides a spawning area for several species of fish that were and continue to be critical to the Karuk tribe. Karuk list the principal Klamath River fish as follows:

- Chinook or king salmon: The spring run of Chinook entered the river in March and were called *ishyaat*, but they could not be eaten until after the ceremony conducted for them at *Ameeykyaaraa*, a site below the mouth of the Salmon River. These were the fish for which lifting-net scaffolds were set up, although in creeks they were harpooned.
- Fall-run Chinook: These fish entered the system in late summer and were referred to as *áama*. Historically, a very late fall run of Chinook entered the system. The males of this run, called *páwat*, had a pronounced hook-shaped nose.
- Karuks also held in high regard the *chiîpich*. Elders describe this fish as a silvery Chinook of uniform size approximately 10 inches in length. Chiîpich are an out-migrating smolt reared in the productive waters of the upper basin; the *chiîpich* gathered in the refuges of deep-water pools near *Inaam*, near *Clear Creek* During *Pikyawish*, the *Fataveenaan* or medicine man still hikes to a prayer seat overlooking these pools and prays for the *chiîpich*.
- Coho or silver salmon, also sometimes locally called dog salmon (*achvuun*): The flesh of this fish was very red and somewhat dry rather than fat. The run began in October.
- Steelhead (*sa'ap*): In winter, at high water, steelhead continued to be taken with platform lifting nets after the salmon completed their runs.
- Trout (*askuup*): Trout were in the river and creeks the year around.
- Suckerfish (*chamuxit* or *chamuxich*): Suckerfish are small and bony and not considered especially desirable; however, they are available the year around.
- Bullhead (*xantiit* or *xa'nkiit*): Bullheads, now called “marbled skulpin,” are creatures of significance in Karuk creation stories.
- Sturgeon (*ishrixihara* or *ishx'ikkihar*): Sturgeon occur upstream only as far as Ishi Pishi Falls, which they cannot hurdle.

⁴⁵ Kroeber and Barrett (1960), 3.

⁴⁶ Snyder (1930).

- Pacific lamprey (*akraah*): The Pacific lamprey, *Entosphenus tridentatus*, referred to locally as eels, enter the system in December and arrive in Orleans in April. A second run enters the system in February and arrives in Karuk territory in June. Lamprey are still harvested by the Karuk using several traditional methods such as baskets submerged in the river, hooks mounted on canes, trigger nets, or by hand using eel fern as a glove. Lamprey are a valued food source and, like the salmon, once migrated upriver to Klamath Lake as well as numerous tributaries to spawn.⁴⁷

Salmon and Trout

Five species of Pacific salmon (*Oncorhynchus*) are scientifically recognized. Of these, the king or Chinook (*O. tshawytscha*) and coho or silver (*O. kisutch*) are most frequently found in the Klamath. The other three species, the red or sockeye (*O. nerka*), the humpback (*O. gorbuscha*), and the chum or dog salmon (*O. keta*), occasionally stray into the Klamath system.

The Karuk and other tribes of the region recognize two runs of Chinook, or king, salmon. (Spring Chinook salmon are the focus of the First Salmon Ceremony.) Prior to the damming of the Klamath River and the reconstruction of Klamath Lake in its present form, the Chinook salmon historically spawned as far upstream as the Williamson, Sprague, and Wood Rivers.⁴⁸

The First Salmon Ceremony was conducted around April. When the fish first breeched the sandbar at the mouth of the Klamath, marking their transition from the Pacific Ocean back to the fresh water of the Klamath River preparations were made to await their arrival at the upriver extent of *Yutimiin* (lower fish place). As these “springers” made their way upriver, the Karuk marked their arrival at *Ameekyaaraam*, a site below the mouth of the Salmon River. The conclusion of this ceremony triggered the end of the steelhead season and the beginning of the salmon season within *Yutimiin* and at the Wooley Creek fishery (near the mouth of Dead Horse Creek). The springers were followed by the summer and fall Chinook salmon, which are larger than those of the spring run. Fishing in *Katimiin* (Upper Fish Place) historically began as part of the salmon ceremony held at *Inam* during the new moon in July. The conclusion of this ceremony signaled the beginning of the allowable salmon fishing season within *Katimiin*.

Written and oral tradition indicates that, prior to an extended series of impacts on the fishery beginning with the miners who arrived during the Gold Rush, salmon were entering the river in distinguishable waves throughout the year. The waves mounted and then declined with the progress of the run. The major run was traditionally that of the spring salmon. George R. Field, supervisor of the cannery of the Klamath Packers Association at the mouth of the Klamath, described the runs in 1930:

As the run of winter steelheads ceases, about March 30, spring Salmon begin to come. A few enter the Klamath in the later part of February, but the run really starts in March and slackens or almost entirely passes by the last of May. These fish average about 11 pounds in weight and are indistinguishable from those which come later, except that the eggs are always immature. These spring salmon may be caught in the smaller streams fed by melting snow at the headwaters of Salmon River during the month of May.⁴⁹

⁴⁷ Tennant (May 2010), 9-10.

⁴⁸ American Fisheries Society, *Fisheries* (April 2005).

⁴⁹ Snyder (1931), 19.

Spring salmon were said to have “lingered” in the vicinity of spawning beds until they matured and then spawned with the fish of later runs. By 1931, the spring run had declined from being the major run to the point that it was characterized as being of “relatively little economic importance.”⁵⁰

From a historical perspective, Snyder made the following observation concerning the changing migratory patterns of the fall salmon in 1931:

The summer migration of king salmon up the Klamath River begins about the first of July, mounts rapidly by the last of the month, reaches its maximum in August, declines gradually in September, and falls away almost entirely before the beginning of winter. There is no definite break between the spring and summer migrations, and it seems also that the fish in small numbers continue to appear through November and even later. A spawning migration of steelheads comes with that of the king salmon. And a run of silver salmon starts early in September and continues through October and November. The spring migration has now lost its economic importance and seems to have almost entirely disappeared. It was formerly connected at its waning period with the summer run. The fish of the spring run enter the river during its flood height of very cold water, and pass up stream under the same conditions, while the summer migration starts as the winter and spring floods subside, most of its fishes passing upstream during a minimum flow of water.⁵¹

The Klamath steelhead are not salmon but rainbow trout (*Salmo gairdnerii* ssp. *Irideus*), and they appear in the Klamath River in three runs. Like the salmon of the Klamath River, steelhead are normally anadromous; however, they are more adaptable than the salmon and will sometimes remain below the dams upriver when food sources are plentiful. However, unlike the salmon, steelhead do not die when they return from the ocean as mature fish to spawn in the river.

Other Species

Additionally, two species of sturgeon, the white sturgeon, *Acipenser transmontanus*, and the smaller and rarer green sturgeon, *A. medirostris* (*acutirostris*), are anadromous species that migrate as far upriver as Ishi Pishi Falls on the mainstem Klamath. Sturgeon also find habitat in the Salmon River as far upstream as Butler Flat.

The Karuk tribe has more to lose from the loss of mussels than do most other tribes. Freshwater mussels have cultural significance for the Karuk, and mussel shells are found throughout Karuk tradition. A women’s spoon made of mussel shell is called *sikihnuuk*, and a mussel tool used in traditional basket weaving is an *ishuvar*. Shells have also been used as fishhooks and children’s toys. The *axthahá’iish*, or meat of the mussel, was a part of the traditional Karuk diet. Because of forced assimilation into white culture, much of the traditional knowledge of when to harvest mussels and how to prepare them has been lost. As an indication of importance of the mussels to the tribe, there are eight surviving Karuk words for mussel (there are 80 for salmon).⁵²

⁵⁰ Ibid.

⁵¹ Ibid, 23.

⁵² Tennant (May 2010), 9-10.

Karuk ancestral territory is also home to two species of freshwater, non-anadromous suckerfish: the Klamath coarse-scale sucker, *Catostomus snyderi*, and the Klamath fine-scale sucker, *C. rimiculis*.

Methods of Fishing

The Karuk used a variety of fishing methods, depending on the section of river or stream, the nature of the flow, and the species of fish. In addition to weirs (dams), nets, and basket traps, Hewes⁵³ listed single- and double-pronged toggle harpoons, gorge hooks, double-pointed angle hooks, V-frame dip nets, multi-pronged spears, gaffs, and hoop nets as tools the Karuk used for fishing.

Weirs (ithg'aah)

Karuk weirs, or fish dams, took around two weeks to construct, including preparation of the poles and logs. Once in place, the weir was left until washed away by high water. Weirs offered the advantage of allowing a large supply of salmon to be caught that would feed many families for the entire winter. When a weir was in use, Karuk men did the fishing while women prepared and dried the fish for storage.

According to Karuk tribal member Mary Ike, the Karuk built weirs at six locations over a distance of 25 miles of river, with only one weir being constructed per year, an indication of how labor-intensive the undertaking was. These locations, in descending order on the Klamath River, were as follows:

Above the mouth of Irving Creek “below the Sancho mine.” (The Irving school is between 9 and 10 miles upriver from the mouth of the Salmon River.)

On the lower Salmon River, below the [old] bridge at Somes Bar. (This probably refers to Shakirpak (*sak'iripirak*) or Shihtira (*sihf'irih*), a fraction of a mile from the Klamath.)

At Oak Bottom Flat. (This is Vunharuk (*vunx'arak*), a little over a mile above Somes Bar, about two and a half miles up from the mouth of the Salmon, and about a mile below where Wooley Creek flows into it.)

Back on the Klamath, at Orleans (*pan'amniik*). (This is a little over seven miles below the mouth of the Salmon.)

At Tuyuvuk (*tu'uyvuk*), Ullathorn Creek and bar. (This site is not quite 3 miles below Orleans.)

At Wupam (*v'uppam*). (Red Cap is about 4 miles below the previous site; it was the most downriver of Karuk towns.)⁵⁴

Another Karuk, Georgia Orcutt, named three additional Karuk weirs:

Aft ram (*aff'aran*), at Stanshaw Creek

Afsuf (*afchuf'ichthuuf*), the creek next below Camp Creek, on the same side

Forks of Salmon (exact location uncertain)

⁵³ Hewes (1942), 97-98.

⁵⁴ Gifford (1939-1942); names added by Kroeber (1936); in Salter (2010).

The ceremonial significance of two weirs may be gauged by the coordination between their construction and accompanying ceremonies. The weir at Afsuf (*afchuf'ichthuuf*) was built following the Jump Dance at Amekiarum (*ameeky'aaraam*) in July. At this time the Fatawanun spend four days fasting and praying in the sweathouse at Paniminik (*pan'amniik*). Similarly, construction of the weir at Wupam (*v'uppam* or Red Cap) was attended by the Fatawanun (*fatav'eenan*) spending five days in the sweathouse.⁵⁵ Construction of the other weirs was unaccompanied by ceremonies, although a girl's puberty dance, the Flower Dance (*ihuk*), was customarily held following construction of the remaining weirs.

According to Karuk accounts, weirs were created by one of the immortals (Ikhareya) as an aspect of creating salmon and preparing the structures and techniques that the humans to come would use in their capture:

When he had made the salmon, this ikhareya [*ixxare'eyavs*] made what the Indians use: he made the scaffolding to fish from. He made it of long poles. He bruised grapevines with which to tie the poles and made it all good. He thought, "This they will do when they fish." He laid a plank on the poles to fish from, and on this he put a little stool so that they could sit while they fished. He thought he had made everything. Then after a time he thought, "It is not quite right as I have made it." He put a screen of brush at his fishing place. He concluded, "It is not right like that. It is too far out in the stream. Let it move back a little toward the shore." Then he thought, "It is not right yet. I do not think it will be good if I use brush. I do not want the salmon to go through: I want them to go right where I am fishing with the net. Let me make something flat and even." So he made a weir [*ithy'aah*] ("dam") of sticks and tied them together with pounded twigs (into a mat). Then he thought, "Now I think it is good as I have made it. Now when the people grow they will do that. It is a good way I have made it now." So now the people do like that. When they grew they saw what he had made.⁵⁶

Fish Nets

The aboriginal Karuk used several types of fishing nets. The large lifting nets required platforms and a trigger string called an *uripi*, and an even larger version, called *amvauripa*, could be up to twelve feet in size (Hewes F.N. 1940). Another type of net, the dip net or plunge net (*takika*), is still in use. This form of net is used at Ishi Pishi Falls in Somes Bar, California, the only fishing site officially authorized for aboriginal Karuk fishing. Or this type of fishing, the Karuk take the net to a shelf of rocks or boulders above the water and plunge it into pools just below the falls, where salmon rest prior to making their way up the falls.

The dip net or plunge net (*t'akkirar*) is still in use. This form of net is used at the only fishing site reserved for aboriginal Karuk fishing at Ishi Pishi Falls. The net is used from a shelf of shoreward rocks or boulders, from which it is plunged into pools just below the falls where salmon rest prior to making their way up the falls. Both types of nets were woven of fibers extracted from the leaf of the native iris, *Iris Macrosiphon* (*apkas*). Characteristic of the Karuk, this process involved a gender-based division of labor with women extracting the two fibers found in each leaf using a mussel shell fitted into a leather holder and set on the processor's thumb. In turn, men twisted the fibers into cordage, which was then woven into nets.

⁵⁵ Kroeber and Barrett (1960).

⁵⁶ Kroeber (1980), 71-72.

Basketry Traps

One technique for fishing high-water creeks in winter involved the use of trough-shaped basketry traps called *pisimvaru*, referring to the bent-up sides of the trap. Larger traps were constructed of split-spruce poles, “each six or seven feet long and set several inches apart” (ibid.). With widely spaced longitudinal poles, these traps captured only the larger species, salmon and steelhead, while smaller, similarly constructed traps were used to take smaller fish such as suckers and trout. These traps were laid with their open end downstream in line with the water flow so that fish swimming upstream passed into the trap from which they could not escape. Once a day, the fish were removed while the trap was left in place. (This fish trap resembles a Karuk bird trap, which the prey enters unimpeded but finds no exit.) Hewes reported that ordinary burden baskets were also sometimes used as scooping fish traps, and Driver included in a list of Karuk fish traps “a half-cylinder type of trap and ... another ... pointed at both ends.”⁵⁷

Pacific Lamprey (eels or *akraah*) are taken using a variety of techniques including small-meshed nets or gaffs, or by hand with use of a glove for a better grip as the eels work their way over rocks at night in their upriver migration. The eel trap or basket is made of open-weave basketry anchored in place by rocks and lines.

Harpoons and Other Devices and Methods

Harpoons are distinguished from spears by the presence of a detachable head fixed to a fore shaft or directly to a main shaft by a toggle line that holds the speared fish. The line buffers the actions of a fighting fish, much like the springiness of a modern fishing rod allows fish to be played without tearing out the hook. Harpoon styles consist of both double and single toggle points.

Because nets and weirs were efficient in the harvesting of large numbers of salmon, and the ownership of fishing rights was flexible, the harpoon became a secondary harvesting technique. Thus, Karuks used the harpoon to capture steelhead in their spring spawning runs up streams that were too small to allow netting.⁵⁸ Similarly, the Indians sometimes took fish with bow and arrow.⁵⁹ The fishery at Wooley Creek however was solely a harpoon salmon fishery.⁶⁰ Hewes reported that the Karuk also sometimes caught sturgeon by means of a noose crafted from twisted grapevine, which they slipped over the fish’s tail. They then tied the line to a tree because these huge fish (eight to nine feet long and often more than 200 pounds) were too strong to be held even by two or more men.

TRADE AND BARTER⁶¹

Native American trading networks were extensive and well established prior to the arrival of Europeans in California. An indication of how widespread the networks were is the fact that many people knew of the arrival of Europeans at least 15 years before they actually appeared in Northern California. Based on information received through trading networks and contact with the Hudson’s Bay Company, native people were aware of the types of goods the European traders would be interested in (such as furs and skins). They also knew that, in return for these native commodities, they could expect to receive highly

⁵⁷ Driver (1939), 313, 379.

⁵⁸ Hewes (1940); in Salter (2010).

⁵⁹ Driver (1939), 313, 379.

⁶⁰ Bill Tripp, personal communication.

⁶¹ Information in this section from Salter (2010).

valued metal implements, such as knives and cooking pots. On the Klamath River, Hudson Bay trappers traded apple trees to the local Indians in return for the right to trap. They also supplied seeds, which quickly resulted in widespread gardening by the Klamath River natives. Prior to this, Karuk land management had largely consisted of an integral system of cool burns, pruning of certain plants, and sowing of tobacco and various bulb plants that served as ceremonial, subsistence, and utilitarian forest products for the use of the people.

Trading networks not only allowed tribes to obtain resources that were relatively scarce in their own territory, but also resulted in alliances and solidarity between tribes. Coastal tribes traded highly valued dentalium shells—which served as currency and could be made into beads—for inland materials such as obsidian and soapstone. Trading networks facilitated the development of increasingly sophisticated and complex social and cultural systems of the various tribes prior to the arrival of Europeans.

Established trading sites in neutral territory allowed for regular and peaceful trading between the different tribes. Trading also furthered development of complex societies made up of richer and poorer families and individuals. Food was an important item of trade, and tribes including the Karuk traded the plant and animal foods of their territory with coastal tribes for fish and objects such as redwood canoes. Native women were regularly married into other tribes to promote alliances. In preparation for this process of marrying out of the tribe, young women were taught the rudiments of other regional languages to make themselves more acceptable and desirable to other tribes. Among the Karuk, many Flower Dance locations also served as a place for the teaching of multiple languages to young women in preparation for their futures as wives living in other tribes.

A number of social mechanisms allowed trading to take place. Trading specialists, for example, traveled from tribe to tribe, and strategically situated trading sites facilitated trading between tribes. Trading also took place within tribes. Among the Karuk there were 10 identifiable family groups, each managing its own area. Each of these management areas had different commodities in varying levels of abundance that could be traded for commodities in other management areas. Language was another important factor in trading. In the Aikens Creek area of Karuk territory, five different languages were spoken among the permanent villages located in this area, which facilitated trading with other language groups.

As a rule of thumb, the goal was to have two years worth of a given resource in stock to protect against years when that resource might be scarce. Beyond these basic holdings, materials in surplus were suitable objects of trade. This system was based on a principal of having sufficient surplus of a resource for it to be considered suitable for trading. Trading of goods such as iris fiber twine in exchange for obsidian or pine nuts was always subject to negotiation, which brought into play an element of compassion in trading relations; in this way, those who were lacking certain materials would not be taken advantage of in the trading process.

Of course, fish was an important item of trade. On the most basic level, certain families are assigned the responsibility to catch fish for the community. Some people in the community catch the fish and others trade for them, and the process creates and solidifies relationships between families within the tribe. On a broader scale, a tribe that has fish, particularly the desirable salmon, to trade is well positioned to acquire a wide range of goods from outside their own territory.

RELIGIOUS PRACTICES AND CEREMONIES

Ceremonies provide insight into the cultural life and underlying values of the Karuk. These ritualistic celebrations also demonstrate the Karuk tribe's links to other tribes of the river in a shared cultural environment. In one respect, the ceremonies are reenactments of stories involving the *ikxar'eeyavsas*, or immortal ones. But these ceremonies go beyond symbolism to teach important practical lessons about careful management of resources, hard work, and the seasonal lack of resources, despite the most meticulous observations of rituals.

The Karuk are known among Indian tribes of the western states as "The Fix-the-World People" based on the tribe's role in the annual Piki'avish, or World Renewal Ceremonies. Piki'avish starts with the First Salmon Ceremony in early spring and continues throughout late summer into early fall. The scheduling dance cycle is determined each year by a ceremonial leader, who also appoints the *fataveenaan* (medicine man or priest) each year. This appointment is both a source of honor and a great deal of work because the *fataveenaan* is required to undergo a lengthy ordeal of fasting, praying, and walking the medicine trails.

The elaborate ceremony called the First Salmon Ceremony marks the passing of the first spring Chinook salmon up the Klamath River. This migrating salmon was allowed to pass all the way up the Klamath River to its spawning ground. Indians believed that the first spring Chinook migrating upstream would leave its scales at each spawning location for the rest of the salmon run to follow.⁶² Eating this first migrating salmon of the year was considered taboo; if eaten it was believed to cause convulsions and death. Thus, the First Salmon Ceremony allowed this fish to pass safely upstream, thereby lifting the taboo and allowing the people to fish for salmon in the river.⁶³ The dramatic decline in the spring Chinook run has made it impossible for the Klamath Tribes to conduct the First Salmon Ceremony. "And how do you perform the Spring Salmon Ceremony, how do you perform the First Salmon Ceremony, when the physical act of going out and harvesting that first fish won't happen?"⁶⁴

Spring Chinook salmon are the focus of the First Salmon Ceremony, which the Yurok and Karuk tribes perform together. This fish, whose importance to the tribes has raised it to the totemic level, historically spawned as far north as the Williamson River, an area that was available as spawning grounds prior to the damming of the Klamath River and the reconstruction of Klamath Lake in its present form. The First Salmon Ceremony is conducted around April when the fish first breach the sandbar at the mouth of the river, marking their transition from the Pacific Ocean back to the fresh water of the Klamath River. Writing in 1877, Powers described the First Salmon Ceremony:

[The Indians] celebrate it to insure a good catch of salmon. The Kareya Indian [priest] retires into the mountains and fasts the same length of time as in autumn. On his return the people flee, while he repairs to the river, takes the first salmon of the catch, eats a portion of the same, and with the residue kindles the sacred smoke in the sudatory. No Indian may take a salmon before this dance [used in the sense of a ceremony] is held, nor for ten days after it, even if his family is starving.⁶⁵

⁶² Roberts (1932), 426-440; as cited in Sloan (2003), 25.

⁶³ Waterman and Kroeber (1938); as cited in Sloan (2003), 25.

⁶⁴ Leaf Hillman (2004); as cited in Norgaard (2005), 35.

⁶⁵ Powers (1877), 31.

The most important of Karuk ceremonies is Pikyavish, or literally ‘fix the world.’ Called by different names in by different Tribes, many Tribes of the Klamath as well as the Pacific Northwest practice a similar ceremony. Stephen Powers (1877) gave an early account of the World Renewal Ceremonies that expresses the ideas central to these ceremonies, the sensibilities of the participants, and the unity of the Karuk, Yurok, and Hupa, as well as other tribes who joined in this occasion of ritual celebration.

The first of September brings a red-letter day in the Karok ephemeris, the great Dance of Propitiation, at which all the tribes are present, together deputations from the Yurok, the Hupa, and others. They call it *sif'-san-di pik'i'a'vish* [*thivthaaneen piky'avish*] (at Happy Camp, *su-san-ni nik-I-a-vish*), which signifies, literally, ‘working the earth’ [I will work.] The object is to propitiate the spirits of the earth and the forest, in order to prevent disastrous landslides, forest fires, earthquakes, drought, and other calamities.⁶⁶

In Kroeber and Gifford’s *Karok Myths* (1949), tribal member Georgia Orcutt captured the emotional nature of the *Pikyavish* as follows: “At the beginning of the Pikiavish, it looks like everything down, nobody happy. *Pikyavish* means making the world right. Fatawanun [*fataveenan*] fixed it so everything is coming up nice.”⁶⁷

According to Kroeber and Gifford, the Karuk ceremony has three major aspects:

The first is a period of usually not more than ten days during which the priest remains much in the sweathouse, fasts, and prays for abundance of food, the elimination of sickness and the stability of the world. He also visits sacred spots; and young men engage in archery contests. The second part is the climax of the ceremony, when the priest keeps an all-night vigil by a sand pile called yuxpit. This vigil is accompanied and followed the next day, by the Deerskin Dance, or its surrogate, an imitation affair employing branches instead of deerskins; at Inam [Inaam] and Katamin [*ka'tim'iin*] the War Dance is part of the dance ritual. The third part is the anticlimactic retreat of the priest and other officials.⁶⁸

The ceremonies feature a variety of ritual dances. The Jumping Dance (or Jump Dance) is held in the spring during the first salmon run. The Deerskin Dance is held in the fall in association with the acorn harvest and the second salmon run. It is performed in alternating years with the Medicine Dance, during which other decorated skins including martin and otter are displayed rather than the famous white deerskins. Both dances feature displays of wealth, along with dancing and singing.⁶⁹

Another element of the *Pikiavish* is an archery contest. This event involves shooting at a small fork-shaped target (*yupich*), which is set in front of a screen of fir branches and often hidden from view behind brush. As a result, the contestants have to angle their shots up sharply so that the falling arrow will land vertically. The goal is to “wake up the earth” for the *Pikiavish* ceremonies and the new year.

⁶⁶ Powers (1877), 13.

⁶⁷ Kroeber and Gifford (1949), 8.

⁶⁸ *Ibid.*, 6.

⁶⁹ Pritzker (2000), 128.

Karuk Fishing Myths

According to Karuk myth, fishing weirs were created by one of the immortals, known as *Ikhareya*. By preparing the structures and practicing the techniques, *Ikhareya* would charter a course to show humans how to capture the fish.

When he had made the salmon, this *ikhareya* made what the Indians use: he made the scaffolding to fish from. He made it of long poles. He bruised grapevines with which to tie the poles and made it all good. He thought, "This they will do when they fish." He laid a plank on the poles to fish from, and on this he put a little stool so that they could sit while they fished. He thought he had made everything. Then after a time he thought, "It is not quite right as I have made it." He put a screen of brush at his fishing place. He concluded, "It is not right like that. It is too far out in the stream. Let it move back a little toward the shore." Then he thought, "It is not right yet. I do not think it will be good if I use brush. I do not want the salmon to go through: I want them to go right where I am fishing with the net. Let me make something flat and even." So he made a weir ("dam") of sticks and tied them together with pounded twigs (into a mat). Then he thought, "Now I think it is good as I have made it. Now when the people grow they will do that. It is a good way I have made it now." So now the people do like that. When they grew they saw what he had made.⁷⁰

The fishing harpoon appears in one of a series of creation stories that present accounts of the origins of humans, institutions, and tools. In the myth, Chukchuk (*ch'uukchuuk*) develops the two-pointed harpoon so that even people without rights or nets could still catch fish. According to the myth, Chukchuk took a long stick and fastened two smaller sticks to the end of it. He thought, "I will spear salmon. Let me make that kind. Let me make it so that if a man has no fishing place and he sees salmon he can catch them. If he has no net he will kill them in this way."⁷¹

ORAL TRADITIONS: LANGUAGE AND STORIES⁷²

The marked difference of the Karuk language and affiliated languages of the Hokan linguistic stock indicates how long the Karuk have lived as a people with a common language and cultural identity removed from its place of origin. "The language is not closely or obviously related to any other; its presumed Hokan affiliations are distant. There was no known dialect differentiation."⁷³

In the past century, the Karuk language, like the salmon, has moved to the brink of extinction. With the decrease in the number of salmon spawning in the upper Klamath basin, as well as the decrease in the variety of runs of spawning salmon, has come a closely linked decrease in cultural activities and ceremonies relating to the salmon, including the decline in the spoken Karuk language.

Following the arrival of Europeans in North America and prior to their actual physical presence in the Klamath River country, through a combination of disease and various levels of oppression, Karuk people were bit by bit forced to change their ways of life. The Karuk language was so intricately tied to the

⁷⁰ Kroeber (1925), 1-72.

⁷¹ Kroeber, *Karuk Myths* (1925), 72 (reprinted in Kroeber and Gifford, 1980).

⁷² Unless otherwise noted, information in this section is from Salter (2010).

⁷³ Shipley in Sturtevant, ed. (1978), 84.

traditional life that, simultaneously, the Karuks little by little stopped using their traditional language. Moreover, when the Karuk stopped using their language they ceased certain traditional activities, and conversely, when certain traditional activities ceased, the disappearance of the language was accelerated.

Speaking of the Karuk language was actively discouraged. In the public schools, Karuk children were punished for uttering even a single word of their traditional language. Decades after the 19th-century practice of forcibly removing children from their homes and placing them in schools where their contact with their families was largely limited to summer vacations, Karuk elders recall being spanked with rulers and having their mouths washed out with lye soap when a public school teacher overheard them speaking the Karuk language. Thus, the Karuk language declined precipitously from the 1930s through the first half of the 20th century.

For more than a decade, the Karuk have worked to recapture and master their traditional language with an acute awareness of the centrality of language in their culture. This resurgent interest in language is seen by the tribal members as a precursor to changes in the cultural environment of the Karuk, including removal of the dams. A widespread awareness of the relationship between language and the environment is apparent in the fact that Karuk leaders in the struggle to remove the dams are also leaders in language restoration.

As early as the 1930s, ceremonial leaders recognized that the Karuk language was being lost. To preserve the tribal ceremonies, these ceremonies began to be conducted in English. Everything is translatable, but important elements of culture are lost in the translation. This is another way that diminishment of culture is tied to the reduction in use of the Karuks' traditional language.

Affected Trust Resources

In a government-to-government consultation meeting held on September 30, 2010, the Karuk Tribe asserted the following as tribal trust resources: water, fish, mollusks, riparian plants, wetlands, and all other plants and wildlife dependent on a healthy river and playing a role in Karuk ceremonies. This assertion was also coupled with the assertion that the United States has a trust responsibility to protect such resources and assure that such resources are managed for the beneficial use of the Tribe and its membership. In addition, the federal government has other responsibilities to the Tribe in the areas of social, educational, and health welfare. Finally, the federal government has a responsibility to uphold certain applicable federal laws such as the National Historic Preservation Act and the American Indian Religious Freedom Act. The Karuk Tribe, when asked if such trust resources were affected by the current dam operations, emphatically responded, "Yes." Those representing the tribe at the meeting went on to relate that water quality has diminished, with low fish returns and diminished water quality, and, being a tribe that lives alongside the river, their aesthetic quality of life has diminished. They rarely bathe in the river, and in an area with less available fish, tribal members are prone to consume less of the traditional food base and pay less attention to the culturally inherited management traditions of a "Salmon People." This has led to related impacts to tribal health such as higher rates of obesity, diabetes, heart disease, and stroke and mental diseases such as depression. The tribe has also noticed an increase in invasive species such as bluegill and perch. These fish come from the reservoirs behind the dams.

Since the construction of the dams on the Klamath River, the numbers of a variety of river species have plummeted. Some of these fish had traditionally been a source of food and cultural ceremonies and practices for the Karuk tribe, as well as a means of trade and income. Not only salmon, but also lamprey

eels and steelhead, have seen declining populations directly caused by the effects of the dams on water flow and temperature and on the river environment. Moreover, the dams are responsible for an epidemic in diseases that infect and kill many fish.

Cultural benefits of the use of traditional foods in contrast to supermarket foods include Karuk beliefs about healthfulness of the food and its provision of spiritual sustenance, use of food for its educational value, strengthening of cultural morale, economic benefits, and place in the social fabric of community life. Diet change may lead to a loss of culture and identity. Just as ceremonies surrounding fish and the more everyday activities of fishing, eeling, and gathering mushrooms and huckleberries, etc. create and maintain community ties and provide identity, so too do their absence and decline lead to further cultural disruption.⁷⁴

Salmon: Parasites and Blocked Passage

An estimated 650 miles of salmon habitat were lost with the placement of four dams in the Klamath River.⁷⁵ This is a significant amount of habitat no longer available for spawning and rearing. The construction of the Klamath Hydroelectric Project reduced miles of habitat as well as a very productive reach of snowmelt-fed river, which contributed to the diversity of spawning habitat. In addition to purely groundwater-driven systems like the Wood River and the Williamson River, Spring Creek and Klamath Lake, as well as the wetlands in and around Upper Klamath Lake, provided many diverse spawning habitats for salmon and other anadromous species.⁷⁶

One significant effect of the Klamath dams is how the natural process of seasonal warming and cooling trends in the river is altered by the presence of reservoirs. In effect, the reservoirs create a thermal lag in both the spring and the fall. This means that the river warms more slowly in the spring and cools more slowly in the fall. The result of these thermal affects is a delay in run timing for the migration of fall Chinook. For the Karuk, this translates into a shorter fall fishing season. Before construction of Iron Gate Dam, Karuk fishermen report that fishing started in late July. Since construction of Iron Gate Dam, fish do not typically arrive at Ishi Pishi Falls until early September. In addition to limiting the number of fishing days available in the fall, the opportunity to harvest spring Chinook salmon has been completely lost to the Karuk since construction of Iron Gate Dam.

Water Quality and Disease⁷⁷

Water quality plays a very significant role in Karuk tribal culture, because culturally relevant aquatic species are profoundly affected. Water quality also affects the ability of *Fataveenan*, or World Renewal priests, to conduct ceremonies. *Pikiavish* starts with the Spring Salmon Ceremony in early spring and continues throughout late summer into early fall. Key ceremonial participants bathe multiple times a day

⁷⁴ Norgaard (August 2004), 45.

⁷⁵ "Reintroduction of Anadromous Fish to the Upper Klamath Basin: An Evaluation and Conceptual Plan" (March 2006).

⁷⁶ Hamilton et al.

⁷⁷ Information in this section from Salter (2010).

in the Klamath River for 10 days in a row. This is the time of year when the blooms of the toxic algae, *Microcystis aeruginosa* are at their peak.⁷⁸

To avoid interfering with cultural and religious ceremonies and practices, the water conditions in the Klamath River must allow for specific species to be present in adequate supplies. This includes species that are consumed by participants such as salmon and lamprey as well as species used in ceremonies such as crayfish and willows. Water conditions must also be safe for what is usually termed “recreational contact” as well as human consumption.⁷⁹

Iron Gate and the other dams in question also negatively affect the Karuk by degrading the health of the river, which results in an increase in certain fish diseases. Scientists at Oregon State University conducted research on fish diseases in an attempt to understand how lifecycles of fish diseases such as *Ceratomyxa shasta* and *Parvicapsula minibicornis* play into the decline of fish in the Klamath River. They found that the current epidemic of these diseases on the Klamath is directly related to the presence of the dams and the proliferation of *myxozoid* parasites and the *polychaete* intermediate host.

There are two hosts for this disease: one is the fish and the other is the *polychaete* worm, which is a few millimeters long and thrives in stable environments where it is not exposed to abrasive water conditions such as peak flows and scouring as well as the seasonal and diurnal fluctuations that were present in the natural hydrograph. (*Ceratomyxa* are not present in the tributaries of the river.) The parasite is normally an upper basin and mainstem phenomenon; however, the dams have created favorable conditions for the parasite farther downstream. The dam causes the river to be extremely stable, meaning the water does not scour the surfaces. As a result, all the nutrients in the reservoir pass over the dam and provide a food source for these parasitic worms to thrive in the stable environment below the dam. When fish encounter the dam on their way upstream, some continue up Bogus Creek and a few enter the hatchery, but the majority stop and spawn immediately below the dam, where they become infected.

The worms leave their spores, which infect the juvenile fish, in the water. The combination of juvenile fish from a hatchery with the wild fish that are forced to spawn below the dam creates perfect conditions for the proliferation of the worms. The worms, in turn, infect the salmon and reduce the run. Furthermore, the reservoirs behind the dams are maturing and problems relating to fish diseases are multiplying. Removal of Iron Gate Dam will increase the scouring effect and lower the temperature in the upper river, both of which tend to suppress the lifecycle of the parasites.

Lamprey Eels: A Loss of Habitat for the Young

In addition to the salmon, lamprey eels and other species are harmed by the dams. Lamprey eels, like salmon, are anadromous. Juvenile lamprey, called *ammocoetes*, go through a larval stage that lasts up to seven years, during which time they live in the river sediments. However, they live only in fine sediments like sand, not in organic sediments such as detrital muck. The *ammocoetes* also require oxygen, available only in a dynamic river that has sandbars with water moving through. Within that sandbar are layers of organic material where the eels feed, but they need an active turnover of the sand. Near the town of Orleans, for example, the constantly changing sandbars below Orleans Bridge are a favorable habitat for

⁷⁸ http://www.swrcb.ca.gov/water_issues?programs/bluegreen_algae/index.html.

⁷⁹ Salter (2006).

lamprey. But below Iron Gate Dam there is no sand for the young lamprey eels because, instead of washing down the river, it becomes trapped in the reservoir behind the dam. The sand that is carried down from the surrounding slopes and the fine sediments that come from the tributaries are blocked by the dam. As documented by the Karuk tribe and by the U.S. Fish and Wildlife Service, sediments appropriate for lamprey rearing are absent for eight miles below Iron Gate Dam, at Cottonwood Creek.

Karuk tribal members who harvest lamprey eels report an extreme decline in their numbers. The lamprey have traditionally been an important food source for the Karuk and have augmented the salmon in their diet, particularly as salmon has become scarce. Removing the dams will restore the natural sedimentation process that occurred before the dams were built will help bring back the lamprey populations.

Steelhead: A Failure to Migrate

Prior to construction of dams on the Klamath, including Iron Gate Dam, steelhead spawned freely not only in the Klamath and its tributaries, but in Klamath Lake and beyond. In interviews with Karuk tribe members, they refer to a pattern of loss of runs of steelhead that were once vigorous, supplying fish even at times of the year when runs were no longer taking place. Furthermore, the steelhead eat juvenile salmon; therefore, without a healthy salmon run there will not be a healthy steelhead run.

One prevalent theory about the loss of migratory steelhead is that steelhead that are produced in the hatchery at Iron Gate is a resident population. From the hatchery, they are released into a nutrient-rich system immediately below Iron Gate, where the temperatures are relatively warm but still suitable for steelhead. Essentially, the presence of the dam has produced what is called a "tail water fishery" just below it. Steelhead are an opportunistic species. If they don't have to migrate, they are not going to. They can be a resident fish or they can be an anadromous steelhead. If there is no reason for steelhead to migrate, meaning the density is low enough so that there is plenty of food available, they will not leave the vicinity of the dam. Instead, they will form a resident population. There are no triggers to force them to migrate. They have a stable source of water below the dam that doesn't fluctuate in temperature; they have enough food to keep them there; and no other steelhead are coming from downriver to compete with them, increase the densities, and compel them to move. The result is a resident population of non-migratory steelhead.

This lack of migrating steelhead relates to the local economy and the well-being of the Karuk. Steelhead fishermen from outside the area pay a great deal for the privilege of fishing for the Klamath steelhead, and this brings money into the local economy to the benefit of the Karuk. In the late 1960s and early 1970s, steelhead fishermen lined the banks of the Klamath River. The Klamath River steelhead were a desirable sports fish through the 1970s, but today the numbers are so low that the sport is no longer viable.

Contaminated Mussels

Much less attention has been paid to mussels than to the spring salmon. However, freshwater mussels have been both an important food source for the Karuk and an essential part of tribal ceremonies. During the early 20th century describes how mussels were gathered late in the season when the river flows were low. Unfortunately, this is the time of year when the mussels are highest in contamination. In other words, freshwater mussels are most contaminated at the time of year when people are most likely to be gathering and using them both for food and for ritual. Even though there are few to be found, people continue to use

freshwater mussels as a food source, and their use in ceremonial celebration has been greatly reduced. Historically, in addition to a food source, women used the shells for spoons, tools, and jewelry.⁸⁰

HEALTH IMPACTS

The Karuk have been denied traditional food sources, such as salmon, over the last 150 years, and have increasingly adopted Western foods. This dietary shift has increased diabetes, heart disease and obesity.⁸¹ The decrease in availability of traditional foods, including salmon, trout, eel, mussels, and sturgeon, is responsible for many diet-related illnesses among Native Americans, including diabetes, obesity, heart disease, tuberculosis, hypertension, kidney problems, and strokes.⁸² These conditions result from the lack of nutrient content in foods consumed in place of the traditional foods such as salmon, as well as from the decrease in exercise associated with fishing and gathering food.

The health of many people, including the Karuk, is closely linked to the health of the river. The three largest tribes in California eat fish from the Klamath River, and the declining river system is directly related to the inability of tribal members to continue eating traditional diets. Although early anthropologists described the Klamath River tribes as some of the wealthiest people in California, since contact they have become some of the poorest. Given the economic impoverishment of the region, people generally have little access to alternative healthy foods. One result is that the Klamath corridor has some of the highest rates of hunger in California and the lowest incomes. Local populations have traditionally had much of their food supplied by the Klamath River. This continues to be the case, but with the decline in river health this becomes increasingly difficult. Given the economic impoverishment of the region, there is no general access to healthy alternative foods without subsistence fishing and gathering. As a result, hunger is significantly related to the presence and effects of the dams, and these effects are directly connected to the traditional subsistence economy.

The decline of salmonids and other tribal trust fish populations in the Klamath River basin has altered the diets of the tribes along the river and its tributaries. Historically, consumption of fish by the Karuk tribe was estimated at 450 pounds per person per year, whereas in 2003 the Karuk people consumed fewer than 5 pounds of salmon per person.⁸³ In 2005 over 80 percent of Karuk households surveyed reported that they were unable to harvest adequate amounts of eel, salmon, or sturgeon to fulfill their family needs.⁸⁴ Furthermore, 40 percent of Karuk households reported that there are fish species that their family historically caught that are no longer harvested.⁸⁵

Diabetes and Other Diseases

The estimated diabetes rate for the Karuk Tribe is 21 percent, nearly four times the U.S. average, and the estimated rate of heart disease for the Karuks is 39.6 percent, three times the U.S. average.⁸⁶ Spring Chinook salmon represented a large volume of healthy food for the Karuk people until the 1960s and

⁸⁰ Westover (May 2010), 5.

⁸¹ Norgaard (2005).

⁸² Joe and Young (1993), 9, as cited in Norgaard (2003).

⁸³ Norgaard (2005), 13.

⁸⁴ Norgaard (2005), 4; in Karuk Department of Natural Resources (October 26, 2007).

⁸⁵ *Ibid.*, 7.

⁸⁶ Norgaard (2003), 40; in Karuk Department of Natural Resources (October 26, 2007).

1970s. Despite that rates are now four times the U.S. national average, diabetes is a recent occurrence in the Karuk population. In the 2005 Karuk Health and Fish Consumption Survey, tribal members were asked when diabetes first appeared in their family. Figures 1 and 2 below show the close association between the disappearance of this food source and the rise of diabetes in Karuk families.

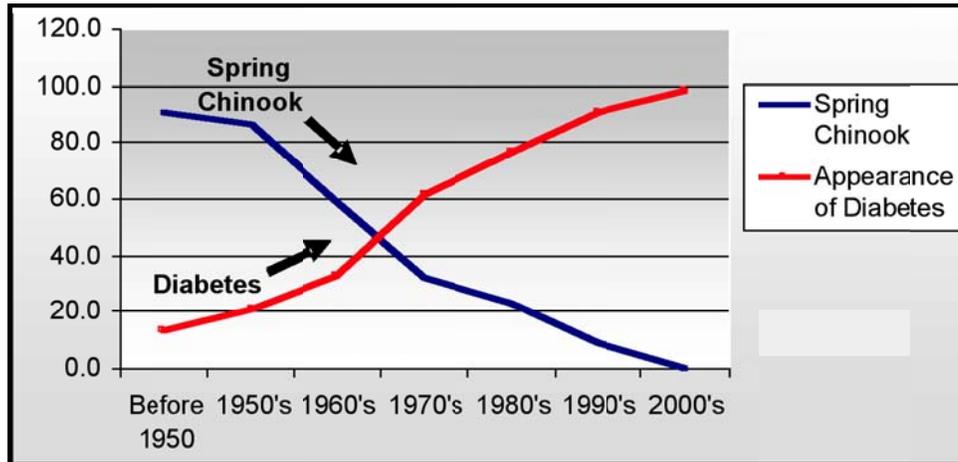


FIGURE 1. Disappearance of salmon and rise in percentages of families with diabetes among the Karuk

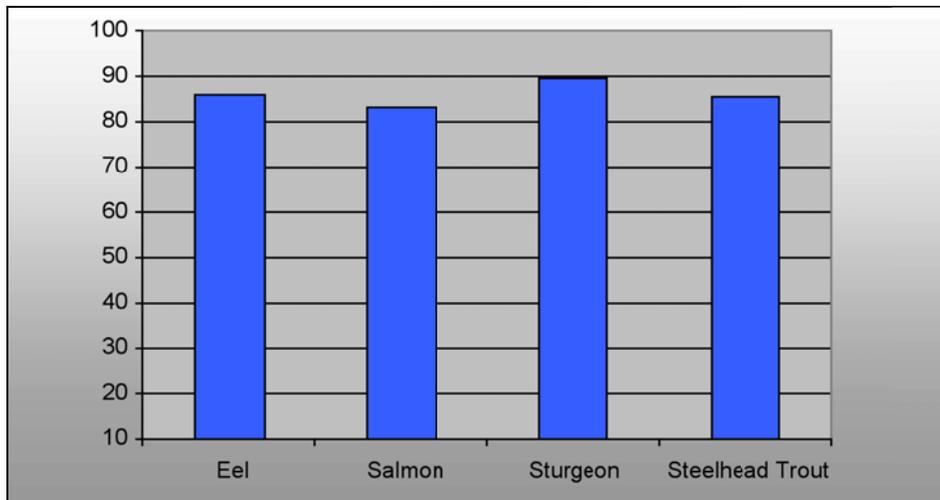


FIGURE 2. Percentage of Karuk households that could not gather adequate supplies of eel, salmon, sturgeon, and steelhead to meet family needs in 2005⁸⁷

⁸⁷ Norgaard (2005).

In a study reported in 2005, Karuk families were asked a) when did diabetes first appear in your family and b) when did spring salmon stop playing a significant role in your family's diet. As shown by the graph, over 90 percent of reporting families say that before 1950 spring salmon played a significant role in the family diet and less than 15 percent reported occurrence of diabetes. By 2005, no families claimed that spring salmon played a significant role in the family diet and nearly 100 percent reported occurrence of diabetes (Norgaard 2005).

The diet-related diseases that have recently appeared in the Karuk population at such alarming rate are costly from an economic standpoint. According to a recent study by the American Diabetes Association, the nation spends \$13,243 in health care costs every year on each person who has diabetes, compared to \$2,560 per person for people who don't have diabetes.⁸⁸ Direct costs include expenses such as doctor visits, medications, hospitalizations, hospice care, and emergency room visits. These are not the only costs of these conditions. Applying the best available data on average national expenditures of \$13,243 to the number of Karuk tribal members living in the ancestral territory with diabetes in 2004 (394 individuals) yields an annual cost of over \$5.2 million.⁸⁹

Emotional and Social Health

Difficulty in meeting basic needs can result in overwhelming physical and psychological stress.⁹⁰ Traditionally, fishing is done by Karuk men. With the loss of the salmon comes a loss of a man's sense of pride in being able to provide food for his family and tribe. For a tribe that has called itself The People of the Fish, there is an indisputable loss of identity when there are no fish. For a people whose belief system tells them they have a specific role on earth, that they have a predefined relationship with nature that needs to be honored, there is an emptiness when they are unable to fulfill that role. For a tribe whose interactions with other tribes were based on barter and trade of fish, and for families, where children and elders provided food to each other and outsiders, an emptiness and disconnection arises.

Living in a changed world where wildlife is becoming scarce and the rivers polluted, it is sometimes hard for young people to understand the ways of their parents and grandparents. They wonder why the tribe focuses on ceremonies that revolve around periodic fish runs and ritual eating of salmon when the availability of fish is so erratic. Never having seen it themselves, they don't understand that in the past there could be eight yearly runs of salmon in the Klamath when all they see is one-half of a fall run. Without tradition as an anchor, young people are sometimes drawn to gangs to establish a feeling of belonging, and they are drawn to the cities where they find an abundance of diversion and riches.

Ceremonies surrounding fish and the more everyday activities of fishing, eeling, and gathering food in the forest also create and maintain community ties and provide a sense of identity. Karuk cultural biologist Ron Reed described how the activity of fishing is a forum for passing on both physical qualities, such as balance, and cultural tradition to his sons: "Fishing down at Ishi Pishi Falls you learn how to gain your balance. You learn the traditional values down there, the taboos and things like that, because it is a sacred fishery and there are certain rules that you abide by." The activity of fishing provides an opportunity for young boys to spend time with and learn from fathers and older members of the community. Learning to

⁸⁸ American Diabetes Association (2003).

⁸⁹ Norgaard (2005).

⁹⁰ Ibid., 36.

dip net fish also serves as an informal rite of passage as boys begin early with easier tasks and move through a sequence of skills on their way to dipping fish. Another tribal member, Harold Tripp, described how “you start out by packing the dipper’s poles, and then you work your way up to clubbing salmon for the fisherman and packing fish, and then you start dipping, if you can get in there.” Karuk Leaf Hillman stated:

Cultural practices such as feeding any visitor to one’s home and the associated insult (that requires payment to fix) that results from the visitor’s refusal to partake of food are still prevalent today among many Karuk families. These practices remain strong with many Karuk individuals and families, and also permeate traditional and contemporary Karuk gatherings of all types. It is a high order obligation and responsibility of every Karuk ceremonial leader/dance owner to provide food for everyone in attendance, at every meal or whenever they arrive in camp, throughout the duration of the ceremony. These cultural norms are also illustrated by the contemporary practice of the Karuk tribal Council to feed anyone who is in attendance at every Council meeting. These practices reflect the continuing important role that food plays in Karuk culture and identity. Unfortunately, denied and/or limited access to nearly all traditional Karuk foods means that other nontraditional foods are substituted. Therefore, these cultural practices, in fact, contribute to many of the health problems experienced within our population and are detrimental to the overall well being of Karuk people.⁹¹

Other consequences from the lack of traditional foods to the social structure are equally significant. One outcome of diabetes is early death due to associated conditions (e.g., heart disease and kidney failure). When elders die young they are not available to pass information and love on to the younger generations. Reed describes the disruption to the social order that comes from losing elders in a family:

When people are denied access to traditional food, their group identity and emotional well-being are affected. Both ceremonies and daily activities surrounding food provide meaning and identity that are fundamental to emotional well-being and cultural continuity (Kuhnlein and Chan 2000). Marlene Echohawk, a researcher with Indian Health Services, describes how activities surrounding traditional foods provide “strength in unity of purpose, philosophy and belief systems in that the tribal structure increases the sense of identity from a psychological, emotional and social viewpoint” (1997, 48 60). In her study of access barriers to food items and food preparation for Plains Indians, Betty Cantrell describes how even the preparation of traditional foods is healthy for people both physically and mentally:

A great deal of human energy must be expended to dry foods: the fruits, vegetables and berries must be gathered in the wild; the game must be hunted or trapped; the foods must be prepared for drying. All of these activities provide healthy exercise. In addition, it was believed that the emotional state and attitude of the person preparing the food was passed along to those who ate the food. Therefore, the cook tried to maintain a positive attitude before and during food preparation and songs of celebration were sung during food preparation.⁹²

The ability to gather food from the surrounding ecosystem also reaffirms a sense of place and belonging, and a sense that nature is caring for them. This sense of connectedness is visible in the belief Karuk

⁹¹ Leaf Hillman; in Norgaard (2004), 46.

⁹² Cantrell (2001), 71; in Norgaard (August 2004), 47-48.

people hold that the salmon return home to offer themselves as food to the people. The people, in turn, have a responsibility to the fish to sustain the species. Tribal member Harold Tripp recalled that “my grandmother told me that we were responsible to get fish to our people—in order for the fish to survive, we’re supposed to.” The act of eating salmon from the Klamath River affirms sense of place, identity, connection, and community. This orientation draws individuals into relationships of responsibility to care for the fish. Such a world view and set of relationships are in stark contrast to the separate, individualistic modality of the dominant culture in which plants and animals are “resources” and people are expected to watch out for their individual interests. Relationships between Karuk people and plants and animals fulfill profound mental, emotional, and spiritual functions. In the absence of these food species, traditional activities such as dip net-fishing, eeling, or berry picking come to an end.⁹³

Many native people also believe that health is influenced by the interactions between people and natural elements, because humans originated from and with the assistance of beings of the natural world.⁹⁴ Whereas the Western medical model emphasizes disease, Native American cultures traditionally define sickness as imbalance in the physical, spiritual, emotional, and social realms. Within this framework, stress, grief, or anxiety could weaken well-being and make one vulnerable to disease. For example, in Cantrell’s study of the Plains people, many participants cited examples of themselves or others being diagnosed with diabetes during or after a stressful life event. This framework fits with the observations of Western science. Loss and severe reduction in access to traditional food sources affect other indicators of life stress, including, for example, rates of physical conditions such as tuberculosis, ulcers, and evidence of emotional stress such as suicide, depression, and high-school dropout rates. Poor health is also linked to disproportionate unemployment, poverty, and low socioeconomic status.⁹⁵

Other social issues that might be related to diet and a thriving culture are more subtle. For example, suicide in Native Americans is notable not only for its high rate but also for its pattern among young people (rates are highest for those under 35), compared to the non-Indian U.S. population, where suicide is more common in older age groups. Although there are differences from tribe to tribe, the overall suicide rate for Native Americans is one-and-a-half times the national average. As a solution, researchers note that “renewing interest in traditional Indian identity, values and customs should help Native American adolescents achieve a positive balance between the strength of their people and opportunities available in the larger society.”⁹⁶

Kuhnlein and Chan described “multiple socio-cultural values that contribute to mental health and cultural morale.”⁹⁷ For example, difficulty in meeting basic needs results in overwhelming physical and psychological stress. Brooke Olson recounted how “some Native people living a Western lifestyle (e.g., the Dogrib) may experience more stress and more difficulty in adjusting to different life ways, thus making the body less capable of regulating blood sugar levels, a condition that if prolonged can lead to diabetes.”⁹⁸

⁹³ Norgaard (August 2004), 48.

⁹⁴ Trafzer and Weiner (2001), viii; in Norgaard (August 2004).

⁹⁵ Kauffman and Joseph-Fox (1996); in Norgaard (August 2004), 48-49.

⁹⁶ Beauvais (2000), 110; in Norgaard (August 2004), 49.

⁹⁷ Kuhnlein and Chan (2000), 615.

⁹⁸ Brooke Olson (2001), 166; in Norgaard (August 2004), 49.

Economic Health

The destruction of the Klamath River Fishery has led to both poverty and hunger. Prior to contact with Europeans and the destruction of the fisheries, the Karuk, Hupa, and Yurok tribes were the wealthiest people in what is now known as California. Today they are amongst the poorest. This dramatic reversal is directly linked to the destruction of the fisheries resource base. Poverty and hunger rates for the Karuk Tribe are among the highest in the state and nation. Median income for Karuk families is \$13,000. The poverty rate for Karuk tribal members in Siskiyou County is 88.4 to 91.9 percent.

The devastation of the resources, especially the fisheries, is also directly linked to the disproportionate unemployment and low socio-economic status of Karuk people today. For thousands of years before the dams were built, and before mining and overfishing changed the ecosystem of the Klamath River, the Karuk people subsisted off salmon year around.

DAMMING OF THE RIVER

For the Karuk, one of the most significant impacts of the Klamath dams is the way that the natural process of seasonal warming and cooling trends in the river is altered by the presence of reservoirs. In effect, the reservoirs create a “thermal lag” in both the spring and the fall. This means that the river warms more slowly in the spring and cools more slowly in the fall. The result of these thermal effects is a delay in timing of runs for the migration of fall Chinook. For Karuk, this translates into a shorter fishing season in the fall. Before construction of Iron Gate Dam, Karuk fishermen report that fishing at Katimiin started in late July. Since construction of Iron Gate Dam, fish do not typically arrive at Ishi Pishi Falls until early September. In addition to limiting the number of fishing days available in the fall, the opportunity to harvest spring Chinook salmon has been completely lost to the Karuk since construction of Iron Gate Dam.

As early as 1931, based on research initiated in 1919, John O. Snyder of Stanford University wrote what he termed a “digest of the work accomplished in a salmon investigation conducted under the authority of the Bureau of Commercial Fisheries of the California Division of Fish and Game.”⁹⁹ Snyder quoted from an undated paper by R.D. Hume, who reported:

In 1850 in this river during the running season, salmon were so plentiful, according to the reports of the early settlers, that in fording the stream it was with difficulty that they could induce their horses to make the attempt, on account of the River being alive with the finny tribe. At the present time the main run, which were the spring salmon, is practically extinct, not being enough taken to warrant the prosecution of business. The River has remained in a primitive state, with the exception of the influence which mining has had, no salmon of the spring run having been taken except a few by Indians ... and yet the spring run has almost disappeared, and the fall run reduced to very small proportions, the pack never exceeding 6,000 cases, and in 1892 the River produced only 1,047 cases.¹⁰⁰

⁹⁹ Snyder (1931), as quoted in Salter (2010).

¹⁰⁰ Snyder (1931), 19.

Although nearly a century has passed since this research was begun, the river dynamics that Snyder discussed are still affecting Klamath River salmon. He claimed that, even during this early period, observations of salmon depletion were ignored; he wrote that some representations of commercial fishing even claimed that salmon runs were “gradually building up.” This is an early example of a recurring tendency of vested interests on the Klamath ignoring the reality of what was happening to fish stocks to promote their own positions—in this case the interest is commercial fishing. Snyder described early depletion of Klamath salmon concurrent with the arrival of non-Indian people to the area during the Gold Rush, when large numbers of spawning salmon were taken with spears and other means. Further cementing the fate of the salmon in the Klamath, by 1912, three processing plants with no fishing restrictions had been built in the vicinity of the mouth of the Klamath.¹⁰¹

Snyder was unhesitant to extrapolate from the circumstances of his time to what might occur in the river in the future:

The Klamath River and its principal tributaries are fairly free from obstructions below the large dam at Copco. Projects have appeared in the recent past, which if carried through would have blocked the stream to most of its migrating fish. Others will come in the future, and eventually the anadromous fish may disappear from the River.¹⁰²

Degraded Water Quality¹⁰³

Degraded water quality in the Klamath River basin, including the seasonal presence of algal toxins in the Klamath River and reservoirs, has impaired the ability of the Karuks to use the water for cultural purposes. Known and/or perceived health risks associated with degraded water quality have resulted in the alteration of cultural ceremonies to exclude or limit ingestion of river water. Additionally, known or perceived risk of exposure to degraded water quality conditions during ceremonial bathing and traditional cultural activities such as gathering and preparing basket materials and plants for other purposes has resulted in an impairment of cultural use.

According to Karuk cultural biologist Ron Reed,¹⁰⁴ the World Renewal Ceremony is held on the Klamath River at Clear Creek, Somes Bar, and Orleans during July, August, and September of each year. The medicine man, who leads the ceremony, walks 14 miles through the ridges and hills along the Klamath River and is joined halfway through his journey by children and adults of the tribe who follow him the rest of the way for good luck. When the medicine man reached the Klamath River at the end of this walk, he traditionally drank water from the river to complete the ceremony. This is sometimes not done as often during ceremonies because blooms of *Microcystis aeruginosa* lead to health warnings along the river. However, children are still known to jump in the river and drink the water.¹⁰⁵

¹⁰¹ Salter (2010).

¹⁰² Snyder (1931), as quoted in Salter (2010), 50.

¹⁰³ Unless otherwise indicated, information in this section is from Karuk Department of Natural Resources (October 26, 2007).

¹⁰⁴ Reed (2006).

¹⁰⁵ Ibid.

Bathing in the river is an important part of most ceremonies.¹⁰⁶ For example, bathing in the Klamath River and its tributaries is a requirement for participants in the Brush Dance Ceremony.¹⁰⁷

Bathing is also associated with funeral services, subsistence practices, recreational swimming, courtship, and for individual hygiene.¹⁰⁸ Bathing associated with funeral rituals occurs year around and includes preparation for burial and purification after burial.¹⁰⁹ The Karuks historically bathed in the Klamath River; however, in more recent years degraded water quality conditions during the summer have forced them to take precautionary steps and avoid contact with the water.¹¹⁰

Willow roots, wild grape, cottonwood, and willow sticks are collected by Karuk tribal members in the riparian zone of the Klamath River and used to make baskets.¹¹¹ Traditional collection of these basketry materials often involved wading in the water,¹¹² and further contact occurs when the material is washed and cleaned in the water.¹¹³ Willows are peeled by mouth following cleaning with river water,¹¹⁴ and plants are collected for food, medicine, materials, and other

¹⁰⁶ Curtis (1924), as cited in Sloan (2003), 28.

¹⁰⁷ Sloan (2003), 16.

¹⁰⁸ Reed (2007).

¹⁰⁹ Curtis (1924), as cited in Sloan (2003), 28.

¹¹⁰ Reed (2007).

¹¹¹ Ibid.

¹¹² Sloan (2007a).

¹¹³ Reed (2007).

¹¹⁴ Reed (2006).

TABLE A-1. Karuk, Yurok, and Quartz Valley Tribes Cultural Beneficial Uses (CUL and FISH) of the Klamath River and Tributaries.⁴

RESOURCE	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CUL												
Plants ^{1,3}												
Fish ¹												
Fishing ^{1,2}												
Water-drinking, steaming, cooking ^{1,3}												
Rocks ¹												
Bathing ²												
Boating ^{1,2}												
Wildlife ¹												
Hunting & Trapping ¹												
River & Trail Access ¹												
Training ²												
Swimming ²												
Prayer & Meditation ¹												
Fish Dam ^{1,2}												
Washing ¹												
Meditation ¹												
Wood Gathering ¹												
Tanning Hides ¹												
Roots ^{1,3}												
Sticks, Shoots & Bark ¹												
Weaving ¹												
Shells ¹												
First Salmon Ceremony ^{2,3}												
World Renewal Ceremony ^{2,3}												
FISH												
Plants ^{1,3}												
Fishing ^{1,2}												
Eeling ^{1,2}												
Shellfish ^{1,2}												
Water-drinking, steaming, cooking ^{1,3}												
Rocks ¹												
Bathing ²												
Boating ^{1,2}												
Wildlife ¹												
River & Trail Access ¹												
Indicates time of use.												

1-Wading, 2-Full submersion, 3-Ingestion of water

4-Tributaries used by the tribes of the Klamath river for cultural purposes include many of those from the Scott River down to the mouth of the Klamath river. Additionally, the Quartz Valley tribe used all tributaries that flow into the Scott and Shasta rivers.

Note: This table is not an exhaustive list of all activities covered under the CUL and FISH beneficial uses. Sources: Bowman 2006; Norgaard, 2006; Reed, 2007; Sloan ,2007a, 2007b.

cultural functions. Gathering plants or plant materials involves wading and contact with the Klamath River. Ingestion of water can occur because plants are often cleaned in the river water and water is consumed with medicinal plants. Given degraded water quality conditions, ingestion of water may pose a potential health risk.¹¹⁵

Algae Blooms

Dams deny salmon access to habitat and degrade water quality by heating the river and hosting algae blooms. These algae blooms are also dangerous for people. In an effort to better understand and describe the water quality problems the dams create, Karuk Water Quality staff began sampling the reservoirs to learn more about the blue-green algal blooms that occur each summer. What they found could lead to the closure of the reservoirs during the summer.¹¹⁶

Blue-green algae, or *cyanobacteria*, come in many varieties—some benign, some toxic. What the tribe discovered is a variety called *Microcystis aeruginosa*, which secretes a potent a liver toxin and a proven tumor promoter called *microcystin*. Although the United States EPA does not have guidelines for acceptable levels of *microcystin*, the World Health Organization (WHO) does. According to the WHO, algal levels of 100,000 cells/milliliter of water represent a moderate health risk for recreational users. The tribe found sample sites with over 100 million cells/ml—1,000 times greater than the WHO moderate-risk levels.¹¹⁷

The symptoms of *microcystin* poisoning include skin rash, eye irritation, nausea, vomiting, diarrhea, mouth ulcers, liver damage, kidney damage, and in extreme cases, liver failure, tumors, and death. Studies suggest that the toxin can accumulate in the flesh of fish; however, the tribe has not determined whether the toxin is present in Klamath salmon.¹¹⁸

The largest contributor of water pollution comes from the Klamath River itself. Now, because of upriver actions such as the construction of dams, inefficient water usage, diversions, and polluted runoff, many salmon species and seasonal runs are in danger of becoming extinct.¹¹⁹

The Klamath River can get as high as 80 degrees Fahrenheit (25°C) in the summer, when migrating adults and growing juveniles need temperatures below 68 degrees (16.5°C) to survive and grow properly. Elevated temperatures and nutrient levels from agricultural runoff cause massive amounts of algae and other plant life to grow and flourish within the river. This plant life decays at night, using up oxygen that the salmon need to survive, decreasing dissolved oxygen levels to as low as 2-4 mg/l. Fish become stressed when dissolved oxygen levels fall below 5 mg/l. Prolonged stress stops growth, increases susceptibility to disease, and eventually causes death.¹²⁰

The dams are responsible for a drastic reduction in spawning habitat and many other changes in the river system, such as water quality, water temperature, and flow regimes. All of these changes have created an

¹¹⁵ Sloan (2007a); Reed (2007).

¹¹⁶ From Karuk tribe document: <http://www.karuk.us/karuk2/press/campaigns>.

¹¹⁷ Ibid.

¹¹⁸ Ibid.

¹¹⁹ <http://www.karuk.us/karuk2/departments/natural-resources/somes-bar-water-quality>.

¹²⁰ Ibid.

environment in which it is difficult or impossible for many species to flourish. In addition to environmental effects, the changes in the river caused by the dams directly affect human activity. For thousands of years the Indians who depend on the river have been part of a functioning social, economic, and cultural health system that, like the salmon, is dying. Most important to the people was the spring salmon, because it is a particularly healthy fish with a high fat content that returned to the river at the time of year when people had the greatest need for food.

APPENDIX F

Quartz Valley Indian Community

Appendix F. Quartz Valley Indian Community

FISHING

Salmon populations in the Scott River have noticeably declined in the last several decades.

TRADE AND BARTER

Traditionally, the Shasta people invited members of the Klamath Tribes to fish in the Shasta Nation's aboriginal territory. Members of the Shasta Nation also traded fish to members of the Klamath Tribes in a longstanding commerce along the Klamath River.¹²¹

Quartz Valley people have traded deer meat for salmon from downriver Indians.

¹²¹ 20090619-0072 FERC 6/16/09; letter from Shasta Nation to FERC.

APPENDIX G

Cultural Practices of the Klamath Tribes

Appendix G. Cultural Practices of the Klamath Tribes

This section is a description and history of the Klamath Tribes. The information is drawn from a document provided to the Cultural/Tribal Sub-team by the Tribes.

For present purposes one of the most salient roles of the Klamath Tribes is as absorber of the externalized costs of the Klamath Hydroelectric Project. However, this is but one of the policies that have had a defining impact on the Klamath Tribes. This section discusses the costs of the Hydro Project imposed on the Tribes. It then examines very briefly the impacts of the Termination Act and its repudiation in the Restoration Act, as the policies expressed there have shaped the Tribes' world. That is followed by a closer look at the history of the Tribes and their interaction with the fisheries of interest.

EXTERNALIZED COSTS OF THE KLAMATH HYDROELECTRIC PROJECT

The Klamath Tribes have paid a very dear price for the Klamath Hydroelectric Project. It is of course impossible to construct something like the Project without imposing some costs on the natural resources of the River including its fisheries. In the case of the Klamath Hydro Project, the vast bulk of those costs have not been calculated into the cost of constructing the Project. Nor has it been figured into the cost of the power generated by the Project. Instead, it has been externalized from the Project itself and imposed instead on the Tribes whose use of the River's resources is sacrificed.

In short, part of the incalculable value of the Klamath River as a resource for human life, which was guaranteed to the Tribes in the Treaty of 1864, has simply been taken from the Tribes' and given instead to the power company.

A. The Tribal fishery and the Treaty guarantee. Historically, the Klamath Tribes' world was based in significant part on plants, fish, and upland animals associated with the water resources of the Klamath Basin which was their homeland. These things provided for the physical and spiritual well-being of the native people. Salmon and steelhead were no exception to this life. Various aspects of the Klamath people's interaction with these resources is set out in detail later in this section—from finding the fish, to capturing them, to the social, dietary, and economic importance of the fisheries.

The importance of the Tribes' fisheries was apparent and was well known to the United States when the time came to treat with the Tribes. At the time of the Treaty, the United States had neither the desire nor the ability to support the Tribes. So in the Treaty both parties agreed that the Klamaths could—indeed must—continue their hunting and fishing way of life, albeit with a smaller homeland than they had previously enjoyed. Thus in the Treaty the Tribes ceded about 20 million acres, but retained about 2.2 million which became known as the Klamath Indian Reservation. The Tribes also retained their historic harvest rights including fisheries, and the water necessary to support those fisheries.

B. Construction of the dams without fish passage. The Tribes' way of life continued to rely on Treaty-protected fisheries, including salmon and steelhead, through the end of the 19th Century and into the 20th, when the California Oregon Power Company (COPCO) began design and construction of dams on the Klamath River for power generation.

The first such dam, known as COPCO I, was designed to be put into operation in about 1917. During the design and permitting phases, there was no consultation with the Tribes or with anyone who had the

Tribes' interests in mind. When it became clear that the dam would shut off anadromous fish migrations completely, objection was raised not only from the Indian community in the Upper Basin, but from the non-Indian community as well. The loss of a resource as significant as anadromous fish was alarming throughout the Upper Basin.

In the face of these concerns and objections, COPCO officials provided written assurance to the Tribes, through the Bureau of Indian Affairs, that fish passage would be provided at COPCO I. In the end, though, the power company simply reneged on that promise and the dam was completed without the promised fish passage.

The reasons for COPCO's reneging were never explained directly. It seems most likely that, once the height of COPCO I was determined at around 180 feet, the company simply decided it was too expensive to build a fish ladder and to install fish screens. Instead, the company built a fish hatchery downriver to help replace fish lost due to the fact that COPCO I shut off about half the spawning and rearing areas for the fish. Of course, a downstream hatchery did nothing at all to replace the fish which were now extirpated from the Upper Basin.

C. Externalization of the costs of power generation. As the outcry over the loss of anadromous fish in the Upper Basin demonstrated, the construction of the dam was not without cost to the River's resources. At the time the dam was built, there was no requirement that such costs be included or internalized by the dam's owners. They were responsible only for the direct costs of constructing the dams and developing the power distribution system. This has remained the case until the present day.

As a result, the power company and its customers have enjoyed power whose *real* price is never contemplated. The enormous cost of the lost fishery has been absorbed by the Tribes for nearly a century, while the power company and its customers enjoy what is essentially a subsidy provided by the Tribes. This continues to be the case today, in plain disregard of the commitments of the Treaty.

THE "TERMINATION" ACT

A second unique role of the Klamath Tribes is their selection by Congress to be guinea pigs for the policy of "termination." This was a policy, now repudiated as a failure, intended to forcibly assimilate Indian people into the rest of American life.

A. The Klamath Tribes' success and self-sufficiency. As explained above, at the time of the Treaty the U.S. had neither the resources nor the desire to support the Indians on their reduced land base. The U.S. knew the Tribes' hunting, fishing, trapping, and gathering had supported the Indians for millennia, and the U.S. sought to incorporate that reliance into the Treaty. And the Tribes, for their part, did not want to give up the resources, lands, and lifeway that had sustained them forever. So in the Treaty, the parties provided that the Tribes could—indeed must—continue their harvest activities and the way of life that had supported them for millennia, albeit now on a smaller homeland.

In spite of these obstacles the Klamaths thrived on the remaining fish and wildlife resources, and recreated their vigorous economy based in large part on careful timber management. They soon became one of the nation's wealthiest and strongest tribes. *In 1953 the Klamath people were nearly at economic parity with mainstream society.* Tribal individual income was 93% of the majority culture. The Tribes were, moreover, no burden on taxpayers. The Klamath Tribes were the only tribe in the country paying

their BIA administrative costs. In 1957 there were only four Indians on welfare in the Klamath Basin – three on old age benefits and one on disability. The Klamath Tribes were by every measure not only no burden, but a significant contributor to the local economy.

B. Termination: the policy. Unbeknownst to the Tribes, they had become too successful. Others coveted the Tribes' most valuable natural resources – a million acres of land with its vast ponderosa pine forests. The stage was set for the dispossession of the Klamaths in the early 1950s when the Tribes were selected as guinea pigs for the disastrous experiment in federal-Indian policy called “Termination.” Termination was a federal policy adopted by the United States Congress in 1953 on its own initiative, without the request of any tribe and over the objections of almost all tribes and Indian organizations of the day. The purpose of the policy, in its simplest terms, was to force the assimilation of Indian people into the mainstream American culture by the abolition of tribal governments, the eradication of reservations and all tribal holdings of lands and assets, and an array of other effects. While it may be jarring to say so, it cannot be denied that, having gotten the benefit of the bargain from the treaties with Indian nations, the federal government no longer wished to uphold, even in the smallest degree, its side of the bargain.

Termination was essentially the condemnation of the Klamath Indian Reservation, with ownership of the land transferred to the United States (USFWS and USFS) and payment to each tribal member. But Termination also took exquisitely important intangible assets from the Klamath people, as well as the tangible. The intangible was the Klamaths' identity as an Indian nation among the great circle of recognized Indian tribes of the United States and the Americas. The loss of this identity did incalculable psychological damage to the Klamath people. They were inappropriately viewed as having “sold out” their Indian heritage. The tangible asset that was taken was the extensive reservation of over 880,000 acres of ponderosa pine forests—the reservation lands and resources that embodied the sacred homeland and source of sustenance for these proud and resourceful people. The timber resource by itself would, over the next 40 years, produce in excess of \$450 million in revenues for the United States.

It is difficult to overstate the disastrous impact or, frankly, the brutality of these actions. Congress first reached the dubious conclusion that the Klamath people were “ready” for termination because they had achieved sufficient sophistication in the “arts of civilization” that they were prepared to assimilate into the majority culture. Meanwhile the federal agencies responsible for implementing termination were constructing their policies on the precisely opposite conclusion that fully one-half of the adult Klamaths were incapable of managing their own affairs without a legal guardian. Undaunted by this extraordinary inconsistency, termination proceeded to the realization of its actual purposes – the dispossession of the Klamath people from their rich and prosperous homeland and the removal of the Tribes and its members from federal recognition. Not surprisingly, the two entities that most closely considered the likely outcome of Termination—the BIA and the Stanford Research Institute—concluded that Termination would be disastrous, but their unwelcome warnings went unheeded.

A stunning corollary inconsistency of the Klamath termination legislation was the taking of the Tribes' land. Any validity to the conclusion that the Klamath people may have been prepared for release from federal supervision was dependent solely upon the assessment that they were one of the most economically self-sufficient tribes in the country. But that self-sufficiency was directly related to the revenues generated by the tribal timber, ranching and related industries—that is, by the land itself.

In this brutal irony, it was determined that, because the Klamaths were self-sufficient, Congress should take from them exactly the resource—their land base—that underwrote their self-sufficiency. It surpasses credulity and taxes generosity to try to put a positive interpretation on Termination.

C. Restoration and repudiation of Termination. The Termination policy was, in a relatively few years, repudiated as a federal policy. Not only had it proven ineffective, it had proven disastrous. The United States put in place a process for possible “restoration” of federal recognition of tribal governments that had been terminated. Terminated tribes were allowed to seek restoration if they could demonstrate that termination had been ineffective and harmful to them, and that they had maintained a degree of their tribal governing structures even in the face of federal policies designed to demolish them.

The Klamath Tribes were able to easily satisfy both prongs of the test. As to harm, the economy of the Klamaths had been destroyed. Their land was lost to the federal government for a fraction of what would prove to be its real value. The culture and social fabric of the people was seriously hurt. Their consistent requests for assistance in preserving a small portion of their heritage went unheeded. They were dispossessed from the very land-based enterprises at which they had been so successful. They were sent to participate in a society for which they had few of the skills or inclinations necessary to succeed; a society ill-prepared and largely unwilling to accommodate them.

Despite all this, as to the second prong, the Klamaths had kept their own system of internal relations and, especially, their system of regulating hunting and fishing—Treaty-protected activities that had survived termination. In their response to litigation like *Kimball v. Callahan* and *United States v. Adair* the Tribes demonstrated a lasting social coherence that termination was not able to extinguish.

Accordingly, Congress in 1986 enacted the Klamath Restoration Act. This restored federal recognition of the Klamath Tribes on a government-to-government posture, though, it did not return to the Tribes any of the lands lost to termination. Significantly for the present discussion, Restoration did not restore to the Tribes the fisheries lost to the Klamath River dams. The externalized costs of the dams proved immune to either termination or Restoration.

THE KLAMATH TRIBES HISTORY

The Klamath Tribes is composed of three historically separate tribes: the Klamath Tribe, the Modoc Tribe, and the Yahooskin Band of Snake Indians. The current membership is about 3,400 and the current total land base is approximately six hundred acres. The history of the Klamath Tribes and their land is complex.

For millennia, the Klamath and Modoc people occupied the entire upper Klamath basin and adjacent interior drainages to the east, living in close association with the marsh and riverine resources of this area. These closely related tribes were the only populations residing in the upper Klamath basin prior to Euro-American contact. The Yahooskin people principally occupied lands east of the Klamath basin, but often participated in multi-tribal resource harvests, including salmon harvests, with Klamath and Modoc on the Sprague River and other Klamath River tributaries. Archaeological evidence and tribal oral tradition

suggest an unusually long period of occupation within the upper Klamath basin, far predating the eruption of Mount Mazama (now Crater Lake) some 7,700 years ago.¹²²

By the 1820s, Euro-American fur trappers working for the Hudson's Bay and North West companies were making initial forays into southwestern Oregon and northern California, initiating the first direct cross-cultural contacts for the Klamath, Modoc, and Yahooskin. During this same period, the Klamath and Modoc expanded their ties to the vast tribal trade networks centered on the Columbia River. Acquiring guns and horses, the Klamaths and Modocs engaged in much expanded raiding of their neighbors (particularly the Achumawi and Shasta of northern California) for goods and for slaves, bringing the Klamath and Modoc more regularly, and in larger numbers, into the middle and lower Klamath basin. Despite the Euro-American – versus - Indian violence that spread through the Pacific Northwest and northern California during the 1840s - 1860s, the Klamath Tribes remained relatively buffered from areas of Euro-American occupation, and their affluence and influence arguably grew throughout the region through the mid-19th century.¹²³

Still, American influence was expanding rapidly, and the United States government was eager to treat with the Klamath and Modoc tribes to open the majority of their lands for settlement and to contain the strategic threats of these relatively large and powerful tribes. Hence, taking part in a treaty council near modern-day Fort Klamath, the Klamath, Modoc, and Yahooskin Tribes signed the Klamath Tribes Treaty of 1864 on October 14, 1864 (16 Stat. 707), ceding more than 22 million acres of their traditional territories to the United States. These ceded lands included much of south-central Oregon as well as portions of north-central California. Henceforth, the three signatory populations—Klamath Modoc, and Yahooskin—were together called the “Klamath Tribes” on the basis of the language of this treaty.

Reserved from the Tribes' land cessions was roughly 2.2 million acres of their ancestral lands—the Klamath Indian Reservation—the largest reservation in the state of Oregon. The Tribes also reserved the rights to hunt, fish and gather plants in perpetuity. Their Reservation was within the lands of the Klamaths. Resisting relocation to the Klamath Reservation at the conclusion of this treaty, a number of Modocs soon chose to return to their homeland under the guidance of Modoc chief Kintpuash, called by the non-Indians Captain Jack. U.S. authorities sought to round up these Modocs and conflicts quickly escalated, culminating in the Modoc War of 1872-1873; after a long and successful standoff in the lava beds of northern California, the Modoc were captured, their leaders hanged, and some portion of the combatants sent to Oklahoma. Today, a relatively small population of Modoc still lives in Oklahoma as part of the federally recognized “Modoc Tribe of Oklahoma,” while the majority of the Modoc descendants are enrolled with the Klamath Tribes.¹²⁴

In its first decades, the Klamath Reservation was resurveyed multiple times, while federal agents disposed of portions of the Reservation lands incrementally under a variety of authorities (some legitimate and some demonstrably fraudulent). For 20 years the Klamath lived on their reservation under the terms of the 1864 treaty. In 1887 Congress passed the General Allotment Act, which fundamentally changed the nature of land ownership on the Klamath Reservation. Under the allotment system, approximately 25

¹²² Deur (2008, 2004); Sampson (1985); Spier (1930); Gatschet (1890).

¹²³ Gatschet (1890), 19-27; Spier (1930); Davis (1974).

¹²⁴ Stern (1998); Ray (1963).

percent of the original Klamath Reservation passed from tribal to individual Indian ownership. Over time, many of these individual allotments passed into the hands of non-Indians.¹²⁵

Early in the Reservation's history the government wanted to build a military road across the Reservation. The government granted a private land company a checkerboard of land sections for this purpose. Later it was decided not to build the road. An act of Congress dated June 21, 1906, authorized the Secretary of the Interior to exchange un-allotted lands in the Reservation for the lands earlier conveyed. On August 22, 1906, an agreement between the Secretary of the Interior and the land company re-conveyed the checkerboard acres to the United States, and in return the government conveyed 87,000 acres of un-allotted lands to the company. The Klamath Tribe claimed the transfer was made without fair compensation. The federal courts stated that the obligation of the United States to make good on the Tribes' loss was a moral one because the government's dealings with Indian tribes are not subject to judicial review (*United States v. Klamath and Modoc Tribes*, 304 U.S. 119, 58 S.Ct. 799, 82 L.Ed. 1219 (1938)).¹²⁶

By the early 20th century, the reservation had been reduced to roughly 1.1 million acres, or roughly half its size as specified in treaty. Soon thereafter, the arrival of the railroad in 1911 allowed for the rapid integration of the Klamath Reservation into the larger national economy, bringing a rapid increase in timber harvesting and cattle ranching on the reservation. A growing number of tribal members moved to the railroad and mill town of Chiloquin from elsewhere on the reservation, and the tribe entered a period of prosperity that set it apart from most other American Indian tribes of the region. With rigorous federal efforts to encourage the transformation of the Klamath Tribes of the reservation to modern economic activities, most families continued to participate in a mixed economy, participating in wage labor while seasonally continuing to harvest staple fish, game, and plant materials, both on- and off-reservation. Although often hidden from the view of Indian agents, traditional ceremonial activities continued among certain Klamath Tribes families. In this context, by most oral history accounts, the construction of the Copco Dam in 1917 and the resulting loss of anadromous fish had disastrous effects on the Klamath Tribes. For example, the influenza pandemic of 1918-1921 brought disproportionately high mortality to the reservation community, a fact that a number of tribal members attribute to the concurrent and abrupt dietary shift away from anadromous fish to recently introduced and mostly carbohydrate foods.¹²⁷

By the mid-20th century, intensified federal efforts at cultural assimilation served to compound the social and economic changes introduced to the Klamath Tribes by reservation life. In 1954, as part of a nationwide effort to assimilate American Indian tribes into the cultural and economic mainstream, the federal government chose the Klamath Tribes for the experiment of "termination," in the Klamath Termination Act (25 USC §564, et seq.). The Klamath Tribes were chosen in part because of their self-sufficiency, enabled by the timber, grazing, and other values of their Reservation lands. In a brutal irony, termination involved taking from the Tribes these very lands that enabled their self-sufficiency.

Termination ended the Klamath Tribes' status as a federally recognized tribe, dissolved the federally recognized tribal government, and nullified most federal fiduciary responsibilities to the tribal community. It did not, however, dissolve the Tribes' own government and social organization nor, of

¹²⁵ http://users.sisqtel.net/armstrng/Indupper_klamath.htm.

¹²⁶ Ibid.

¹²⁷ Deur (2004); Stern (1965).

course, did it magically convert Indians into non-Indians in any other than the most technical and legal terms. The social, economic, and cultural implications of termination were both significant and complex, and are generally viewed as dire by Klamath Tribes members. Reservation employment and benefits disappeared, and access to traditional lands and resources quickly eroded. Control over irrigation water supporting tribal farms diminished as well, as agency infrastructure was privatized and fell into non-Indian control. Under this act, tribal members were encouraged to give up their interest in tribal property in return for cash. A large majority of the tribe chose to do this. A provision of this act continued the Indians' right to fish on the former reservation land.¹²⁸ Cash payments for liquidated tribal assets were distributed irregularly within the tribal community, and those lands retained by tribal members were often lost to taxes and acquired by non-Indians. Once a model of economic self-sufficiency, the former members of the Klamath Tribes now had poverty levels that were three times that of their non-Indian neighbors.¹²⁹

The United States divided the Reservation into large timber tracts, intending to sell them to private timber companies. However, for various reasons only one such tract was actually sold, and the government found it impossible to dispose of the others. So in 1961, the United States itself purchased large forested portions of the former Klamath Reservation. This forestland became part of the Winema National Forest under the jurisdiction of the United States Forest Service. The balance of the reservation was placed in a private trust for the "remaining" tribal members who had opted to retain an interest in the tribal lands. In 1973 these remaining Indian lands were also condemned and purchased by the government and added to the Winema National Forest.¹³⁰

Over the next three decades, tribal members and their families continued to reside principally on the former reservation. Despite the loss of tribal lands, most continued to practice traditional subsistence harvests of game, plants, and fish (other than salmon), especially within the former reservation boundaries.

Today the Klamath Tribes have reacquired about 600 acres of their former Reservation. The United States holds title to approximately 70 percent of the former Reservation lands. The balance of the Reservation is in private, Indian, and non-Indian ownership, either through allotment or sale of reservation lands at the time of termination.¹³¹

Almost immediately after implementation of the termination policy, it was recognized by the United States as a big mistake. It was soon repudiated. At the same time, witnessing the corrosive impacts of this social experiment on the Tribes, certain individuals and families within the Tribes began to organize with the aim of restoring tribal status. On August 26, 1986, they were successful: the Klamath Tribes officially regained federal recognition under the Klamath Restoration Act (25 USC §566, et seq.). They were not restored to ownership of their former Reservation, however, and tribal efforts to regain a land base have continued without interruption since that time. Through relentless efforts, the Tribes are now acquiring lands in the former reservation whenever and wherever they can, and placing them in federal trust. Significantly for the present discussion, Restoration did not restore to the Tribes the fisheries lost to

¹²⁸ http://users.sisqtel.net/armstrng/Indupper_klamath.htm.

¹²⁹ Deur (2008); Hood (1972).

¹³⁰ <http://www.fws.gov/klamathbasinrefuges/history.html>.

¹³¹ http://users.sisqtel.net/armstrng/Indupper_klamath.htm.

the Klamath River dams. The externalized costs of the dams proved immune to either termination or Restoration.

Today, the tribe is experiencing a cultural and economic revival, as poverty levels decline and tribal members take a growing interest in preserving their cultural traditions, including traditional subsistence practices and related ceremonial practices.¹³² The Tribe employs hundreds of people in an elaborate tribal government that provides a wide array of services to the membership. The Tribe maintains very active natural and cultural resources departments.

KLAMATH TRIBES CULTURE

“Ways of perceiving death and respect ... the religious dimension ... the fish was central to our culture and when they took it away it was cultural genocide.”

—LYNN SCHONCHIN, KLAMATH TRIBES CONSULTANT

[Note: This information about the Klamath Tribes comes from the Sprague River Dam Reconnaissance Ethnographic Study conducted by Klamath Tribes Consultants, February 2003, 2010, Dr. Douglas Deur, Principal Investigator, a document entitled “3.6 Tribal Trust Resources–Rough Draft,” by Dr. Douglas Deur, provided by the Klamath Tribes to Dr. Thomas Gates on October 4, 2010, and a document entitled “Klamath River Secretarial Determination EIS,” by Dr. Douglas Deur, dated September 2010 and provided to Dr. Thomas Gates on October 4, 2010.]

The federal courts have confirmed that the Klamath Tribes’ hunting, fishing, gathering, trapping, and water rights survived Termination. These resources, especially fish, have played a central role in the physical and spiritual well-being of the Klamath people for millennia.

Although the tribes relied heavily on upland game (e.g., deer, elk, and pronghorn antelope) and plant foods (e.g., yampah, wild plum, and many other fruits and berries), riverine and especially marsh resources reached a level of importance that stands out among American Indian peoples. Salmon, multiple species of sucker, trout, eel, lamprey, and other fish were dietary staples, while marsh and riparian plants—such as the yellow pond lily, tule, cattail, and willow—provided staple foods and the materials for essential tools and crafts. The Klamath, Modoc, and Yahooskin traditionally recognized all of the plants and animals of their traditional territory as possessing their own spiritual powers; tribal members took active steps—from ceremonial activities to active management techniques—to maintain respectful relationships with the species on which they most depended, ensuring that the species would return abundantly in future years. These ritual activities were an essential part of the ceremonial tradition of the historical Klamath and Modoc, and they have continued to some degree, with added Christian and secular influences, into the modern day.¹³³

Geography, Salmon Fishing and Early Settlement

The stretch of the Klamath River basin from Link River to the Iron Gate Dam once had an almost continuous geographical distribution of traditional sites and activities. Resource procurement areas,

¹³² Deur (2007); Haynal (1994).

¹³³ Deur (2009); Ray (1963); Spier (1930); Gatschet (1890).

ceremonial sites, and burials surrounded the major population centers here. Despite the forced removal of Klamath and Modoc tribal members from this riparian corridor in the 19th century, knowledge of this area and attachments to it have persisted to varying degrees among the members of the Klamath Tribes.

Spencer Creek was a place of considerable importance in the history of the region. The settlement at the mouth of Spencer Creek, where it enters into the Klamath River, was traditionally called *sókegs*, and some tribal members trace their families back to the historical residents of this village. Spencer Creek was a particularly important salmon fishing site for the Modoc tribe. The Klamath River at this site also afforded fishing opportunities that were rare below Link River because of a natural shallows that obstructed the salmon there during low-water years until levels began to rise from springtime snowmelt. Salmon were speared there in large numbers. This shallows also served as a ford for the Modoc and Klamath people. In the 19th century, Modocs still gathered there and “pulled salmon out with pitchforks” just below this shallows.(RS)¹³⁴ Captain Jack, leader of the Modocs during the Modoc War, was said to have fished the Klamath Canyon extensively and most commonly fished Spencer Creek. Following the Modoc War, some Modoc families maintained ties to the area. Indian women who were married to white men, however, were not forced onto the Klamath Reservation at the end of the war, and these multi-ethnic marriages provided many tribal families with a remaining foothold in the Klamath River corridor.

Klamath Canyon, particularly the zone from Spencer Creek downstream, was a major historic center of settlement, salmon procurement, and trade for the Klamath and Modoc Indians. Settlements were found at almost every site where a major stream entered the river along this reach. During salmon fishing time, Klamaths, Shastas, and Modocs occupied separate groups of structures within larger, multi-tribal communities. (LS) Tribal members uniformly and emphatically have asserted that this area was used for “more than just a food supply.” Although the freshness of fish from sites downriver from the upper Klamath basin drew Modocs and Klamaths downstream into the canyon, these same fish eventually worked their way into the Upper Basin. For this reason, the Klamaths and Modocs “didn’t *really* have to go to the canyon to fish.” (LS) Instead, the communities along the Klamath Canyon floor were important centers of social, ceremonial, economic, and political activity timed to coincide with the peak salmon harvest.

CULTURAL PRACTICES

Fishing

Although salmon have arguably not been seen in the upper reaches of the Klamath River territory for nearly 100 years, salmon were clearly important in aboriginal Klamath life. Statements by elders in the 1940s provide abundant data regarding the use and importance of salmon from the late 19th century until the runs were blocked by the first Copco Dam around 1911. One observer stated:¹³⁵

Practically every able-bodied male member of the tribe would spear fish, during this time, taking enough salmon from the river to care for their families’ needs and those of relatives and friends. The Indian custom of helping their neighbors was strictly maintained and a superabundance of

¹³⁴ Index to Klamath Tribes consultants’ initials as used in Deur, 2003: AW—Adrian Witcraft; CC—Robert “Clinkers” Cole; DH—Dino Herrera; LS—Lynn Schonchin; OK—Orin “Buzz” Kirk; PW—Harold “Plummy” Wright; SM—Newton “Skip” Moore.

¹³⁵ Lane & Lane (December 1981), 93.

fish were caught yearly. Approximately one-half of the fish caught were dried and kept for winter consumption and one-half eaten fresh.¹³⁶

In a testament to the abundance of salmon in the upper reaches of the Klamath River and the importance of the fish to the Indians as a food source, John Cole, a 61-year-old member of the Klamath tribe who was interviewed in 1942 and had fished in Klamath territory before 1915, stated:

Frequently during the fishing season when several hundred salmon had been speared and removed from the water we would load them in a wagon and we would take them in a wagon to different localities where the Indians were living in communities and distribute them. We would give each Indian family enough fish to last them for some time. They would dry them and use them as part of their food supply for the coming months. I would personally salt down 400 or 500 pounds of fish following each salmon run while I was here on the reservation.¹³⁷

Further evidence of the presence of salmon in Klamath Tribes' lands was given by Victor Nelson, who was known for his skill in catching salmon.

The Indians obtained a large part of their livelihood from the salmon fish they caught. I would say that all of the Indians on the reservation participated in the benefits derived from the fish taken out of the Sprague River. The fish were pretty well distributed to all Indian families.¹³⁸

Many other elder Klamath Indians made similar claims; see *United States of America v. California Oregon Power Company*, Proposed Action for Injunction and Damages ("Copco claim"), 1942.

The historical catching of fish in addition to salmon and steelhead included a number of species of mullet, trout, sturgeon, eels, and lamprey. Lamprey were harvested in large numbers during salmon season, often being gilled or speared and cooked as a separate specialty item. Only the large lamprey that was available prior to the construction of the Copco Dam was used in this way. A smaller lamprey persisted in the upper basin following dam construction, but this smaller lamprey was never eaten. (PW)

The Traditional Significance of Anadromous Fish

Fishing Sites and Technologies

Salmon were numerous throughout much of the Klamath Tribes' traditional territory. The fish were commonly said to arrive in runs so large that "it looked like you could walk across their backs," and they were packed so tightly in shallow river channels that they could be speared with ease. During the 19th and early 20th centuries, it was common knowledge that the large numbers of salmon thrashing in the Sprague, Williamson, Link, and Wood river basins would "spook the horses" and people understood not to ride close to the rivers during salmon runs to avoid being thrown. Because salmon were numerous and relatively ubiquitous, the location of fishing stations reflected the geographical distribution of factors not wholly contingent on fish distribution: naturally available shallows where fish could be easily speared,

¹³⁶ Ibid., 94.

¹³⁷ In *United States of America v. California Oregon Power Company*, Proposed Action for Injunction and Damages ("Copco claim"), (1942), 5.

¹³⁸ Ibid.

natural barriers that caused the fish to become “bunched up,” nearby settlements and secondary resources, springs and spawning grounds, and a host of other factors all influenced the distribution of salmon fishing within the Klamath and Modoc territories.

Fluctuating water levels in the Klamath basin had dramatic impacts on salmon passage and, in turn, on patterns of salmon harvesting. According to one observation, “If [salmon]’s got enough water, he can jump plenty high,” and many of the obstructions to salmon passage were small enough that they could be easily bypassed during high water events. (PW)

Most large-scale fishing within the upper Klamath basin was timed to coincide with salmon runs, but all species were taken at these times and places. Salmon and mullet appeared at roughly the same times and at the same places. Trout also appeared with these fish, to consume the spawn of both species. Together, these fish provided a tremendous, if intermittent, food resource for the Klamath and Modoc people.

Finding the fish. Detailed environmental knowledge once guided Klamath and Modoc peoples’ movements to and between salmon fishing sites, and some of this knowledge persists today. People knew which fishing stations and which riffles would provide the right conditions for salmon fishing based on the level of the water in front of their home village. Experienced Klamath fishermen still possess the knowledge of how water levels near their home relate to the exposure or submersion of riffles as well as general fishing conditions at trout-fishing sites within the upper Basin. (PT) The first arrival of salmon in the Klamath Canyon was known to coincide with certain environmental events, which people could detect prior to departure for the canyon—the extent of snowmelt, or the appearance of certain birds or insects, for example. This knowledge has been undermined by the loss of salmon and environmental changes within the upper basin but fragments remain today. For example, a certain kind of stonefly nymph is called a “salmon fly” by Klamath Tribes fishermen; “they arrive in late spring, the same time that the salmon begin to run,” and their arrival used to be taken as a sign that salmon runs were imminent. (AW) Certain associations between salmon and other organisms, documented among area tribes by 19th-century anthropologists, appear to perform a similar function, while also hinting at occasional historical lapses in the salmon run: “Pit River don’t kill grouses in spring as they fear that the salmon will not come, likewise the Modocs say that sage-hens incite salmon to ascend rivers, and thus don’t kill them.”¹³⁹

Salmon-fishing sites were usually accompanied by settlements or seasonal encampments. Many of the largest Klamath and Modoc winter villages were close to large salmon fishing stations. The Indians said, “where the fish were, we were.” Springtime salmon fishing marked the end of the lean winter months, and the proximity of winter villages to salmon fishing sites ensured that salmon would be detected and thus available from the onset of each year’s spring run (an important point, because the exact dates of the first run varied). Although late spring and summer involved other subsistence activities far from these villages, the fall Chinook salmon run was said to draw people back to many of these villages. The success of fall fishing had major implications for communities’ food supplies when alternative resources were limited, and a poor fall salmon run indicated a potentially difficult winter ahead. Salmon thus occupied a crucial position within the seasonal round, with salmon runs marking both the beginning and the end of annual resource procurement.

¹³⁹ Gatschet (1890), 135.

Taking the fish. Salmon were taken at traditional fishing stations using a wide range of technologies, each suited to the particular conditions of the fishing station. Most commonly salmon were speared using double-pronged toggle harpoons or spears with detachable single-pronged heads. “You need a good barb and a strong line to hold them” when a salmon was speared, according to one tribe member. (PW) Another said, “My father used a spear with a detachable point before the dams went in ... the two-pointed spears were harder to use: you had to have a clear shot...and just the right angle.” (SM) Most harpoon points were made of bone or wood. Wooden points in particular were hardened through a special process that included heating the points over fires.(BD) A small number of fishing harpoons had stone points, sometimes made of agate, jasper, and other cryptocrystalline rocks (Howe 1968: 137; Barrett, 1910). In the 19th century, Klamath Tribes members began to use steel spear points on this traditional tackle.

Spear fishermen were stationed at certain riffles and in shallow stream reaches. At the beginning of each year, men were said to “fix a spot” on the bank for fishing by arranging rocks and other objects to provide a solid footing. (CC) In some cases, wooden or stone scaffolding was built atop rocks lining these riffles to provide a footing for fishing. (SM) Night fishing by torchlight or campfire was commonplace, the light drawing fish in addition to providing illumination.

Stone dams and willow weirs were often constructed to channel salmon into well-defined chutes where they could be speared with ease. Major stone fish dams were commonly said to have been first constructed by Gmukampc, the creator.¹⁴⁰ Willow weirs were sometimes built to be portable, so that they could be easily moved and reassembled at different fishing stations as the salmon runs moved upstream.(BD) In certain locations, salmon were easily frightened out of spearing range by human movement, and “blinds” were sometimes constructed to conceal spear fishermen until the last possible moment.

In other cases, spear fishing was done by canoe. One tribe member, for example, reports that when his mother was a girl around the turn of the century, she rode in a canoe with a pitch torch while her brother speared for salmon. She “did this all the time” with her family in the lakes of the upper Klamath basin.

Gill nets were also used, particularly in lakeshore environments. These nets were typically woven from plant materials including nettle or willow. Lakeshore salmon netting often involved fixed nets with stone sinkers, which are commonplace in lakeshore archaeological sites throughout much of Klamath and Modoc country (Barrett 1910; Howe 1968). These gill nets were sometimes fixed in place with sinkers and nets strung between canoes. Pit lamps were used at night to draw fish into nets, and this was sometimes done by canoe as well.(JH) Gatschet reported that fish poisons or fish-killing charms were sometimes placed in nets.¹⁴¹

Other technologies for taking salmon included double-pointed angle hooks and gorges, principally for steelhead. Dip nets were used in riffles, and portable willow basket traps were suitable for narrow channels. Bows and arrows were used by some families, although this was not a widespread practice. Spiky flood events during the salmon runs sometimes resulted in the entrapment of salmon, juvenile or adult, in marshes or riparian stranding pools; salmon trapped in these features were speared or gathered by hand. (PT, BK, PW) Many of the traditional fishing techniques described here are still used today.

¹⁴⁰ Gatschet (1890), 142; see also: Spier (1930), 20.

¹⁴¹ Gatschet (1890), 150.

Ice fishing was reportedly commonplace when freezing temperatures coincided with early spring or late fall salmon runs. Fishermen cut holes into the ice for this purpose, and they built small structures alongside these holes for housing. More typically, however, Klamath and Modoc men fished at the outlets of springs, which would melt holes in the ice at certain times due to their consistently moderate water temperatures. Men used both spears and dip nets fixed on long handles to fish these ice holes.

Salmon-fishing tackle was adapted over the course of the 19th and early 20th centuries in response to new materials and technologies. Beginning in the late 19th century, many men began to fish with gaffs, made of large metal hooks attached to long poles of native wood. The poles were roughly 10 feet long, and the hooks attached at the end of these poles were metal semicircles of roughly 3 to 4 inches diameter, with a barb on their outer tip. Tribal members caught fish by swinging this gaff below or beside a fish and jerking the pole upward. The salmon were typically “thick enough that gaffs worked well.” (BD) Another common type of modified fishing tackle involved the adaptation of the traditional toggle harpoon with detachable point. Three triple hooks were tied to a two-foot long metal shaft, which was itself secured on one end of a pole. Each triple hook was attached to the pole with a length of dense cord. Men would “swing the poles through, under fish.” (SM) In the process, fish became snagged on treble hooks, which—as with the traditional toggle harpoon—would then detach but remain connected to the pole by their cords, allowing the fish to “fight” without shaking loose from the hook or damaging the pole. Oil lamps were sometimes used in place of torches for nighttime fishing.¹⁵ A few tribal members gradually adopted the fishing rod and line, but this technique was generally considered too slow and unpredictable for subsistence fishing. Despite these adaptations of pre-contact fishing technologies, many tribal members preferred to use time-honored methods, particularly spear fishing.

Some salmon were said to be so large during Chinook salmon runs that, during the 19th and early 20th centuries, horses were regularly brought in to assist in pulling ashore these fish, and for a brief time horses became an integral part of Klamath Tribes’ salmon-fishing traditions. Some tribal members used large triple hooks, tied to horse saddles with tough cords, to “snag” salmon and pull them ashore. (SM) Similarly, cords attached to traditional detachable spearheads were tied onto horse saddles instead of being tied onto the spear shaft.

Social, Dietary, Economic, and Historical Significance of Anadromous Fish

The historical importance of salmonid fish within the diet, economy, society, and culture of Klamath and Modoc peoples is undisputed. Likewise, ethnographic and historical studies of Klamath and Modoc tribes have consistently identified fish, including salmon, as a staple food since the beginnings of the written record dating from the 1820s (e.g., Elliot 1910: 210). There is agreement that “they were one of the main food sources, those big salmon.” (WE) When interviewed by Gatschet, Klamath and Modoc tribe members reported the extensive use of salmon (*itchíalash*) and salmon discolored by age (*vuíg*)¹⁴² and the use of “purple salmon” (*etchmû’na* or *dii-atçhmû’na*),¹⁴³ which were 3 to 4 feet long and ascended the Klamath River into the lakes region in November. The Klamath, Modoc, and Shasta people all caught these fish, but these fish were not found in the lakes, as were other salmon species.

¹⁴² Gatschet (1890).

¹⁴³ *Ibid.*, 30.

Salmon arrived in varying conditions in the upper Klamath basin, with some discolored and emaciated by their long journey and others still relatively fresh; “they had a tough, long way to go,” according to one observer. (PW) Generally, salmon caught within the upper Klamath basin was said to be “delicious ... [the salmon’s skin] was starting to turn red, but wasn’t overripe.” (BD) Still, salmon of varying conditions were consumed traditionally. The fresher salmon was preferred, but salmon were taken even after they had finished spawning. Salmon were said to be large historically, especially the Chinook salmon, and Klamath Tribes’ members tell stories about boys who had been pulled into the water after spearing salmon and had to be retrieved by adults. Indeed, this factor appears to have placed limits on the participation of young boys in the spearing of salmon, and youths were typically relegated to supporting tasks during the salmon harvest.

Social factors of salmon rituals and ceremonies. Multi-village and multi-tribal gatherings centering on the salmon harvest were important social and ceremonial events. The movement of the tribes associated with the salmon runs shaped much of Klamath and Modoc social life: “Early spring finds them leaving for favorable fishing stations where there are successive fish runs,” one local reported.¹⁴⁴ Salmon fishing at certain productive fishing stations, such as those on the Klamath Canyon, Link River, and Beatty Springs, were “where you met the person you were going to marry.” Gambling contests, races, and group dances were facilitated by these large gatherings of families from different villages. Dried salmon was used in trade, particularly with interior populations such as Paiutes and interior Pit River bands, providing the Klamath and Modoc with access to trade goods from these interior locations.¹⁷ The mobility and social diversity of the population participating in the salmon harvest fostered multi-tribal gatherings even at sites quite distant from salmon-fishing stations. For example, Tule Lake villages, including those at the Lava Beds, served as a stopover point for Modocs, Paiutes, and other tribes traveling to and from the Klamath Canyon to catch or barter for salmon.

Salmon was also typically shared within the community, with tribal members catching surplus salmon to feed the elderly, children, and those with disabilities who were unable to participate in the salmon harvest. This practice is mentioned as ongoing, but it also appears in classic ethnographic studies of the Klamath Tribes.¹⁴⁵ This redistribution of the salmon catch cemented social bonds within and between communities, in addition to ensuring food security in the community as a whole. These practices are still a source of pride among many tribal members today. Young people still share the catch of other fish species, especially trout and mullet, in the traditional manner. “You always give away fish to the elders ... you always give away the first deer you kill ... our grandparents taught us that and young people still need to listen to that,” a tribe member said. (DH) Young men who go on salmon fishing trips outside of the upper Klamath basin also redistribute modest quantities of salmon among tribal members, and such salmon is highly prized. Young people “always drop by to drop off fish” after these long-distance fishing trips, said one tribal member. (CC) Access to fishing sites and fishing gear is viewed as essential to a family’s security; some tribal members mentioned that they have inherited fishing gear from their elders, which is understood as a sign of one’s obligation to continue fishing for the extended family in the elder’s absence. “I inherited my grandpa’s fishing gear ... he gave it to me so that I could fish for grandma once he had died,” said one. (AW)

¹⁴⁴ Spier (1930), 10.

¹⁴⁵ See, for example, Gatschet (1890), 136; Barker (1963a), 135.

Fish processing. Klamath Tribes members tell stories of how the smolts “all flushed down to the ocean” every year. (PW) Consultants’ recollections suggest the use of juvenile salmonids as ‘starvation food’ from late fall through spring, and some documentary accounts of “minnows” being caught and eaten may allude to this practice (e.g., Fremont 1845, 1887). Salmon eggs may have also been eaten, but consultants did not believe that this was a widespread practice in the early 20th century.

Salmon and steelhead, as with other large fish, were typically cut into “butterfly” fillets, made by splitting the flesh down the back of the fish and leaving the belly section intact between the flesh from either side of the fish. These fillets were placed on wooden drying racks or scaffolds that were constructed alongside the fishing site and adjacent settlements. Such racks were widespread prior to the loss of salmon, lining fishing stations and sitting next to homes and settlements. Small-scale fisheries sometimes made use of “fish drying rocks,” areas of large rocks where filleted fish were spread out to dry in the sun. A portion of each year’s catch was smoked using mahogany and other local woods. Dried salmon was often pulverized to make *kamalsh*, an esteemed staple in the Klamath and Modoc diet. Salmon *kamalsh* could be eaten dry but was typically soaked in water until it was reconstituted and then cooked before eating.

Many of these fish-processing techniques were used to process salmon until the construction of the Copco Dam, and tribal members still use these methods to process trout and mullet. *Kamalsh* made from trout or salmon and mullet from outside the upper Klamath basin is still an important part of the Klamath Tribes diet, even if the reduction in fish populations through much of the basin has rendered its importance more symbolic than nutritious. Beginning in the late 19th century, some tribal members also began to preserve salmon with salt, or in cans or jars; salmon obtained from elsewhere is now commonly processed in pressure cookers. (PT)

Fish in the diets of the Klamath Tribes. Estimates vary as to the historical importance of salmonid fish in the diets of Klamath and Modoc tribal members. Some tribal members say that trout and mullet were historical more predictable than salmon runs, but others dispute this claim, possibly reflecting historical differences between different tribal communities within the Klamath basin. Salmon was probably preferred to these other species, however. “Those suckers aren’t the fish those salmon used to be!” claimed one tribal member. (MA) Despite the clear pre-contact importance of trout and suckers, it was only after salmon was unavailable, some believe, that these other fish gained such relative importance in the diet of the Klamath Tribes.

Affidavits compiled in the early 1940s suggest that between one-half and one-sixth of the aboriginal diet consisted of salmonid fish. Rates of salmon consumption likely varied over time and between individual communities and households, but a review of both written accounts and contemporary oral histories suggests that salmonid fish were consumed in large quantities by most Klamaths and many Modocs as a dietary staple.

Salmon was essential to the ecology of the Klamath basin, with salmon carcasses in particular providing food for many species of animals and nutrients that facilitate the health of marsh plant communities. “When the salmon leave, everything else falls apart.” “A lot of other fish started to disappear as soon as the salmon were gone.” (PW) “Trout fed on the salmon spawn...once the salmon were gone, they went after the sucker spawn more...and then there weren’t as many trout and suckers.” (BK)

Some consultants also reported that their ancestors used to manage fish populations. Staple fish—salmon, trout, and mullet—were harvested according to a rule that “you should never take more than you

needed...you take what you need, then quit” and this rule still guides the actions of many tribal members today. (CC) Chub and other species were known to eat salmon and trout eggs; increases in chub populations corresponded with subsequent decreases in salmon and trout populations. For this reason, when fish populations were thought to be out of balance, men sometimes intentionally caught large numbers of chub and simply tossed them onto the banks to be eaten by birds and other creatures. This practice is said to have continued into the 20th century. (AW)

Salmon in Klamath Religion and Worldview

Salmon also played an important ceremonial and religious role within the Klamath and Modoc worlds. Consultants recalled a number of Creation stories that related to salmon fishing and salmon fishing sites, and most of the large salmon fishing dams were historically viewed as the handiwork of the Creator, Gmukampc. Gatschet (1890: 104) notes that “the special creation of [Gmukampc] was man, and whatsoever stands in direct connection with his existence, welfare, and customs, as fishing places...” Gatschet (e.g., 1890: 16) further notes that events within Klamath oral tradition were sometimes said to center around tsiäls-hä’mi, “salmon time” within the Klamath seasonal round.

Many Klamath songs and stories centered on traditional salmon fishing, though consultants indicate that the standard ethnographies contain only a fraction of this corpus. Klamath Tribes oral traditions, including the “Gmukampc tears down the fish dam” story, are said to impart teachings that still guide tribal members in their navigation of moral or ethical dilemmas. These stories are tied to particular landscape features that are prominent in the vicinity of traditional salmon fishing sites. In some cases, certain landscape features of religious significance distant from salmon fishing sites also possess ceremonial associations with salmon fishing, including places mentioned by Gatschet (1890: 131) where beings from before human time had been said to have been turned to stone while en route to fishing sites.

Ceremonial regulation and intervention in the runs of salmon were widespread historically, as is typical of staple food resources of variable annual availability.

The shaman is called on to exercise his art when the weather is unpropitious and the food supply is in danger. If the ice stays late in the spring so they cannot fish, they go to the shaman to get him to make it rain. If it rains but no fish come, they ask him again to bring the fish. The first catch is always divided so that everyone has something to relieve his hunger...Should the fish disappear from the mouth of the Williamson River, for example, an old man will ask a shaman to discuss the cause.¹⁴⁶

Consultants note that salmon were commonly said to possess a spirit, and that this spirit must be respected and honored in order to insure the fishes’ return. Salmon fishing, like trout and mullet fishing, was said to be guided by certain protocols, which ritually acknowledged the spirited and sentient qualities of these fish. A number of potentially offensive behaviors were strictly enforced before and during the salmon harvest. The unused portions of fish carcasses were put back in the water “so that they will come back” in following years. “You throw what’s left back in the water...to feed all the animals...the fish. People have always done that.” (PW) A number of tribal members spoke of first salmon ceremonies conducted at the beginning of each year’s run to ritually distribute salmon flesh and honor the salmon.

¹⁴⁶ Spier (1930), 120.

Ceremonies were said to last two or three days, and involved large salmon feasts celebrating the return of the salmon and the end of winter hunger.(RS) The region-wide demise of salmon, some consultants suggest, reflects the disrespect with which non-Indians have interfered in the lives of salmonid fish. The causes of the contemporary “salmon crisis,” in their view, are as much cosmological as biological.

Such ritual activity continues in limited form today, with Klamath Tribes members attempting to ritually insure the return or resuscitation of salmon, mullet, and other important but imperiled species. Ritual efforts to influence water levels and water quality for the benefit of fish are also conducted by contemporary tribal members.

Religious Practices

A number of rituals have been traditionally practiced by the Klamaths. Significantly, many these rituals relate to ensuring that the fish return each year. For example, a Klamath Tribes member who has lost a spouse or a child is reportedly barred from fishing or even crossing a river for fear the fish will flee. For a year, the mourner is not allowed to eat fish because it is believed it will sicken him. After one year, he must twice cleanse himself in a special sweat lodge before he can resume his occupation. Another belief is that if a fish is caught with difficulty, for instance if it is speared through the ice, its gall must be thrown back into the water; otherwise, other fish will avoid that area. This practice is called *notowa'able a'mbotot*, to throw back into the water. The Klamath also practice a ritual over the first suckerfish. The first sucker is roasted and allowed to burn to ashes. Those that follow must not be taken home but roasted there; otherwise, no more will come. If the rite is observed, it is believed, suckers will be plentiful.”¹⁴⁷

Trade and Barter in the Klamath Tribes

In 1873, when John Fremont was exploring the Klamath Lake region, he reported: “If we should not find game enough to live upon, we can employ the Indians to get supplies of salmon and other fish.”¹⁴⁸ Anthropologist Leslie Spier observed that “fish were consumed, sold, bartered, fresh or were cut open, cleaned, and then allowed to dry on poles or racks.”¹⁴⁹

The communities along the Klamath canyon were also vital centers of trade, both within and between tribes. The canyon served as the primary route of movement through the Cascade Range for most area tribes, and the Klamath and Modoc peoples exchanged products from the interior, such as obsidian and dried deer meat, with the Shastas, Karuks, and other downriver tribes for maritime goods acquired by these tribes from the Yurok and other downriver people. A wide range of trade goods were said to be obtainable in the Klamath Canyon villages that could not be found anywhere else. Salmon was also an important trade good. Tribal groups with salmon fishing rights along the Klamath Canyon traded dried salmon with tribal groups visiting from areas with little or no salmon, such as Paiute and interior Achumawi communities. Trade, consultants indicated, was “not only economic, but a social exchange.” (LS) Families and communities often participated in trade even when there were no particular economic incentives, to cement social bonds, mediate disputes, or to maintain economic alliances that might, at some future time, prove valuable.

¹⁴⁷ Lane & Lane (December 1981), 75.

¹⁴⁸ Fremont (1887), 484.

¹⁴⁹ Spier (1930).

Aboriginally, most Klamath fishing was for personal use and for trade. Spier (1930) writes as follows:

Trade is probably of no great consequence within the tribe although it figures intertribally. Contacts were few and frequently unfriendly until after the coming of the whites. The exception is the neighboring Modoc groups; others are too distant. Winters are too severe for travel and trade, but summers find the Warm Springs people in residence with the Klamath. These similarly set out for Warm Springs and the Dalles when the grass begins to grow,¹⁵⁰

There was some trade among people within the Basin. The Modoc, who originally had less access to salmon, sometimes obtained them from the Klamath in trade.¹⁵¹ Such trade among Indian groups continued into the historical period. Klamath Tribal members ... tell of taking wagonloads of (dried?) salmon up to Huckleberry Mountain in August in the early 20th century. There, tribal members encountered Indians from other places and the salmon was traded for other products.¹⁵²

When whites entered the Klamath basin, they purchased salmon and other fish from the Klamath basin peoples. Ogden obtained fish during his visit in 1826.¹⁵³ At Klamath Lake, in May in 1846, Fremont traded for salmon with the Klamath:

All here was in the true aboriginal condition, but I had no time now for idling days, and I had to lose the pleasure to which the view before me invited. Mr. Kern made the picture of it *while we were trading with the Indians for dried fish and salmon*, [emphasis in original] and ferrying the camp equipage across the outlet in their canoes.

... I thought that until the snow should go off the lower part of the mountains I might occupy what remained of the spring by a survey of the Klamath River to its heads, and make a good map of the country along the base of the mountains. And if we should not find game enough to live upon, *we could employ the Indians to get supplies of Salmon and other fish*.¹⁵⁴

By the end of the 19th century, members of the Klamath Tribe, while continuing to catch salmon for family consumption and for trade to other Indians were also selling salmon to local settlers.¹⁵⁵

Klamath tribe member Bertha Lotches reported:

Many of the salmon my husband speared and caught out of Sprague River we traded to farmers and merchants in Lake View and Pine Creek, Oregon. For the salmon we would get horse feed from the whites, a little money, vegetables and fruits. This was the practice of numerous Indian salmon fishermen in the Beatty area. They would trade a large portion of their salmon for money and for food commodities to the whites in these places and the whites farming and working in that locality.

¹⁵⁰ Spier (1930), 41; in Lane and Lane (1981), 91.

¹⁵¹ Ray (1963), 192.

¹⁵² Personal comm. (October 19, 1981); in Lane and Lane (1981).

¹⁵³ Minor et al. (1979), 140.

¹⁵⁴ Fremont (1877), 484, 486; in Lane and Lane (1981), 91.

¹⁵⁵ Lane and Lane (1981), 92.

According to David C. Skeen, he knew that the Indians would catch all the salmon they would need for their own use and that of their friends in the particular area. He said in his affidavit:

I oftentimes bought fresh salmon from the Indian fishermen and paid them \$1.00 a fish at different times.¹⁵⁶

This was commercial fishing on a small scale. The market was limited because the purchasers were local people. There was no fish processing plant in or near the Klamath basin.¹⁵⁷

During the 19th century, dried salmon became an important trade good with explorers and Applegate Trail emigrants, and it provided some tribal members with their first access to Euro-American goods and their first point of entry into the cash economy.¹⁸ Some consultants mentioned their relatives of the late 19th century also using salmon to barter for introduced foods such as garden vegetables and baked goods. Conversely, some Klamath Tribes members who were compelled to pursue occupations that creating scheduling conflicts with salmon fishing used vegetables from their gardens to barter for salmon during this period. (MA)

Elaborate, long-distance barter economies emerged in the 1910s and 1920s to offset the loss of salmonid fish from the diet. Tribal members began to accumulate surpluses of dried and jerked deer meat to barter for salmon. At this time, when mullet was still abundant, Klamath Tribes members were able to barter *kamalsh* made from these fish for salmon. “People had to eat mullet...a lot of mullet was traded to tribes who didn’t have it...[at this time] it was almost as much something they traded as [it was] a food.” (AW) Deer hides, wocas seeds, farm produce, and other locally available resources were mentioned as other important barter items in this trade. While the quantities of salmon obtainable through this practice were considerably less than the quantities of salmon consumed within the traditional diet, salmon maintained a high culinary ranking and its continued use of salmon was seen as symbolically significant.

Using pre-existing kin and trade networks, Klamath Tribes members were able to identify individuals on the lower Klamath River and in the Columbia Basin who were willing to trade salmon for these products. Numerous consultants described trips that they or their families had taken in recent decades to Yurok country, Smith River, or The Dalles to acquire truckloads of salmon in exchange for cash or bartered goods. Particularly at Celilo Falls, the Klamath Tribes continued to participate in both subsistence and social activities until the elimination of this Columbia River fishery. Some consultants recall attending, or heard of their parents or grandparents attending, large social gatherings at Celilo during the fishing season, when they participated in the salmon harvest as well as horse races, gambling, and group social and ceremonial activity. Trips taken to the Pendleton Roundup and other major rodeos sometimes provided the opportunity for a detour to Celilo Falls for salmon. (WE) The Indian Shaker Church was also mentioned as providing enduring, region-wide social connections that facilitated continued if limited access to salmon into the late 20th century, especially on the lower Klamath River. (DH) [Deur doc]

Occasionally, friends or family from downriver tribes, living in such places as Yreka and Klamath, transported a load of salmon to the Klamath basin for barter. Warm Springs was also occasionally visited

¹⁵⁶ Ibid.

¹⁵⁷ Ibid.

for this purpose, and Warm Springs families with Klamath ties were said to sometimes provide a few salmon to their kin who had no fish. [Deur doc]

Exchange rates varied, but there are indications that in recent decades on the lower Klamath River ten mullet could be exchanged for a single salmon. A number of other goods were sometimes used in barter: six salmon could be obtained for a large deer, and unspecified quantities of huckleberries, epos, wocas, and pine nuts were sometimes used to acquire salmon on the lower Klamath River. While such barter arrangements allowed continued access to salmon, with its dietary and cultural importance, these arrangements required dramatically more labor per unit of salmon than had been the case prior to the elimination of upper Klamath basin salmon fishing. Cultural incentives for barter clearly eclipsed simple dietary and economic incentives. As such, salmon increasingly became a symbolically charged food for “special occasions” rather than a dietary staple, reflecting both enduring and pronounced cultural importance coupled with a dramatic decrease in food availability. Though this partially offset the dietary impacts of the loss of salmon for some families, these journeys were widely seen as a great hardship: “that’s a *long* way to go to get fish.” (SM) Many families simply decided that they could not afford the time or fuel to make this journey and had to accept a diet without salmon.

This practice of long-distance barter for salmon continues in attenuated form today. Consultants such as Skip Moore report acquiring small quantities of canned salmon for dried deer meat in Yurok country in 2002 and 2003. Most of the other bartering locations or secondary fishing sites have ceased to be available to tribal members, as impediments to salmon passage and other factors have reduced or eliminated harvests on the Columbia, upper Deschutes, and upper Rogue Rivers. Many consultants noted that, in addition to a regional decline in the availability of salmon, barter has been declining in recent decades due in part to a reduction in the availability of mullet, deer and other items traditionally used for barter by members of the Klamath Tribes.

Dried salmon was used in trade, particularly with interior populations such as Paiutes and interior Pit River bands, providing the Klamath and Modoc with access to trade goods from these interior locations.

Oral Traditions

Klamath Tribes oral traditions, including the “Gmukampc tears down the fish dam” story, are said to impart teachings that still guide tribal members in their navigation of moral or ethical dilemmas. These stories are tied to particular landscape features that are prominent in the vicinity of traditional salmon fishing sites. In some cases, certain landscape features of religious significance distant from salmon fishing sites also possess ceremonial associations with salmon fishing, including places mentioned by Gatschet¹⁵⁸ where beings from before human time had been said to have been turned to stone while en route to fishing sites.¹⁵⁹

A crematory is on the hilltop on the east side a quarter-mile north... This is one of the principal fishing places of the region and advantage is taken of the ledges that form the falls for the

¹⁵⁸ Gatschet (1890), 131.

¹⁵⁹ Deur (XXXX), 28.

construction of fish dams. But there, like all others in Klamath territory, are attributed to the culture hero, KEMŭ'kŭmps.¹⁶⁰

Consultants describe this village as “the biggest trading area on the river.” (DH) Some consultants recalled oral traditions suggesting that the upper village was primarily a high-status residential area and fishing station, while the lower village was more the home of commoners and served as a fishing station and a center of multi-tribal trade and social activity.¹⁶¹

A number of consultants recalled oral traditions indicating that the downriver tribes brought exotic cryptocrystalline rocks to these villages to trade for salmon and obsidian; cores and debitage from these exotic rocks are said to line the banks of Lake Ewauna near the Link River confluence and are still visible when the earth is excavated in this part of Klamath Falls.¹⁶²

Consultants recall oral traditions associated with certain “natural” stone landmarks along this reach, referred to by some tribal members as “stone people.” These oral teachings relate to salmon fishing and impart lessons from Gmukampc, the Creator, regarding fundamental moral and ethical principles. One principal tale tied to this area was recounted by some consultants, as they felt that it had some bearing on the Klamath Hydroelectric Project.¹⁶³

“The people who lived there [below the Chiloquin forks] had a big fish dam. They got greedy and kept building it higher, catching all the fish until no fish could get past them...the people upstream couldn't catch anything and were starving. They said the Creator got angry...and he asked the animals to help him tear down the dam....After the dam was gone, the people were all turned into rocks...they got punished. People fishing there could always see those rocks...it reminded them.” (BK)¹⁶⁴

A version of this same story is found in the unpublished collections of Curtin (n.d.); Stern (1963) and others have commented on this didactic function of Klamath oral traditions, often centering on the ethics of resource distribution. Despite considerable disturbance in this area associated with 20th century development, anthropomorphic rock features, related to these oral traditions, can still be clearly seen in portions of this reach. In this area, Gatschet (1890: 149) also noted the presence of *K'tái-Tupákshi* (“standing rock”),¹⁶⁵

a rock about ten feet high and fourteen feet in width, situated fifty yards from the junction of the Sprague and Williamson Rivers. Indian pictures are visible on its surface, and the rock is called “K'múkamtch's chair,” because this deity had, according to the myth, constructed a fish-trap of willow branches there, and was watching on this rock for the preservation of this structure. West

¹⁶⁰ Spier (1930), 20

¹⁶¹ Deur (XXXX), 37.

¹⁶² Ibid., 38.

¹⁶³ Ibid., 55.

¹⁶⁴ Deur (XXXX), 55.

¹⁶⁵ Ibid.

of *K'tái-Tupákshi* is an obstruction in the Williamson River, serving as a fish-trap to the Indians.¹⁶⁶

Consultants reported oral traditions regarding divisions of labor associated with the salmon harvest. Women, children, or young men often jumped in the water and splashed to flush salmon toward traps and spear fishermen, a practice that contemporary consultants recalled using to catch trout in recent decades. Women and children also traditionally lined the banks while men fished, participating in the filleting and drying of fish.

Klamath Tribes Fishing Elsewhere as a Result of Ancestral Decline of Salmon

Klamath Tribes consultants identified a number of coping strategies that were employed to accommodate the abrupt loss of salmon from their homeland's waters. Some consultants noted that less prized fish, including certain species of trout and mullet, suddenly became central within the diet and were fished in unprecedented quantities. Consultants also discussed the intensification of deer hunting and the exploitation of other terrestrial resources.

Several consultants spoke of the intensification of salmon harvests in the upper Rogue River as part of the annual ascent to Huckleberry Mountain to offset some of these losses in the 1910s and 1920s. Families claimed specific riffles in the Prospect area, and gathered there each year to spear fish and dry them on adjacent scaffolds. Salmon from this area was said to generally "taste good" and was often "in better condition" than many of the salmon acquired at the head of the Klamath system. While salmon were historically fished in these areas as part of the huckleberry harvest prior to the elimination of salmon from the upper Klamath basin, trips to the Rogue basin solely for salmon fishing became commonplace following this development.(BD) People returned with entire wagon or car-loads full of dried salmon caught in the Rogue River during this period. By the 1930s, however, upper Rogue fishing was also in rapid decline due to the enforcement of recreational fishing regulations and general declines in salmon numbers on that river. A number of consultants reported conflicts with Oregon Department of Fish and Wildlife wardens, United States Forest Service rangers, or state and county police when their families attempted to catch their usual quantities of salmon for subsistence purposes. By mid-century, the Prospect Dam submerged most of the fishing sites and settlement sites that were traditionally used by Klamath Tribes members in this area.

A few consultants discussed a similar fishery, believed to be of lesser importance, that briefly flourished on the upper Deschutes River near Gilchrist and Tumalo Falls. The Klamaths had held fishing rights in the upper Deschutes long before the 20th century, with fisheries for trout and possibly salmon at such places as Crescent Creek at its outfall from Crescent Lake, where fish traps and dams were once constructed of rocks. (OK, EM) The loss of salmon from their traditional territories gave the Klamaths an incentive to expand these modest fisheries until the upper Deschutes, itself, became devoid of large fish runs due to the construction of dams on the Deschutes and Columbia Rivers and other human impacts within these basins. (OK, AW, SM, EM)

These fisheries, however, were viewed as largely unsatisfactory. The quantities of salmon available from these distant fishing stations were much less than what had been found on the Klamath system

¹⁶⁶ Gatschet (1890), 149.

historically. Particularly in the upper Deschutes, claims on the fish resource by other tribes created tensions and obligations that had not existed within the Klamath basin. While villages had once been located so as to facilitate salmon fishing “out your front door,” travel to the fishery sites on the Rogue and Deschutes Rivers now involved an approximately 150 mile round-trip from Chiloquin in both cases—or an approximately 230 mile round-trip from Beatty. Scheduling constraints associated with tribal members’ entry into wage employment challenged the continuity of subsistence practices even within the immediate vicinity of Reservation era tribal settlements, and made such long-distance subsistence fishing largely unpractical. The logistical challenges posed by multiple day visits to remote locations by extended families were considerable, and non-Indian employers were typically reluctant to allow time off during the peak runs for this purpose.

Tribal members report fishing for a modest population of “landlocked salmon” that were trapped in the upper Klamath basin upstream from the Copco Dam for a short period of time, but that these populations soon disappeared. Tribal members reportedly fished for these landlocked salmon at traditional fishing stations in the 1920s and 1930s. Following that period, accounts of landlocked salmon become quite rare, though rumors of occasional, accidental catches of “fish that looked like salmon” were reported as late as the 1970s by tribal members.

The use of some of these traditional fishing sites has continued into the present day, but the absence of acknowledged subsistence fishing rights in that portion of the Klamath basin is a major hindrance to continued use of these areas for fishing.

AFFECTED TRUST RESOURCES

The Klamath Tribes have a variety of trust asset interests that will be affected by the alternatives being considered in the current Environmental Impact Statement. Of most immediate concern are the fish resource assets that have been reserved by and for the Klamath Tribes through a variety of legal instruments beginning with the Treaty of 1864 (16 Stat. 707). Ethnographic and historical treatments of Klamath and Modoc have consistently identified fish, principally salmonids and catostomids (“suckers”), as staple foods since the beginnings of the written record addressing the tribe (e.g., Deur 2004; Lane and Lane 1981; Spier 1930 Elliot 1910; Gatschet 1890). Anadromous fish used as staple foods included fall and spring Chinook salmon (*Oncorhynchus tshawytscha*), steelhead (*O. mykiss*), Pacific lamprey (*Lampetra tridentata*) and possibly coho (*O. kisutch*) and sockeye salmon (*O. nerka*). These anadromous fish entered the Klamath Reservation along the Sprague, Williamson, and Wood River drainages, as well as in the open waters of Upper Klamath Lake (Hamilton et al. 2005; Lane and Lane 1981). Although the exact quantities of fish consumed are difficult to establish, sources consistently depict anadromous salmonids as being staple foods, the focus of extended multifamily fishing operations often lasting weeks or months, and “an important source of wealth and stability” to the Klamath prior to the construction of the Copco No. 1 Dam in 1917.¹⁶⁷ Historically, Klamath Tribes members also have depended on a variety of resident fish species, including most importantly the resident rainbow trout (*Oncorhynchus mykiss*), *c’waam* or Lost River sucker (*Deltistes luxatus*) and *koptu* or shortnose sucker (*Chasmistes brevirostris*), as well as cutthroat trout (*Oncorhynchus clarkii*), Klamath smallscale sucker (*Catostomus rimiculus*),

¹⁶⁷ Howe (1968), 228.

Klamath largescale sucker (*Catostomus snyderi*), Pit-Klamath brook lamprey (*Lampetra lethophaga*), blue chub (*Gila coerulea*), tui chub (*Gila bicolor*), speckled dace (*Rhinichthys osculus*), and others.

TABLE 1. Some Principal Staple Fish Species of the Klamath Tribes.

KLAMATH NAME	COMMON ENGLISH NAME	SCIENTIFIC NAME
<i>c'iyaaal's</i>	spring and fall Chinook salmon	<i>Oncorhynchus tshawytscha</i>
	Coho salmon (possible)	<i>O. kisutch</i>
	sockeye salmon (possible)	<i>O. nerka</i>
<i>meYas</i>	steelhead	<i>Oncorhynchus mykiss</i>
<i>c'waam</i>	Lost River sucker	<i>Deltistes luxatus</i>
<i>Koptu</i>	shortnose sucker	<i>Chasmistes brevirostris</i>
	Klamath smallscale sucker	<i>Catostomus rimiculus</i>
	Klamath largescale sucker	<i>Catostomus snyderi</i>
	cutthroat trout	<i>Oncorhynchus clarkii</i>
	rainbow trout	<i>Oncorhynchus mykiss</i>
	Pacific lamprey	<i>Lampetra tridentata</i>
	Pit-Klamath brook lamprey	<i>Lampetra lethophaga</i>
	speckled dace	<i>Rhinichthys osculus</i>
	tui chub	<i>Gila bicolor</i>
	blue chub	<i>Gila coerulea</i>

The construction of the Copco No. 1 Dam, completed in 1917, completely blocked anadromous fish runs into the upper Klamath basin, and abruptly extinguished Klamath Tribes' access to anadromous fish. Two other major fisheries, resident salmonids ("trout") and catostomids, were left for use by the Klamath Tribes after the demise of these anadromous fisheries. The catostomid fishery consisted primarily of *c'waam* (Lost River sucker) and *koptu* (shortnose sucker) until the Tribes closed their fishery in 1986 to protect them in the face of severe population declines, which also prompted the federal government to list these fish as endangered in 1988 under the Endangered Species Act.

Resident salmonids are the only surviving tribal fishery, a precious resource to tribal members that could be significantly improved (Klamath Tribes 2010). Tribal oral tradition suggests that the timing of catostomid and trout population declines followed the extirpation of anadromous salmonids, reflecting partial dependence of these resident fish on marine protein from salmonid sources.¹⁶⁸ The loss of access to both anadromous fish and these sucker populations has had devastating impacts on the Klamath Tribes, eliminating access to resources of paramount dietary and cultural importance. The loss of these fish has transformed the overall diet of Klamath Tribes members, with a number of adverse outcomes for the health and economic self-sufficiency of tribal members. The alternatives for dam removal being considered as part of this Environmental Impact Statement have the potential to rectify the economic, cultural, and social impacts of the hydroelectric dams; conversely, the "no action" alternative will continue to compound the effects of these impacts.

¹⁶⁸ Deur (2004); Lane and Lane (1981).

Also potentially affected by the alternatives considered in the current Environmental Impact Statement is water quality and quantities in the Klamath River and its tributaries, which in turn impact the survivability of anadromous fish species. As noted previously, the Klamath Tribes retain a reserved right to in-stream water quantities in off-reservation locations that are sufficient to support fishing and other harvest rights on former reservation lands, as affirmed in the 9th Circuit Court of Appeals' decision in *United States v. Adair*, 723 F.2d 1394 (9th Cir. 1984). This ruling can be extended to the management of Klamath River hydrology, requiring that in-stream waters are managed in a manner that will facilitate the passage and robustness of anadromous fish runs, including not only sufficient quantities of water, but stream flows that are seasonally appropriate and consistent with the habitat requirements of salmonids.

The alternatives considered in the current Environmental Impact Statement also have the potential to affect a wide range of fish and wildlife species, other than anadromous fish, that are important to the Klamath Tribes for subsistence and cultural purposes. Recent studies have confirmed that no fewer than 137 other wildlife species depend on salmon consumption for some portion of their life cycle, drawing sustenance from smolts, adult salmon, or salmon carcasses—either through direct consumption or indirectly, through the consumption of species that rely on salmon directly.¹⁶⁹ The absence of salmonids in the upper Klamath basin continues to suppress the quantities of many of these species on the former Klamath Indian Reservation and elsewhere. Subsistence fish and wildlife species affected by the absence of salmon include, but are not limited to, black bear, mule deer, and a large number of waterfowl species, in addition to the resident trout and catostomid populations mentioned above.¹⁷⁰ Several salmon-dependent wildlife species are also of traditional cultural value to Klamath Tribes members beyond their subsistence value, including but not limited to Bald and Golden eagles, coyotes, cougar, American marten, weasel, bobcat, Red and Gray foxes, Northern river otter, various bat species, raven, crow, red-tail hawk, blue jay, a variety of songbirds, and others. (Extirpated, but once culturally significant species such as grizzly bear, wolf, and condor were also dependent on salmonids for some portion of their life cycle.)

Many of these species are revered for their cultural significance; pelts, feathers, and other body parts from some of these species are traditionally used in ceremonial regalia, traditional crafts, and other purposes. A few tribal members have relied on the sale of pelts from some of these species for supplemental income. In recent interviews, numerous tribal members note that the abundance of these other culturally significant species has declined, attributing this change in part to the absence of anadromous fish within the upper Klamath basin. In the course of ethnographic interviews, tribal members also have made reference to a number of culturally preferred riparian and marsh plant species that were said to have declined in productivity in the last century. Foremost among these is the yellow pond lily (*Nuphar polysepalum*), a source of edible seeds that has served as one of the most important staple plant foods of the Klamath Tribes. Some suggest that this decline correlated to declines in the fish population of the upper Klamath basin, and may reflect the reduction in nutrient loading to marsh plant procurement areas, in addition to other factors (Deur 2004). All of these resources represent Indian trust assets, requiring appropriate management.

The alternatives considered in the current Environmental Impact Statement also have the potential to affect tribal cultural practices, especially those relating to fish and water in the Klamath basin. Prior to the

¹⁶⁹ Cederholm et al. (2000).

¹⁷⁰ Cederholm et al. (2000); Lane and Lane (1981).

extirpation of anadromous salmonids from the upper Klamath basin, salmon - together with catostomids and trout—were the focus of an entire complex of cultural traditions, including distinctive fish harvesting and processing technologies; traditional ecological knowledge relating to fish habitats and behavior; and ritual traditions centering significantly on the maintenance of harvestable fish populations through ceremonial displays of respect for the fish, the Creator, and the other spiritual forces influencing the fishes' return. Through such means, the Tribe has always played an active role in the stewardship of anadromous fish resources. Many contemporary tribal members perceive this role as a cultural right and responsibility, divinely prescribed and of immense importance to the perpetuation of their cultural traditions generally. The importance of salmon procurement is reflected in the Tribes' languages, place names, songs, stories, and the moral teachings provided to children—a small fraction of which have been recorded by anthropologists over the last 120 years.¹⁷¹ No fewer than ten Traditional Cultural Properties in the upper Klamath basin have been documented to possess National Register eligibility based largely on salmonid procurement at these locations, and its cultural and historical importance to the Tribe, prior to the construction of the Copco I dam.¹⁷²

The extirpation of anadromous fish from the upper Klamath basin has effectively undermined these keystone elements of Klamath Tribes cultural tradition. The absence of these fish has severely compromised the intergenerational transmission of knowledge regarding the full range of traditional cultural practices relating to anadromous fish and their procurement. The absence of these fish has also precluded the large social gatherings associated with the fish harvest that served as a venue for economic exchanges, reunion with kin from other communities, and the forging and maintenance of intercommunity ties within the larger Klamath Tribes population. The extirpation of anadromous fish has also had cascading adverse cultural effects, in light of the biological effects of this extirpation on a wide variety of native fish and wildlife populations that are of enduring cultural significance to the Tribe; each species mentioned in the paragraphs above has its own unique cultural significance and associated cultural traditions, which have each been undermined by their decline. A number of Klamath Tribes ritual traditions also depend on access to, and the procurement and use of, pure water from natural sources. Water gathered in this manner is used in ritual purification of people, places, and objects, as well as in rituals associated with drought abatement and other environmentally restorative activities relating to natural water sources. While tribal members sometimes acquire water for these purposes from the Klamath River canyon area, the Klamath River is widely depicted as being of compromised quality for these ritual uses, in part due to the effects of the dams on water temperature, algae development, and other water quality variables.

Although the Klamath Tribes has the most direct interest in resource impacts upstream from the four hydroelectric dams, the alternatives considered in this Environmental Impact Statement have the potential to impact Klamath Tribes resource interests within the footprint of the dams and impoundments, as well as downstream from the dams within Klamath Tribes ceded lands. When utilizing the Klamath River corridor historically, tribal members' resource procurement activities were principally focused on riparian resources. These individuals commonly gathered riparian vegetation, including but not limited to willows (*Salix* spp.) for basketry and drying racks; tree species such as cottonwood (*Populus* spp.) for firewood; sedges (*Carex* spp.), rushes (*Juncus* spp.) cattail (*Typha latifolia*) and tule (*Schoenoplectus acutus*) for basketry mats and bedding; as well as a variety of berries and medicinal plants found uniquely

¹⁷¹ Deur (2004); Barker (1963a, 1963b); Spier (1930); Gatschet (1890).

¹⁷² Deur, (2004).

concentrated in the riparian corridor. Game that utilize the riparian corridor, such as white- and black-tail deer, rabbit, groundhog, and game birds were also taken in this area. Various forms of evidence suggest that these gathering activities were especially concentrated in recent alluvial deposits, consisting of gravel bars, and fresh deposits of silt, loam, and sand-sized particles; in these places, culturally prized early successional vegetation was abundant and, for example, roots used in basketry were unusually long, straight, and easy to dig. Tribal members also gathered rocks for use as cooking stones where available along the riparian corridor, especially using basalt cobbles and other dense, nonporous stones. Plants, animals, soil, and rock are all of enduring concern to Klamath Tribes members due in part to their historical economic significance, as well as their role in the environmental health of the Klamath River basin generally. While the Klamath Tribes does not currently report extensive gathering of these materials in the project footprint, tribal members indicate an enduring interest in the environmental integrity of the riparian corridor and a desire to retain opportunities to harvest along that portion of the riparian corridor that transects Klamath Tribes' ceded lands.

The alternatives being considered as part of the current Environmental Impact Statement also have the potential to affect tribal trust lands. In response to the loss of the Klamath Reservation as a result of the 1954 Klamath Termination Act and the absence of provisions for the Reservation's return in the 1986 Klamath Restoration Act, the Klamath Tribes have been actively acquiring lands within the footprint of the former Reservation and placing them in trust status. These existing and pending trust lands are affected by the same environmental variables discussed in reference to the entire upper Klamath basin. As summarized above, through the extirpation of anadromous salmonids from the upper Klamath basin, the Klamath hydroelectric project has had a number of adverse impacts upon the environmental integrity of the upper Basin. In addition to the loss of salmonids and tribal practices related to these fish, these adverse impacts include but are not limited to the depression of riparian plant and animal communities and changes to nutrient cycling in surface waters that have affected overall riparian habitat conditions. Existing and pending trust lands include properties that are transected by waters formerly housing populations of anadromous fish; for this reason, the environmental degradation associated with anadromous salmonid extirpation in the upper Klamath basin has measurable impacts upon the condition of Klamath Tribes lands in trust status. Accordingly, any discussion of specific environmental impacts of EIS alternatives in the upper Klamath basin must be understood to imply the manifestation of those impacts directly on Indian trust lands.

Health Impacts

The loss of salmon was said to have initiated some of the most dramatic dietary shifts in the Klamath Tribes, being the first dietary staple to be lost to the tribes. For a time, this fostered the increased use of deer and mullet, and some tribal members felt that this resulted in localized overuse of these resources when taken in combination with poor fish and game management by the State of Oregon. For some, the loss of the salmon was the instigating event for a dietary transition that led to the ultimate dependence of the Klamath Tribes on the purchase of processed foods and the use of supplementary commodity foods. “[Salmon] was our store for the winter...we lost it.” (CC)

Tribal members attributed a number of historical health problems to the loss of salmon. A 1920s tuberculosis epidemic was said to have been worsened by the rapid impoverishment of the diet in preceding years. “Salmon is good food...healthy...that's why [our ancestors] used to have their own teeth!” (PW) Recent Indian Health Service studies endorsed by the Klamath Tribes conclude that a host of

physical ailments that plague Klamath Tribes members have been linked to the demise of the aboriginal diet. Diabetes, hypertension, obesity, and related cardiovascular ailments are described as being particularly widespread, reflecting dramatic changes in food consumption and procurement patterns. A number of tribal consultants expressed the view that the loss of salmon was among the most significant components of this dietary shift.

Damming of the River

According to some accounts, in 1917, the opening of Copco No. 1 dam completely blocked anadromous fish runs into the upper Klamath basin, suddenly and utterly extinguishing Klamath Tribal fisheries for spring and fall Chinook salmon, and possibly Coho salmon, and steelhead.¹⁷³ Two other major fisheries, catostomids (suckerfish) and resident salmonids, were left for the Klamath Tribes. In 1986 the Klamath Tribes closed the catostomids fishery to protect them in the face of severe population declines, which prompted the U.S. government to list the suckerfish as endangered in 1988. Loss of this staple fishery, whose abundant springtime runs had traditionally ended winter deprivation for the Indians in the upper basin, was another major blow to the Klamath Tribes. Resident salmonids are the only surviving tribal fishery.¹⁷⁴

In the 1864 treaty, the Klamath peoples reserved for themselves the exclusive right to fish in the streams and lakes of their reservation. Clearly, the destruction of the anadromous fish runs in reservation waters was a violation of the treaty, one that has not been addressed in the years since the dams were built. The loss of the catostomid fishery resulted directly from human activities and development in the basin¹⁷⁵ and is another breach of the treaty.¹⁷⁶ In 1917, construction of Copco Dam no. 1 completely blocked anadromous fish runs into the basin, suddenly and utterly extinguishing Klamath Tribe fisheries for *c'iyaaal's* (spring and fall Chinook salmon, and possibly Coho salmon) and *meYas* (anadromous redband trout, that is, steelhead).¹⁷⁷ Two other major fisheries, catostomids and resident salmonids, were left for use by the Klamath Tribes after the demise of the anadromous fisheries. The catostomid fishery was primarily *c'waam* (Lost River sucker) and *koptu* (shortnose sucker) until the Tribes closed their fishery in 1986 to protect them in the face of several population declines, which also promoted the federal government to list them as endangered in 1988.¹⁷⁸

“The river bottomlands were covered with beautiful farms used mostly for cattle raising. The homes and buildings were old but generally well kept.

“The river meandered throughout the area, slow flowing and deep until it reached the canyon, where it became very rapid.

¹⁷³ Lane and Lane (1981).

¹⁷⁴ Klamath Tribes. July 2010. “Scoping Comments for an Environmental Impact Statement Regarding the Klamath Hydroelectric Settlement Agreement.”

¹⁷⁵ National Research Council (2004).

¹⁷⁶ Klamath Tribes (July 2010).

¹⁷⁷ Lane and Lane, “Copco Dams and Fisheries of the Klamath Tribe,” prepared for the Bureau of Indian Affairs, U.S. Department of the Interior, December 1981. In letter from Gary Frost, Tribal Chairman, The Klamath Tribes Tribal Council to the Bureau of Reclamation, July 20, 2010.

¹⁷⁸ Letter from Gary Frost, Tribal Chairman, The Klamath Tribes Tribal Council to the Bureau of Reclamation, July 20, 2010.

“The soil was river silt, some subirrigated and some irrigated from numerous springs, dip wheels and inflow creeks.

“It would be necessary, if a dam were built at the head of Ward's Canyon to flood practically all of those good farm lands.

“The people who lived on their farms were very reluctant to sell even though the prices offered were somewhat high, but they realized that power development was progress and use of electricity was rapidly becoming a public necessity.

“The area surrounding the project was a happy hunting ground for the Indians, plenty of fish in the river and bountiful wildlife in the lava canyons, especially in wintertime. Cats and birds of all kinds native to the country were in abundance on the sunny slopes between the rim rocks.¹⁷⁹

Arguably, salmon have not been sighted in the areas above the dams in about 100 years. However, in 1907, before the dams went into service, an anthropologist wrote, “Fish were abundant in the lakes, salmon and salmon trout being especially esteemed by the Indians”¹⁸⁰ Other first-hand observations confirm the presence of salmon before the dams. In the 1940s, in preparation for a lawsuit against Copco for blocking the anadromous fish runs, Bureau of Indian Affairs Superintendent Courtright interviewed 50 older members of the Klamath Tribe and non-Indian settlers in the area about salmon in the Klamath basin.¹⁸¹ These unpublished affidavits unanimously claim there were salmon in fisheries as far above Klamath Lake as the Sprague and Williamson rivers, Upper Klamath Lake, and Spencer Creek. Spier reported on salmon in the Klamath basin: “They ascend all the rivers leading from Klamath Lake ... going as far up Sprague river as Yainax, but are stopped by the falls below the outlet of Klamath marsh.”¹⁸² A tribal elder in the 1940s claimed that he had observed salmon as far up the Sprague River as Bly.¹⁸³

By all accounts, salmon “is still very important” to members of the Klamath Tribes, symbolically and culturally. “Though I didn’t have the opportunity to fish for salmon, I miss it.” (CC) Moreover, tribal members insist that “all [traditional salmon fishing stations] are being used today,” whether for subsistence purposes, ceremonial activities, historical memorialization, or instruction of children on tribal history and culture. (EM) “We’re there giving thanks for what the Creator gave us and what he is giving us...and asking that it be given back.”(EM) Resources that were once harvested secondarily to the salmon harvest have now become the focus of subsistence activity at these stations, and tribal members still use certain historic campsites at these stations during subsistence, social, and ceremonial activities. Tribal members continue to participate in ritual activities “to bring back the salmon,” while the Klamath Tribes government continues to explore legal and administrative options to achieve the same goal.¹⁸⁴

¹⁷⁹ John C. Boyle. “Copco No. 1 and No. 2.” In *50 Years on the Klamath*. John C. Boyle, publisher, 1976.

¹⁸⁰ Barrett, 1910, 243.

¹⁸¹ B.G. Courtright. “Memorandum—Salmon on the Klamath.” Klamath Agency Oregon, January 16, 1941. Also Letters to K.R.L. Simmons dated August 13, 1941; June 24, 1942; and January 29, 1943; Courtright was superintendent and Simmons was an attorney with the Bureau of Indian Affairs. Reported in Lane & Lane Associates, pp. 57-63.

¹⁸² Spier (1930), 148.

¹⁸³ Lane and Lane (1981), 54.

¹⁸⁴ Ibid.

APPENDIX H

Public Domain Allotments Sample Outreach Letter

Appendix H. Public Domain Allotments Sample Outreach Letter

Letters were sent to all known owners and heirs of the 357 Public Domain Allotments explaining the pending Secretarial Determination and asking for comments concerning current operations and EIS/EIR alternative effects on trust resources. Return-addressed and stamped postcards were also provided with the letter. These postcards requested that the owners or heirs indicate any perceived effects on PDA trust resources, provide more information, or indicate that they have no further interest in the process. A 15-day turnaround response was requested. A sample letter follows.