

# SHORELINE PICTOGRAPHS OF EXTREME SOUTHEAST ALASKA

Martin V. Stanford

Ketchikan–Misty Fiords Ranger District, Tongass National Forest, 3031 Tongass Ave., Ketchikan, Alaska 99901;  
mvstanford@fs.fed.us

## ABSTRACT

Before 2000, only seven pictograph sites were recorded on the Ketchikan–Misty Fiords Ranger District (KMRD), Tongass National Forest, Alaska. Since then, KMRD archaeologists have located an additional fifty-four pictograph sites. This was accomplished through systematic shoreline surveys using a predictive model for pictograph locations developed by the author. Radiocarbon dates were obtained at four pictograph sites from presumed associated wood or charcoal. Some of these pictographs may have shamanic connections.

**KEYWORDS:** Tlingit, rock art, Tongass National Forest, pictographs

## INTRODUCTION

Northwest Coast rock art is found from Yakutat Bay in Southeast Alaska to the lower Columbia River region in Washington and Oregon and includes both pecked petroglyphs and painted pictographs (Lundy 1982:89). Although the best known Northwest Coast rock art sites are petroglyphs, recent studies show that pictographs<sup>1</sup> are more common than previously thought (Poetschat et al. 2002:13–21).

The study area is located in extreme Southeast Alaska mostly on the Ketchikan–Misty Fiords Ranger District (KMRD) in the Tongass National Forest (Fig. 1). No pictographs have been recorded on Annette Island (Joan Dale, pers. comm., February 2009), the only Indian reservation in Alaska. KMRD encompasses over 13,000 square kilometers, approximately two-thirds of which is Misty Fiords National Monument. KMRD has nearly 4,000 kilometers of saltwater shoreline, not including the shores of lakes, rivers, and creeks.

The study area is a rugged temperate rainforest with annual precipitation sometimes exceeding 500 cm (200 inches). The area is cut by deep, steep-sided fiords. Many of the islands are mountainous and, like the mainland,

covered by muskeg and dense forests of hemlock, spruce, yellow cedar, and red cedar up to 600–950 meters asl. Glaciers are present but most have receded significantly in the last century. Access to the interior is via the Stikine River to the north of the study area, the Unuk River centrally and the Nass and Skeena Rivers to the south.

The earliest written records concerning KMRD pictographs date back to Thomas Talbot Waterman. In the early 1920s, Waterman traveled to Ketchikan where he interviewed Native informants and collected hundreds of Native place names. Two of these place names referred to what some of his Tlingit informants called *kaotutxí* or “signboards” (Waterman 1922b:33, 48). Field investigations by the author determined that these “signboards” were pictographs and located additional pictographs at or near other place name locations recorded by Waterman.

## PICTOGRAPH LOCATION MODEL

In “Notes on Rock Painting in General,” James Teit (1864–1922), who documented the lifeways of Native peoples in southcentral British Columbia, stated that pictographs are

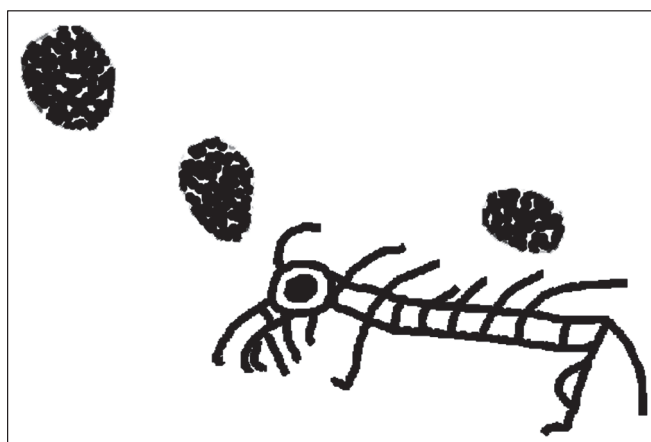
1 Graffiti that is clearly modern and attributed to fishermen and others is not included in this research.



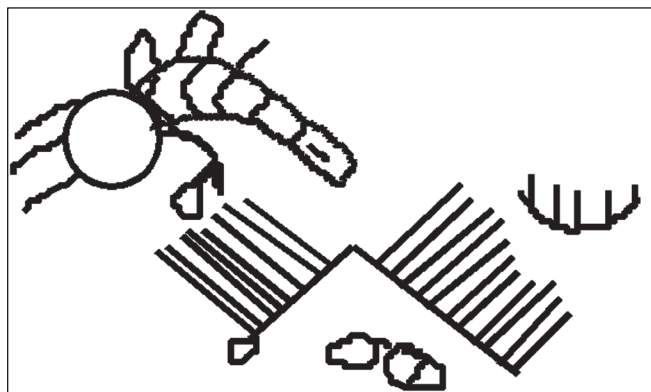
Figure 1: Map of the study area showing pictographs, other sites and reported portage locations.

“generally, located in lonely or secluded places that... are associated with places of power” (1918:1). However, what constitutes a “place of power” is not clear. In order to more accurately predict pictograph locations, the author identified multiple parameters describing the spatial context of painted pictographs in the KMRD.

In the spring of 2001, Alaska Department of Fish and Game employees reported the location of some “paintings” on a rock wall along the shoreline of Lake Hugh Smith. The pictographs at KET-723 (Figs. 2, 3) were a very faint reddish color and painted on a small rock wall



*Figure 2: KET-723 is located on the north shore of Lake Hugh Smith. Near the center is an image of Gunakadeit, the wealth-giving sea monster (Dan Monteith, pers. comm., 17 May 2001).*



*Figure 3: At KET-723, an 83-cm-long “dragonfly” motif (Keithahn 1963:73) is located at upper left with two grids of parallel lines below and two adjoining ovals. At the center right is a canoe.*

that was protected from the elements by an overhang. The site had a rock ledge, which made it easy to record and measure the pictographs. Computer enhancement of the photographs revealed a canoe motif that had not been observed in the field.<sup>2</sup> That same day, a rock wall similar to KET-723 was discovered in Boca de Quadra. Like KET-723, pictographs at this site (KET-724) were painted on a rock wall beneath an overhang. These two sites illustrate some attributes key to discovering pictographs: protected rock walls with adjoining benches. Additional sites were discovered by looking for these landscape features. The pictograph location model described below is the result.

In the study area, all pictographs are located on naturally formed rock walls in close proximity to water. As of 2011, only three pictograph sites have been discovered along the shorelines of freshwater lakes and only two have been located along the shores of rivers. However, such areas have not been as systematically investigated as saltwater shorelines. To date, no pictographs have been located along exposed coastal areas with heavy surf, surge, or strong currents.

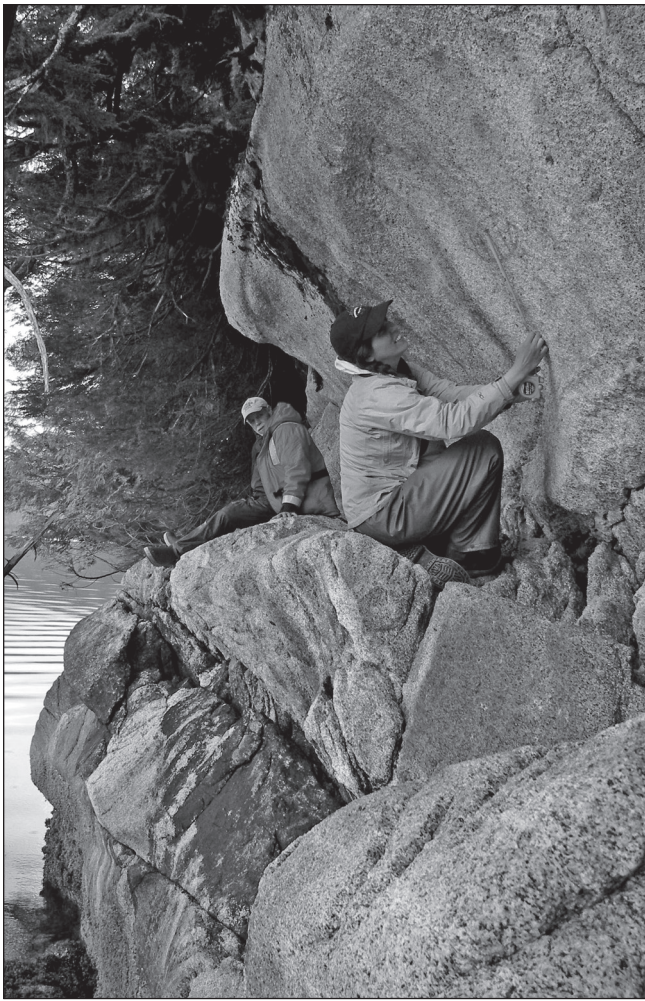
All pictographs were located on rock walls with overhangs or some other protection from the elements, mainly precipitation, wave action, splashing water, water seepage, ice, and snow. A good example of an overhanging rock wall with a rock bench or ledge is XBC-058 (Fig. 4, Plate 1). Those painting the pictographs apparently preferred to use smooth, light-colored igneous rock such as granite, granodiorite, and diorite. Fewer pictographs have been discovered on metamorphic rocks; to date, none have been discovered on sedimentary or volcanic rock.

Pictographs within the study area occur within rock-shelters, on the sides of boulders, and, in all probability, inside caves. While some pictographs are located on prominent points of land, they may also be painted on the less conspicuous rock walls of inner channels, fiords, freshwater lakes, and along the margins of navigable rivers. Artists may have meant for the pictographs to be seen by people passing by. Other pictographs, in less conspicuous areas, may have been painted in secret and were not meant to be seen by anyone except, perhaps, supernatural entities.

Unlike petroglyphs, there does not seem to be a correlation between pictograph location and known salmon creeks (Keithahn 1940:128). Nor do pictograph sites

<sup>2</sup> Unless otherwise indicated, all pictograph photos were originally taken in color by the author. Adobe Photoshop ver. 8.0 was used for enhancement. “Dstretch” (<http://www.dstretch.com/>), a free software program developed by Jon Harmon specifically for pictograph enhancement, was also used, but Photoshop produced consistently better results. Site designations use the Alaska Heritage Resources Survey (AHRS) system and are based on quadrangle maps (1:63,360 scale); CRG = Craig, KET = Ketchikan, XPR = Prince Rupert, and XBC = Bradfield Canal.





*Figure 4: XBC-058. The overhanging rock wall provides a “canvas” and protects the pictograph from the elements. The bench or ledge located below allows access to the wall. US Forest Service archaeologists Mark McCallum (left) and Nicole Lantz. May 2007. See also Plate 1.*

appear to be concentrated near old winter villages. Their locations are distributed over a large area, with some painted in very remote locations. This pattern suggests that most pictographs were painted in the spring, summer, and fall, during gathering and trading seasons, rather than during the winter, when weather and sea conditions were at their most challenging.

Some pictographs were painted to take advantage of natural features in the rock. For example, KET-932 is located in the Behm Narrows on a very large rock wall and consists of a small face (~32 cm tall) that utilizes a natural slit in the rock as part of the mouth. At KET-1135, located on the north shore of Humpback Lake, is a single salmon motif (Emmons 1991:80) estimated to be about 70 cm long (Fig. 5). The salmon seems to have been de-

liberately painted beneath a white rock intrusion that the painter may have interpreted as a waterfall that the “salmon” is trying to negotiate. The lack of a rock ledge suggests the image was painted using watercraft. A third example (KET-1202) shows a skeletonized anthropomorphic figure holding a natural feature in the rock wall (Plate 2).

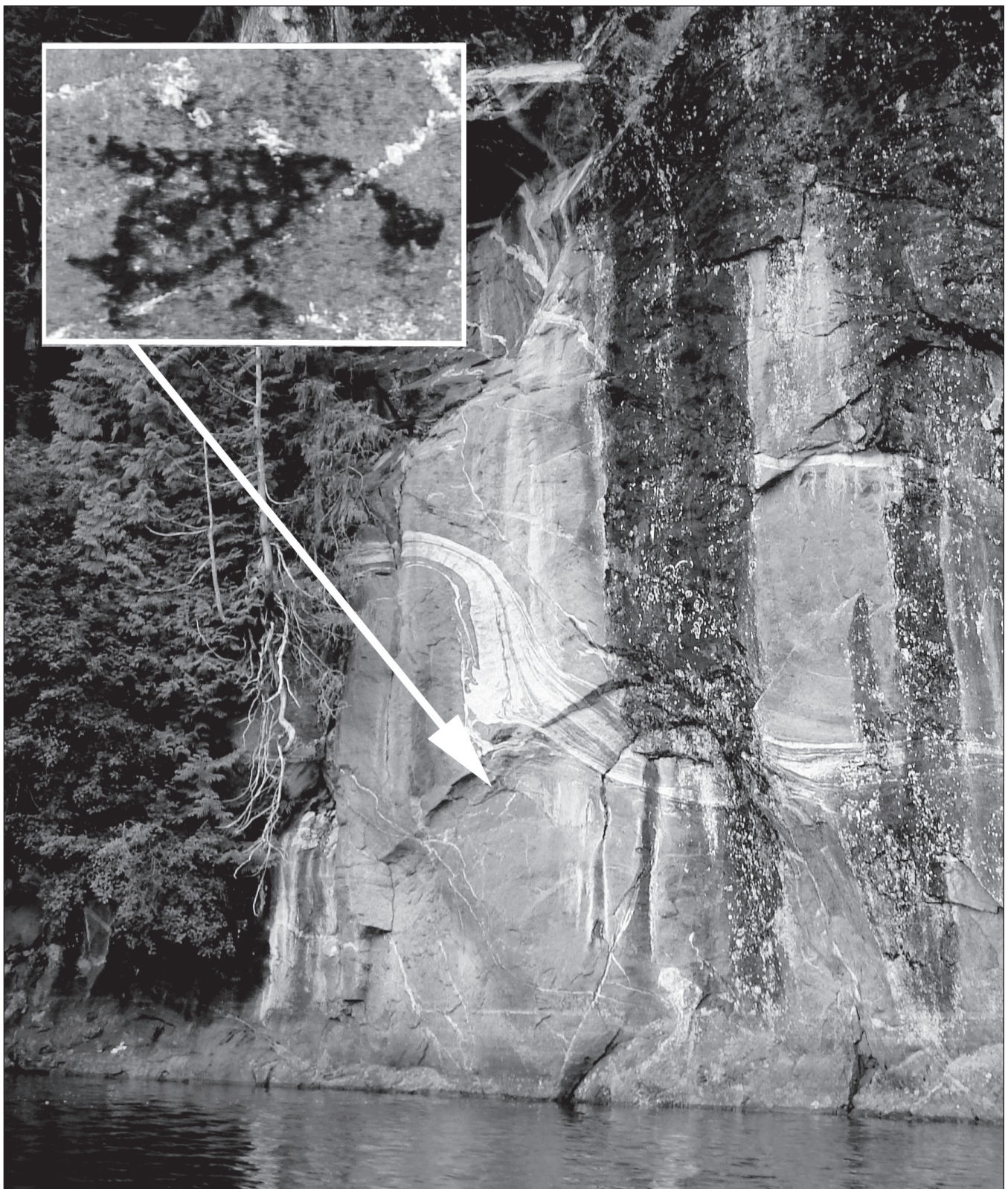
Most pictographs (66%;  $n = 40/61$ ) were painted on walls less than ten meters high. Some were painted as low as one meter above water level (high tide, lake level, river level), while others occur as high as ten meters. The majority (98%;  $n = 60/61$ ) are painted on walls that are only accessible by watercraft. Most (82%;  $n = 50/61$ ) also have a rock bench or ledge that provided access from the water (Fig. 4). Pictographs with this type of access tend to be more complex and have a greater number of motifs than those that do not. Some of those with ledges could be considered shallow rockshelters. These sites were probably not occupied more than a few hours to a few days, as their use appears limited to painting pictographs and/or installing a burial box, or a box of shaman’s paraphernalia.

In some cases, rock ledges provided a platform to erect ladders or scaffolding in order to paint higher up on the rock faces. James Teit (1918:6–7) wrote: “On some cliffs...young men sometimes made ladders...or...suspended themselves with ropes, to make their paintings out of ordinary reach or in some striking place...in order to impress others.” Frederica de Laguna (1960:58) mentions that the pictographs near Whitewater Bay were so far above the nearest ledge that scaffolding may have been used to make them. There are several pictograph sites within the study area where ropes, ladders, or scaffolding may have been necessary. For example, KET-924 (Plate 3), located in the Portland Canal on a large rock wall, is a small pictograph about twenty cm wide. It was painted approximately five meters above high tide. There is no rock ledge and it appears that someone went to an extraordinary effort to paint this single motif, which has been interpreted as a drum (Poetschat et al. 2002:18).

Pictograph sites lacking rock ledges (18%;  $n = 11/61$ ) were likely painted by standing in some type of watercraft, probably a canoe. These pictographs usually are composed of only one or two simple motifs, perhaps because it was difficult to paint from a bobbing canoe. They tend to be less well preserved, likely because they are located closer to the water and wave action.

Pictographs tend to be located on rock walls facing east, south, or west (average = 168.8°). They do not face northerly directions between 300° (WNW) and 45° (NE).





*Figure 5: A salmon motif (inset computer enhanced) was painted beneath a white “waterfall” intrusion at KET-1134. Photo by Suzanne Webb. August 2010.*



In Burroughs Bay, for example, there are four pictographs; all were painted on south-facing walls, even though there were similar rock walls free of moss and lichens facing north on the other side of the bay. Southern exposures tend to be warmer and drier, with less moss or lichen growth, allowing for pictograph preservation. In some cases there may be ritual reasons for painting pictographs that face the sun. For example, there is a rising sun motif (Doris Lundy, pers. comm., 5 September 2008) at KET-922 (Fig. 6), located in Portland Canal. This motif measures about 2.0 meters tall and partially encloses a badly deteriorated anthropomorphic figure. The motif has an aspect of 105° true which, depending on the time of year, may be the general direction of the rising sun.

Before 1993, only three pictograph sites had been recorded by archaeologists working in the study area. In 1993, when KMRD archaeologists started using sea kayaks for coastal surveys, four pictograph sites were located (Edmondson and Foskin 1993). An additional five sites were discovered in 2002 when KMRD archaeologists first began to systematically survey with sea kayaks and use the pictograph location model presented above. In 2004, seventeen pictograph sites were discovered. As of 2011, sixty-one sites have been recorded in the study area; 57% ( $n = 35/61$ ) of them were located using sea kayaks. Sea kayaks provide the perspective that the original painters had and require archaeologists to slow down and be more observant. Skiffs also work well (38%;  $n = 23/61$ ), but the key to finding the sites is to get close to the rock walls, slow down, and examine them very carefully. Researchers should photograph and document any likely red splotches or stains for later computer enhancement.

In sum, pictograph painters appear to have chosen rock walls that:

- are overhanging or protected from the elements;
- are located close to water and usually only accessible by watercraft;
- usually, but not always, have rock ledges for access;
- have aspects facing the water, but not north between 300° and 45° true;
- are usually less than ten meters high, located in rock-shelters or caves of inner channels and along the margins of freshwater lakes and navigable rivers;
- are between one and ten meters above water level;
- provide good contrast;
- are relatively smooth.

Pictographs are not found on rock walls located in high-energy environments with heavy surf, surge, or

strong currents. Discovery requires a vantage point similar to that of the original painters and close, deliberate observation from small watercraft, such as kayaks or skiffs. Locations may be confirmed and/or details enhanced using software.

## COMPUTER ENHANCEMENT

Computer enhancement of digital images may confirm whether a red splotch is a pictograph or just a natural iron oxide stain. One of the challenges in finding pictographs and seeing the motifs is their tendency to fade through time. Frederica de Laguna (1960:104) wrote that pictographs “can be momentarily brightened by light applications of kerosene” and that this “does not remove any of the pigment.” Fortunately, computers, digital photography, and software provide much better options than kerosene.

Graphics software can enhance photos of faded pictographs; the results can be dramatic. By adjusting the *saturation* level to increase the color intensity, motifs may be more easily seen. *Hue* can subsequently be adjusted to modify the colors, which may reveal more details. This method saturates all colors in the images, including lichens, moss, and the rocks themselves. However, other, more sophisticated methods target only specific hues.



*Figure 6: “Rising sun” motif at KET-922 with an aspect of 105°. On the far right are eight dots in vertical alignment. July 2004.*



The following is an example of how digital enhancement of pictograph images can aid researchers. Several motifs were painted on a large overhanging rock wall at KET-755, located about midway up the east Behm Canal (Fig. 7a). At the time of discovery, water was observed dripping from the overhanging rock wall and splashing onto the pictographs. The wet motifs were very faint and difficult to see, while others nearby were dry and noticeably brighter. Exposure to water likely dissolves the pigments used to paint the pictographs. By increasing the color saturation of the digital image, several motifs are revealed (Fig. 7b), including a large canoe measuring about 57 cm long, four rayed ovals, and a circle-cross motif.

## HOW THE PICTOGRAPHS WERE PAINTED

All of the pictographs in the study area were painted using a red to reddish-brown pigment. Ethnographic research has provided data on the composition of red pigments and how they may have been prepared for pictograph painting. There is little information regarding the source of the pigments. The primary mineral pigment used was deep red hematite ( $\text{Fe}_2\text{O}_3$ ). Hematite mixed with clay is ochre (Corner 1968:21). The earliest known red ochre associated with an archaeological site in Southeast Alaska was discovered during excavations between 1997 and 2000 at On Your Knees Cave (PET-408), a 9,200-year-old site located on the northwest coast of Prince of Wales Island (Dixon et al. 1997; Mrzlack 2003).



*Figure 7a: Pictographs at KET-755 are nearly invisible and have faded due to water damage from a nearby drip line. Compare with Fig. 7b, which has been computer enhanced. September 2005.*



*Figure 7b: Enhancement revealed a canoe, four rayed ovals, and a circle-cross motif at KET-755.*



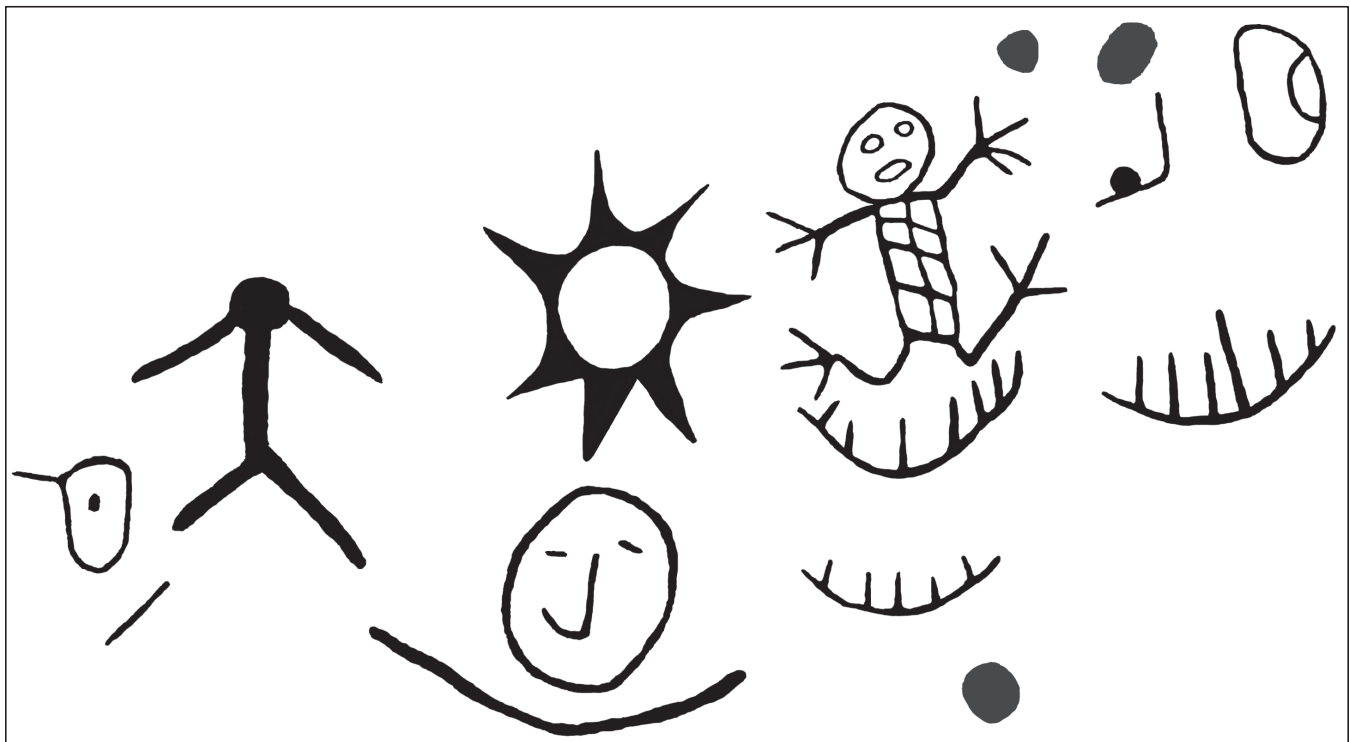
According to Teit (1918:3), the color red was almost always used for painting pictographs, as it symbolized life, goodness, and good luck. On some ceremonial occasions, Tlingit painted their faces red, which they reportedly also did for fishing, hunting, and warfare (Krause 1956:101). Red ochre was not only used to paint objects, clothing, and faces, but also used for the corpse during funerals (Kan 1989:307) and during curing ceremonies conducted by shamans, which could include restoring the dead to life (Swanton 1908:464). This suggests that the red paint or pigment was believed to possess a supernatural potency.

Some Native peoples in Southeast Alaska and British Columbia procured red ochre through trade with the interior (Corner 1968:22; Emmons 1991:250). There are three references to locations where red pigment may have been obtained for use in the study area. First, a Native informant told Waterman (1922b:33, #204<sup>3</sup>) of a pictograph site (KET-746, Fig. 8) located near the mouth of Carroll Inlet that was called “Signboard Rock” or, in Tlingit, *Kawchxitk’i Ye*. This site has four canoes, a sun sign

(Emmons 1991:80), and a skeletonized anthropomorph with bent legs. Waterman (1922a) collected a short narrative<sup>4</sup> related to this site: “Sitka Chief used boat of sea-lion skins, painting in red from Chilkat.” This short story seems to imply that the pigment used to paint these pictographs was obtained from the Chilkat, near what are now Haines, Klukwan, and Skagway.

Several passes in the Chilkat territory, including the Chilkoot Pass, were traditional routes for the Chilkat to trade with their inland neighbors (Goldschmidt and Haas 1998:27). National Park Service archaeologists located two rockshelters below the summit of Chilkoot Pass; both contained traces of what was identified as red ochre. The first rockshelter (49-SKG-148) was dated with three charcoal samples and an 1854 U.S. quarter dollar coin to the nineteenth century (Rasic 1998). Charcoal from the second rockshelter (KLGO 00050.000) dated to cal AD 1460–1660 (Devereaux 2010).

A second possible pigment source is Clear Creek Paint Gathering Site (KET-049), located near the mouth of the



**Figure 8:** Pictographs at “Signboard Rock” (KET-746). There are four canoes; one appears to have a face riding inside. Above is a sun sign. To the right is a leaping or dancing skeletonized figure. No measurements are available.

3 Numbered items refer to the system Waterman used to label Native place names. Waterman described each name in NAA MS 2938 (e.g., Waterman 1922b) and also labeled the sites on maps in the Manuscript Archives of the Bureau of American Ethnology, National Anthropological Archives.

4 Waterman (1922a) listed Joe Baronovitch, James B. Williams, Peter Williams, and Thomas Johnson as his informants; however, it is unclear from his notes which place names or stories were provided by which informant.

Table 1: Radiocarbon dates from pictograph sites

AHRS Site no.	Material/Analysis	Lab Number	Measured Radiocarbon Age	$\delta^{13}\text{C}$	Conventional Radiocarbon Age	2 $\sigma$ Calibration
KET-020	wood/AMS	Beta-195620	130 $\pm$ 40 BP	-21.3‰	190 $\pm$ 40 BP	cal AD 1645–1699 (p = 0.24) cal AD 1721–1818 (p = 0.51) cal AD 1833–1880 (p = 0.07) cal AD 1915–1953* (p = 0.18)
KET-1047	charred material/AMS	Beta-247604	270 $\pm$ 40 BP	-25.3‰	270 $\pm$ 40 BP	cal AD 1486–1604 (p = 0.50) cal AD 1607–1675 (p = 0.40) cal AD 1769–1770 (p < 0.01) cal AD 1777–1799 (p = 0.08) cal AD 1941–1951* (p = 0.01)
KET-1202	textile/AMS	Beta-303722	20 $\pm$ 30 BP	-22.4‰	60 $\pm$ 30 BP	cal AD 1694–1727 (p = 0.24) cal AD 1812–1919 (p = 0.74) cal AD 1952–1954* (p = 0.02)
KET-926	wood/radiometric	Beta-208895	50 $\pm$ 50 BP	-26.9‰	20 $\pm$ 50 BP	cal AD 1685–1731 (p = 0.25) cal AD 1808–1927 (p = 0.73) cal AD 1951–1954* (p = 0.02)

Ranges marked with an asterisk (\*) are suspect due to impingement on the end of the calibration data set. Calibrated using IntCal09.14c (Reimer et al. 2009; Stuiver and Reimer 1993).

Chickamin River and reported by Sealaska Corporation (1975:50–51). This site was described by an informant as “A paint gathering place and hooligan camp.” Sealaska was not able to confirm the location of the reported site, nor was the author, who investigated the area in 2006 (Stanford 2006).

A third possibility is Blue Stone Island, or *Nëixinte X'áat'i* in Tlingit, a place name collected in 1922 by Waterman (1922b:25, #134). His informants reported: “Used to be cemetery here; bone scattered in cave. Got paint here.” Located south of Duke Island in the Alexander Archipelago, “Blue Stone Island” is now called Vancouver Island (Orth 1971:1017). In 2005 the island was intensively investigated by the author, but no cultural resources were identified. However, there were reddish-orange lichens growing on the walls of many rockshelters. A sample was identified by KMRD botanist Steve Trimble as a green algae from the genus *Trentepohlia* that contains red pigment (Stanford 2005:50). Leechman (1932:204) wrote that another source of red pigment along the Northwest Coast was “a fungus (*Ganoderma tinctorum*)<sup>5</sup> which was roasted and then powdered.” This gives some credence to the idea that red pigment was made from a variety of materials, not just red ochre.

Several researchers obtained information that human blood was used for painting pictographs. In 1905

Emmons (1991:81, 329) reported that “On a rock cliff on the west bank of the Chilkat River, some 12.9 kilometers above Klukwan, is a rude painting [SKG-017] of a head in red . . . which was said to have been painted with the blood of Hoonahs who had attacked the Chilkat. This painting commemorates the victory of the Chilkats over the Hoonahs.” De Laguna reported a similar use of human blood near Angoon (1960:49, 58). Other researchers have suggested that melted animal fat (Teit 1918:3), bear grease (Stewart 1996:70), fish oil, pitch, and even fish eggs mixed with saliva were used as binders (Corner 1968:22).

Pigments from the study area have not been analyzed. The red pigment was likely obtained from a variety of sources; multiple binders and preparation methods may have been used. Future direct sampling of some of the pictographs, along with new analysis technologies, may help determine what kind of pigments and binders were used to paint the pictographs (Mrzłack 2003; Rowe 2009).

The only archaeological site, other than perhaps the pictographs themselves, within the study area known to contain red ochre is located on a small island at the southern end of Lake McDonald. The site (KET-524) is on the west side of the island and immediately adjacent to a Forest Service recreation cabin. Both ground stone and obsidian flakes were recovered during test excavations in 1997. Small amounts of red ochre were also collected. These consisted

5 Commonly called Indian paint fungus; its current scientific name is *Echinodontium tinctorium*.

of two small clumps of a fine dark red, sandy material mixed with clay and weighing less than 10 grams each. Charcoal closely associated with the red ochre was dated to cal AD 1245–1405 (Beta-10944; Lively 1997). A pictograph site (KET-094, Fig. 9) is located about 5.3 km to the northwest of the island on the shore of the same lake.

Hilary Stewart (1996:65, 70–71, 133) stated that Northwest Coast people used a variety of stone pestles and mortars to prepare pigments. Ground stone vessels or large clam shells were used to hold them. De Laguna (1960:105) reported that “The most interesting whetstone is a rectangular micaceous sandstone slab from Pillsbury Point [near Angoon] on which red hematite has been ground. The paint identified by a middle aged woman as that used for painting pictographs, not for use on the face.”

Pigments could be applied by finger painting (Teit 1918:3), but fine lines indicate the use of small brushes (Keyser 1992:14). Brushes were made of fine porcupine hair set into cedar hafts (Emmons 1991:196; Stewart 1996:71). In Pictograph Cave (CRG-231) on Prince of Wales Island, “Some of the grid designs are drawn... by the use of a lump of raw ochre or an ochre crayon” (Poetschat et al. 2002:18). Most of the pictographs in the study area are so weathered and faded that it is difficult to determine whether they were painted with fingers, brushes, or “ochre crayons.” No brush marks have been observed and no brushes or paint containers have been discovered in the vicinity of the pictograph sites. Many pictographs were painted with fine even lines, while some of the larger ones have lines measuring as much as ten to twenty cm wide. This suggests the use of brushes, as it would be difficult to make small fine lines or long wide lines using only fingers or ochre crayons. At several pictograph sites there are areas where the painter spilled paint on the rocks below, perhaps indicating that a vessel was used to hold the paint. At one site (KET-418, Fig. 10), the pictograph includes handprints.

## DATING THE PICTOGRAPHS

John Corner (1968:15) made a good point when he wrote: “It seems strange that there are no reports of pictographs in the journals of early explorers, fur traders, and miners, during their travels... through British Columbia.”

In 1793, Captain George Vancouver anchored his ships at places such as Port Stewart, Alaska, and Observatory Inlet, British Columbia, for weeks at a time (Menzies 1993:12, 26; Vancouver 1798 [1984]:985–1068). Smaller



*Figure 9: KET-094 is located on the north shore of Lake McDonald near a reported portage route. At upper center is a starfish with the head of a raven or eagle to the right. A beaver is depicted below. Above the beaver's tail is a very faint pictograph of a canoe. Two killer whales are located at upper right; the largest measures about 71 cm. July 2000.*



*Figure 10: At KET-418 (“Carroll Inlet Crying”) are six handprints below and to the right of a face. The left eye on the face is larger than the right. Both eyes have short rays emanating upwards. A mostly obscured sitting figure is located to the far right. May 2003.*



launches were used to explore and map the narrower channels and fiords. These vessels were very maneuverable, could operate under sail or with oars, and had shallow drafts, allowing them to move close to shore (Menzies 1993:12). There are at least forty known pictograph sites along Vancouver's route through the study area (Vancouver 1798 [1984]:991–1054; cf. Menzies 1993:26), yet neither Vancouver nor Menzies, ship's surgeon and naturalist, mentioned any pictographs.

Today there are four known pictographs located on the northwest side of Burroughs Bay, including "Signboard Cliff" (XBC-014), for which Waterman (1922b:48, #491) recorded a place name. The pictograph is large (over three meters wide) and very bright (journal cover image). Yet, neither Vancouver (1798 [1984]:1009–1010) nor Menzies (1993:43) mentioned observing any rock paintings in Burroughs Bay, despite the fact that a few days before the exploration of the bay, Vancouver described in great detail a burial box (KET-038) containing human remains at Smeaton Bay (Vancouver 1798 [1984]:1005). Given the attention with which Vancouver reported this find, it seems unlikely that he would fail to describe the highly visible pictograph at XBC-014 if the image was there at the time of his visit.

A second line of evidence suggesting that some of the pictographs post-date European contact is the occurrence of three motifs—an anchor, coppers, and crosses—associated with the post-contact period. At KET-933, in Behm Narrows, is a pictograph of what appears to be a European ship anchor (Plate 4). Coppers (known as *tinneh*, or *tiná* in current Tlingit orthography) are shield-shaped objects made of copper (Jopling 1989:1) that were displayed or given away at potlatches, their prestige value increasing with each exchange. They were curated by chiefs as lineage property, not as individual possessions. Larger coppers were given names (Emmons 1991:179). According to Jopling (1989), coppers were recorded by European explorers as early as 1787–1805. "[B]efore 1850 it is likely that coppers were rather rare. . . . Of the 135 known large Coppers in museums, none are [made] from native copper. . . . Large coppers were not made until the Natives had acquired commercial sheet copper intended for ships' hulls" (1989:50, 97, 129).

At least two sites have pictographs of coppers. At KET-749 in Carroll Inlet is a pictograph (Fig. 11) of a

large copper (Emmons 1991:80) and a canoe. Several vertical marks painted inside the canoe, now badly obscured by a white precipitate, may represent slaves. One of Waterman's (1922a) informants told him: "This represents purchase of [a] Copper. Ten marks for ten slaves. [The] Copper's name was *Dis-t'ná* or Moon Copper." In the east Behm Canal on a large overhanging rock wall at KET-942 is another pictograph with a copper (Plate 5). Other motifs include a canoe, sun signs, skeletonized anthropomorphic figures, and a face with three eyes. After digital enhancement, a segmented animal with feet and fin-like structures along its right side appeared underneath the copper. This is likely *Gunakadeit* (Keithahn 1963:74), the wealth-giving sea monster. The copper motif appears to have been deliberately painted over the head of the *Gunakadeit* pictograph. Both the copper and *Gunakadeit* represent tremendous wealth and, according to Waterman's (1923:450) Native informants, "*Gunakadeit's* forehead was shaped like a Copper."

A final post-contact motif is the cross. A pictograph on a small rock wall at XBC-058 in Ernest Sound (Fig. 4, Plate 1) occupies an oval space about three meters by one meter. Near the center is a canoe motif (56 cm long) with six "stick people" inside. One figure is painted over a centrally located dot and appears to be wearing a clan hat or helmet. On the far right is another figure who seems to be bending over. This is the only canoe motif in the area showing a figure bending over or crouching. In Emmons (1991:389), de Laguna states "Tlingit shamans who wish to foretell the future or aid their party are often described as crouching in the canoe." To the far left and below the canoe is a cross motif. According to Kan (1991:371) and Oberg (1973:19), after contact with missionaries Tlingit shamans began taking advantage of the new sources of power introduced by the Russians and Americans, using crosses and other sacred objects from Christian worship. A different type of cross motif is found in the Portland Canal at KET-950. According to John Corner (1968:29), this type of cross may represent a "crossing of trails."

Four radiocarbon dates are available for pictographs in the study region (Table 1). Three dates derive from materials that may be either shamans' burial boxes<sup>6</sup> or boxes for shamans' paraphernalia. Their associated pictographs may be "images of spirit guardians" (de Laguna 1990:219).

6 The pictograph sites in the study area are considered sacred by the local tribes. Three of the four dated sites either contain or are likely to contain human remains or burial goods. Before sampling occurred and in compliance with NAGPRA, permission was obtained from the Ketchikan Indian Community or the Organized Village of Saxman, which includes the Saxman Tribe and Tongass Tribe.



*Figure 11: Pictograph of a copper measuring about one meter tall at KET-749. There is a face on its upper half. To the right may be a rattle. To the far left are ten vertical marks inside a canoe, now obscured by a white precipitate. These may represent the ten slaves sold to purchase the copper. July 2002.*

The bodies of Tlingit shamans were traditionally treated differently from the bodies of non-shamans. Shamans were not cremated, but instead taken from the village and placed in little houses or caves where they were surrounded by some of their paraphernalia and images of spirit guardians (de Laguna 1990:219).<sup>7</sup> Caves or rockshelters, located on a bluff or prominent headland overlooking or near water, were also used (Emmons 1991:280, 394–395). The grave of a shaman remained a source of tremendous power (Kan 1989:120) and was believed to be guarded by the spirits belonging to him in life (Emmons 1991:395). “The Tlingit lived in great fear of shaman’s graves, and on no account will they disturb one” (Oberg 1973:19).

At a Waterman (1922b:45, #431) Native place name site (KET-020) in Rudyerd Bay is a single motif of a skeletonized anthropomorphic figure with no arms, hands,

legs, or feet (Fig. 12). About six meters to the right of the pictograph is an empty red cedar box measuring 30 x 28 x 34 cm and sewn at the corners. This was likely a burial box (Emmons 1991:394–395) or a storage box for a shaman’s paraphernalia (de Laguna 1972:685–686, 699–700; Emmons 1991:376–382), although no human remains or grave goods were observed when the site was surveyed. The place name *Tleilkee ya*, or “Place You Can’t Go There,” suggests a location to avoid, such as a burial for a shaman or his dangerous paraphernalia. A sample of wood from this box was AMS dated to AD 1645–1953 (Beta-195620; Table 1).<sup>8</sup>

On a large overhanging rock wall at a prominent point in the northern part of the Portland Canal is a faint, exfoliated pictograph (KET-926). Even with digital enhancement, no recognizable motifs could be identified, though

<sup>7</sup> Shamans might be male or female, though among the Tlingit there were comparatively few women shamans (de Laguna 1972:670; Emmons 1991:370–373).

<sup>8</sup> The boxes were left in situ.





*Figure 12: At “Place You Can’t Go There” (KET-020) is a single motif of a skeletonized anthropomorphic figure about one meter tall with short lines emanating from the top of the figure’s head. May 1998.*

one may be a fish. Located approximately six meters below the pictograph are four wooden poles averaging 4.7 m long. All showed evidence of adze work. Possible uses may have been as scaffolding or ladders to paint the pictographs, as part of a shelter, or part of a burial structure. Near the poles were pieces of a carved and painted sewn box that had been crushed by recent rock fall. Human remains were observed along with a stone bark shredder. No other grave goods were observed. Wood from one of the poles was standard radiocarbon dated to AD 1685–1954 (Beta-208895; Table 1).

Located in Smeaton Bay is another pictograph (KET-1202, Plate 2) of a skeletonized anthropomorphic figure. The figure’s circular head has two large almond-shaped eyes with a nose represented by a line heading upwards between the eyes and bifurcating to form large curving “eye brows.” The mouth appears to frown. The oval body has a spine with five attached ribs and what may be a navel. The figure has two bent legs with feet and two upward bent

arms with three-fingered hands. The left hand is holding or pointing to a natural feature in the rock. A crack extends upward from the feature and over the figure where it intersects with another motif, which may represent a killer whale or porpoise. Located about ten meters from these images, inside a small rockshelter are the remains of two red cedar bentwood boxes, one inside the other. No human remains or grave goods were observed. The outer box appears to have been partially crushed by rock fall. A woven cedar mat covering the second box (45 x 45 x 38 cm) with several pieces of loose cordage was observed. A piece of cedar cordage was AMS dated to AD 1694–1954 (Beta-303722; Table 1).

Near Halibut Bay in Portland Canal, a single pictograph (KET-1047) was found in a small rockshelter about forty meters into the forest from a rocky beach. Unlike most of the pictographs in the study area, this location was hidden and probably not meant to be seen by anyone, except perhaps supernatural entities. The pictograph consists of single inverted “T” motif with a hook measuring about 51 x 22 cm. Swanton (1908:467, fig. 113) illustrates a carved bone representation of a land otter with a similar shape. The rockshelter was formed by several huge boulders. Soil probing showed soil development of less than two to three cm. No artifacts, bone, or shell were observed. However, just below the pictograph was a small charcoal scatter which dated to AD 1486–1951 (Beta-247604; Table 1).

When calibrated, these dates are essentially modern; therefore their accuracy is questionable. However, assuming that the radiocarbon dates represent the materials directly associated with the pictographs, these data do suggest that the associated pictographs are not prehistoric. Additionally, a number of pictographs in the study area have motifs that appear to have historical connections, such as a European ship’s anchor (Plate 4), coppers (Fig. 11, Plate 5), and possibly a Christian cross (Plate 1). Therefore, most pictographs in the study area are probably less than four or five hundred years old.

## THE PURPOSE OF THE PICTOGRAPHS

Researchers and ethnographers have several possible explanations for why people painted pictographs. A general explanation is that they record important events, either real, historical, imagined, mythical, or ritual, in the lives of those who made them. Bahn (2010:1) has observed that “If the artist’s testimony is unavailable... then a poor



second best is information derived from people belonging to the culture which produced the rock art, or their descendants.” Among the Northwest Coast tribes of British Columbia, ethnographers have reported that pictographs were painted during puberty rites (e.g., Leechman 1954:79–81; Teit 1918:5). However, Kan (1989:311) states that “little is known about the male puberty rites among the Tlingit.” De Laguna’s informants near Angoon implied that petroglyphs and pictographs consisted of “proprietary totemic designs with the subsequent conclusion being that they marked territorial claims” (1960:71–73). Doris Lundy (1974:295–297) wrote of several examples of pictographs in Southeast Alaska and British Columbia that depicted crests representing hereditary land rights.

De Laguna’s informants also indicated that rock pictures were:

made to commemorate victories in war, transfer of wealth or territory in settlement of a feud, important potlatches especially ones involving slave sacrifice and shamanistic exploits...or were the work of visiting Tsimshian or of the Tlingit themselves, to pass idle hours....If the rock art were referring to a supernatural encounter or shamanistic exploits, they served as magically efficacious tokens of the powers obtained (de Laguna 1960:71–73).

The pictographs in the KMRD probably functioned in several ways: as records of legendary or historical events, such as encounters with European explorers, the freeing of slaves, or the purchase of coppers; to mark clan territories or perhaps to indicate rights to a portage or migration corridor; or to mark or warn of burial locations for important people, such as shamans, or their paraphernalia. Some pictographs may have been painted by shamans or shaman initiates during their quests.

#### RECORDS OF HISTORICAL AND LEGENDARY EVENTS

As already mentioned, one pictograph site (KET-749, Fig. 11) is reported to have documented the exchange of ten slaves for a copper named *Dis-t’ná* or Moon Copper. Another pictograph site (KET-418, Fig. 10) is the only one in the study area that you can walk to and is also the only pictograph in the area with human handprints. It is located on a glacial erratic where the pictographs are protected by a small overhang. The six positive handprints, with one to the right of the face and five below, all represent right hands measuring about 16 cm from the base of the palm to the tip of the middle finger. The face measures 49 x 33

cm with the eye on the left painted larger than the eye on the right. Both eyes have small rays emanating upwards. A partially faded sitting figure is to the far right. Waterman (1922a) collected a short account that may be associated with this pictograph: “*Kō ktí te* (Chief) freed five slaves here. Everyone cried.” This stone is called *Tsa Tseye Gax* or “Carroll Inlet Crying.”

In Smeaton Bay, which has the Native name *xan*, Waterman (1922b:43, #391) collected the Native place name *Gunaiyeti tewanukuyé* or “When take one rock for anchor all move.” A nearby pictograph (KET-362) depicts a 78-cm-tall person with arms held above the shoulders, perhaps carrying something. Although it is not clear whether the figure is indeed carrying a rock, one interpretation of this pictograph is that both it and the place name refer to the same historical or legendary event.

#### TERRITORIAL MARKERS

In Emerald Bay on the western coast of the Cleveland Peninsula a large pictograph is located on a steep overhanging rock wall. This pictograph (CRG-542) portrays a large face (about 2 m tall) representing a shark (Emmons 1991:202–203). Below the two large eyes is a curvilinear, down-turned mouth. On both sides of it are sets of crescent shaped lines representing the shark’s gills. Directly below the mouth are two rectangles, which may represent labrets. A series of six dots run diagonally down to the right. This motif appears to be a clan crest and may mark territory.

In the upper reaches of Boca de Quadra on a large rock wall is a pictograph (KET-359, Fig. 13) portraying a large killer whale, possibly with a seal in its mouth. It may be a record of an encounter of two canoes with a killer whale or it may represent a clan crest. There are numerous other pictograph sites located across the study area that portray killer whales (Plate 2), salmon (Fig. 5), ravens, eagles, shark, starfish, a dragonfly (Fig. 3), and *Gunakadeit* (Plate 5, Fig. 2) that may be house or clan crests. There are current or historically known houses or clans in Southeast Alaska associated with killer whales, salmon, ravens, eagles, and sharks. However, it is possible that some of the pictographs represent houses or clan crests that went unrecorded in the historical literature.

In 1946, a Native informant named Joseph Johns told Goldschmidt and Haas (1998:79) “our people started on the Unuk River and moved outside to Prince of Wales Island.” Located along the banks of Clear Creek, a branch of the Unuk River, is XBC-064 (Fig. 14), one of two pic-

tograph sites discovered along this drainage. There are five canoe motifs along with a possible double-headed eagle and, on the far right, a large rayed bird-like figure. While there is no conclusive evidence that this pictograph is a record of a migration down the Unuk River, the presence of a pictograph of five canoes full of people located so far



*Figure 13: KET-359 shows a large killer whale (about 130 cm long) that has something in its mouth, perhaps a seal. Shadows from nearby trees interfere with details. The canoe motif at upper left has thirteen “stick people” inside. One “person” at the far right may be wearing a clan hat or helmet. Another faint canoe motif is located to the far right of the whale’s dorsal fin. August 2003.*

up a transportation corridor suggests that the images may commemorate a migration.

Waterman (1922b:49, #515) recorded another Native place name translated as “Trails End Village” with an associated short note, “Portage to Ernest Sound.” This is a 5.6-km portage from Lake McDonald to Santa Anna Inlet in Ernest Sound (Fig. 1). There are two reported Native villages or summer camps here, one in Yes Bay and the other in Santa Anna Inlet (Goldschmidt and Haas 1998:76, 82). Using this portage would save nearly 130 km of paddling between these two locations. Only about half a km away from the portage location, along the lake’s north shore, is a site (KET-094; Fig. 9) with pictographs of eight canoes along with a starfish, a raven or eagle (Emmons 1991:80), and a large beaver with an anthropomorphic face. Two killer whales are at the upper right. The canoes in this pictograph may refer to the nearby portage. The animal motifs may represent clan crests marking territory, as ravens, eagles, and killer whales all have known house or clan associations. A related possibility is that the pictographs refer to stories or origin myths.

Reginald H. Dangeli (1985) reported a 43-km-long portage from Marten Arm in Boca de Quadra to Tombstone Bay in the Portland Canal. He also reported pictographs (not confirmed) near a small lake along this route. This portage would save about 162.5 km of



*Figure 14: XBC-064 is located along Clear Creek, a traditional migration route from the interior. Depicted are five canoes, what appears to be a double-headed eagle, and a large rayed figure measuring about 100 x 60 cm (far right). March 2010. Photo by Jacob Hofman.*



paddling between these two locations. On the north shore of Marten Arm near this reported portage is a pictograph (KET-915) showing a canoe motif with several “stick people” in the lower center. Above and to the right of the canoe is the only known painted spiral in the study area. The fact that both portages have pictographs nearby depicting canoes, while not conclusive, suggests that the motifs may have somehow marked portage locations.

## RECORDS OF TIME

There are seven pictograph sites that depict dots painted in various arrangements with no other motifs. There are two sites with only one dot. Others have three, four, or more. For example, located on a prominent point near Thorne Arm is KET-999. Three dots, each about 30 cm across, are painted on a backward leaning rock wall protected by a rock overhang. Lack of a rock ledge indicates it was probably painted from watercraft. In Ernest Sound is pictograph CRG-541 consisting only of dots painted on a small rock wall with almost no rock bench for access, suggesting it was likely painted from watercraft. The eleven faint, carefully painted dots average 12 cm in diameter and are arranged in three parallel rows.

Corner (1968:46) wrote that “The formality and careful placement of the round dots leads me to believe they represent a period of time, such as a day and a night.” Lundy (pers. comm. 30 September 2010) stated that “The dot-only sites are the most common motif along the central coast [of British Columbia] where it is assumed they are associated with ‘quest’ sites although that is only a best guess of their function.” She hypothesized that the dots “may have represented the days that a [shaman] initiate spent fasting.” The dot motifs in the KMRD may mark time in a way similar to sites in British Columbia, as suggested by Corner and Lundy. This interpretation is consistent with the inference that some of the sites have connections to shamanic activities, particularly during their quests or those of initiates.

## SHAMANIC CONNECTION

As discussed above, there seem to be connections between shamans and some pictographs within the KMRD study area. Regrettably, there is no ethnographic evidence for who actually painted the images. However, data from other areas indicates that shamans did paint pictographs (e.g., Poetschat et al. 2002:13–21). Both de Laguna (1960:71–73)

and Teit (1918:1–7), the latter for British Columbia, have inferred shamanic functions for the works.

Among the Tlingit, shamans were in charge of healing, communicating with spirits and those far away, finding lost or stolen objects, foretelling the future, identifying witches, protecting warriors on raids, controlling the weather, fighting other shamans, and rescuing the souls of those who had drowned or been killed. Shamans were advisors to the chief when at war and also worked to ensure annual runs of fish and an abundance of berries. The shaman (Tlingit *ixt'*) was appealed to in almost every extraordinary occurrence (Emmons 1991:370; Swanton 1908:464–465).

Before becoming a practicing shaman, a novice had to acquire supernatural powers by going on a quest, an expedition into the forest or onto a deserted beach (de Laguna 1972:676; Jonaitis 1983:46; Krause 1956:195). Sometimes this location could be on the brink of a high cliff, a mountain, a cave or rockshelter. The essential feature of the chosen spot was isolation (de Laguna 1972:676–677; Teit 1918:1; Wardwell 1996:17, 37). In Tlingit society, the ritual of the quest, in which a trance state was induced and where spirit helpers (*yeik* or *yek*) and supernatural powers were obtained, was only practiced by shamans or initiates. However, “lay persons could also acquire superhuman power and good fortune through various observances aimed at achieving physical and moral purity” (Kan 1989:25).

The quest usually began with the novice shaman paddling off in a canoe with four or more male members of the same clan: these could include an experienced shaman, other initiates, or the novice shamans’ assistants. Upon reaching some remote location, the entire party made camp and fasted for four to eight days, eating only the bark of devil’s club and drinking saltwater (Emmons 1991:370–373; Krause 1956:195). Eventually the novice shaman entered a trance in which he encountered the spirit of his animal helper and acquired supernatural powers. The number eight “figured prominently in all of the Tlingit rites of passage as well as the practices aimed at obtaining good fortune and superhuman power” (Kan 1989:51), including, presumably, shamanic initiation. There are a number of pictographs in the study area where the number eight is represented. There are eight dots associated with a ship’s anchor at KET-933 (Plate 4) and at KET-922 (Fig. 6) there is a vertical stack of eight dots near a rising sun motif. Pictographs depicting certain motifs may have links to shamans. For example, accord-



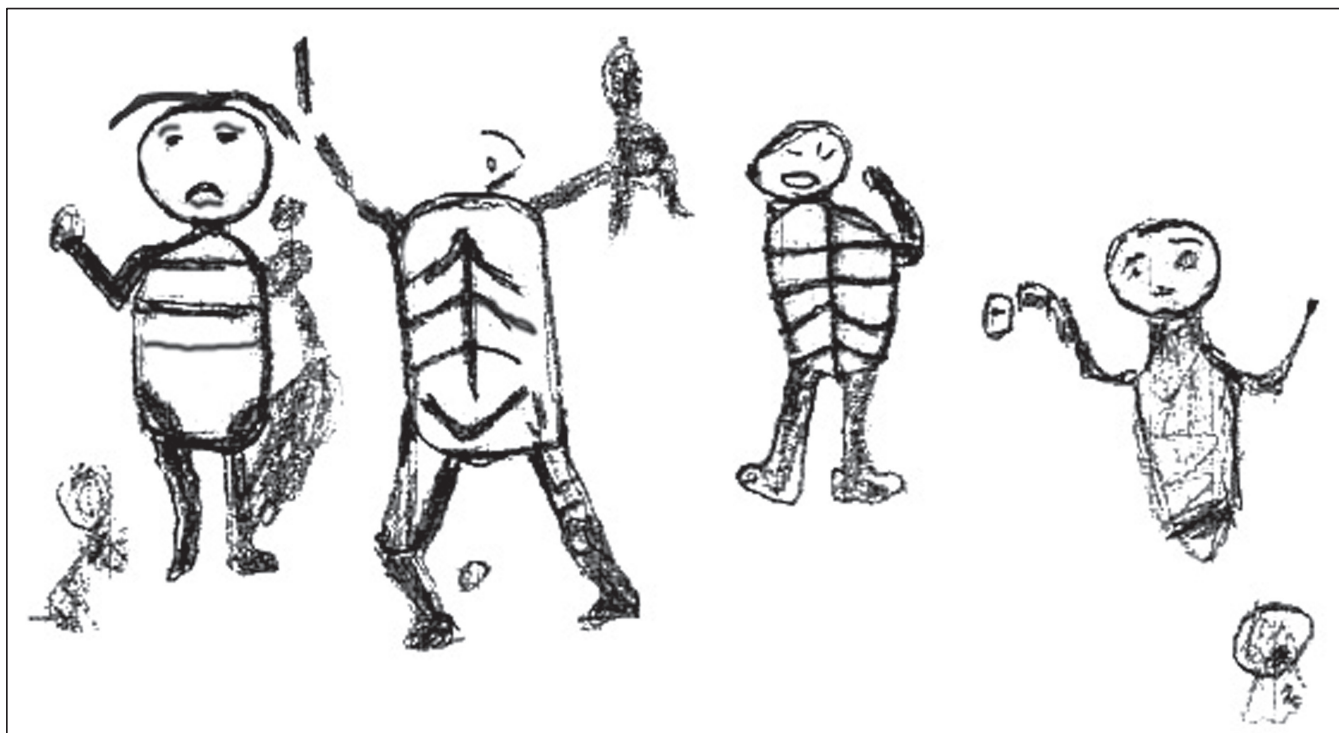
ing to Wardwell (1996:6–7) shamans are associated with “the depiction of skeletal elements, the land or river otter, the bound witch, the devilfish, and the oystercatcher.” Wardwell suggests that some facial expressions on anthropomorphic masks depict trance-like states or represent the initial stages of death. The eyes are shown half-closed or looking upward or a swollen tongue protrudes from a partially opened mouth. According to Wardwell, the human face and some animal forms were used in both shamanic and crest art. A few shamans were even chiefs, thereby providing another opportunity for the use of crest and shamanic iconography together. Wardwell interprets these associations as the representation of the shaman’s ability to move between the “secular and supernatural spheres” (Wardwell 1996:6–7).

Hill and Hill’s (1974:265–275) survey of petroglyph motifs at more than 500 known sites along the Northwest Coast interpreted some motifs as shamanic. These include figures with protruding tongues, birds, monsters, heads emanating long hair or rays, skeletonized animals and humans, and faces with one eye larger than the other or with one eye closed.

KET-789 (Fig. 15) depicts a face with lines radiating outward. As at KET-418 (Fig. 10), one eye is smaller than the other; tears appear to be flowing from it. Both KET-020 (Fig. 12) and KET-915 have figures portrayed with



*Figure 15: KET-789 portrays an anthropomorphic face with radiating lines. The eye on the right is smaller than the other eye. June 2003.*



*Figure 16: Drawing of four anthropomorphic figures as they appear at XBC-053. See also Plate 6.*

rays emanating out of them. Near the mouth of Burroughs Bay, the pictograph at XBC-053 (Plate 6, Fig. 16) consists of four anthropomorphic figures. Three of the figures are skeletonized. They may be dancing and appear to be holding something in their hands, perhaps rattles. Skeletonized figures are also represented at KET-746 (Fig. 8), KET-1202, KET-942 (Plate 5), and KET-020 (Fig. 12). KET-020 and KET-1202 are likely burial locations for shamans and/or caches for their paraphernalia, evidence that supports the contention of Hill and Hill (1974; see also Wardwell 1996) that at least some pictographs have shamanistic connections. Of the sixty-one pictographs located in the KMRD, at least 36% ( $n = 22/61$ ) have motifs associated with shamans. Three pictograph sites are also associated with what appear to be shamans' burials and/or their paraphernalia; two of these three sites also have shamanic motifs.

### CULTURAL AFFILIATIONS OF THE PICTOGRAPHS

Waterman's (1922a) Native informants told him of three pictograph sites that have short stories associated with them. He also collected hundreds of Native place names (e.g., Waterman 1922b), six of which refer to known pictograph sites. To the Native peoples nearby, these place names or short narratives along with their associated pictographs were important enough to implant into the oral histories that Waterman collected in 1922. Unfortunately, Waterman did not make it clear which informant from which tribe or clan advised him on the details of a particular place name or narrative. Apparently his informants did not specify who actually painted the pictographs or indicate whether they were male or female, chiefs, shamans, slaves, a particular clan member, et cetera.

However, if the pictographs are no more than four or five hundred years old, most were likely painted by the ancestors of the Native peoples who live in the area today, or by others who were passing through the area, such as the "Sitka Chief" (KET-746, Fig. 8). Likely descendent groups include the Tlingit Stikine (Wrangell), Saxman (Cape Fox), and Tongass peoples (Emmons 1991; Goldschmidt and Haas 1998:charts 11, 12; Olson 1967:3–4). While Goldschmidt and Haas (1998:82–83) noted that the Portland Canal area was claimed by the Tongass people,

Emmons (1991) shows that the same area was claimed by the Tsimshian Niska people. Both Boas (1924) and Goldschmidt and Haas (1998:83) also state that at least parts of the Portland Canal were used by the now extinct Tsetsaut people.<sup>9</sup>

### CONCLUSIONS

The pictograph location model discussed here has been used to locate over fifty new pictograph sites in the KMRD, as well as sites in other districts on the Tongass National Forest. The wide distribution of pictographs over the study area suggests that most were probably painted when people were away from their winter villages during spring, summer, or fall. Some may have been painted by shamans or initiates when they traveled to remote locations during quests.

While canoe motifs are widely distributed across the study area, they were consistently located near reported portage routes and possibly along one migration corridor. Canoe motifs also seem to document people moving through the area, encounters with animals or European explorers, and how many slaves were traded for a copper.

Early European explorers, fur traders, and miners who worked or traveled through extreme Southeast Alaska made no reports of seeing pictographs. There may have been as many as forty pictographs along the route of Captain George Vancouver through the study area in 1793. The one in Burroughs Bay is large and highly visible, yet Vancouver did not report it, or any others. This lack of evidence suggests that at least some of the pictographs were not painted until after contact.

Motifs provide additional clues for dating the pictographs. One seems to represent a European ship's anchor. Elsewhere, large coppers are depicted. Yet, large coppers were probably not made until after contact, when Native populations gained access to European sheet copper intended for ships' hulls. Radiocarbon assays from wood and charcoal in association with three pictograph sites date them to the historic period. These lines of evidence support an estimated age of not more than 400 or 500 years.

Pictographs in the study area were likely painted by Tlingit, Tsimshian, or Haida people, or possibly even by the Tsetsaut. The reasons why pictographs were painted

9 Tsetsaut is an extinct Athabascan language formerly spoken in the Portland Canal area of Southeast Alaska and northwestern British Columbia. Practically everything known of the language comes from the limited material recorded by Franz Boas. Boas interviewed two Tsetsaut slaves of the Nisga'a, information that established that Tsetsaut formed its own branch of Athabascan. The English name "Tsetsaut" is an Anglicization of *ts̓ts̓'awt*, "those of the interior" (Boas 1924:1–35).

are varied and apparently include: to impress others (Teit 1918); to record legends or events such as contact with European explorers, encounters with animals, the freeing of slaves, or the purchase of coppers; to mark clan territories or to indicate portage locations; to record periods of time; or to mark or warn of burial locations for important people such as shamans or their paraphernalia.

Pictograph painting began to decline after the introduction of Christianity (Grinev 2005:256; Wardwell 1996:58–63) and the subsequent loss of faith in shamanism (de Laguna 1972:671; Grinev 2005:256). Painting was likely negatively affected by the loss of Native populations to disease and by post-contact changes in lifestyle, including migration to canneries, cities, and towns.

### ACKNOWLEDGMENTS

Many people have helped me to locate and/or document pictographs. Without their contributions, this paper would not have been possible. Many thanks to Eric Abele, John Autrey, Karen Brand, Kali Bowers, Paul Edmondson, Megan Fisher, Dottie Foskin, Britney Hassel, Shauna Hee, Jacob Hofman, Kathy Holcomb, Jen Kevil, Nicole Lantz, Doris Lundy, Mark McCallum, Dan Monteith, Lynn Paquette, Reid Parker, Chris Prew, Dave Richards, Logan Richards, Peter Roginski, Priscilla Schulte, Jane Smith, John Suomala, Vince Vukelish, Suzanne Webb, Matt Wolf, and Jake Yearty; Ken Pratt provided invaluable editorial assistance. An extra special thanks to Theresa Thibault, who also helped with editing. Another special thanks to the Tongass Tribe, the Ketchikan Indian Community (KIC), the Organized Village of Saxman and especially Irene Dundas.

### REFERENCES

- Bahn, Paul  
2010 Prehistoric Rock Art Polemics and Progress. The 2006 Rhind Lectures for the Society of Antiquaries of Scotland. Cambridge University Press, Cambridge.
- Boas, Franz, and Pliny Goddard  
1924 Ts'ets'aut, an Athapascan Language from Portland Canal, British Columbia. *International Journal of American Linguistics* 3(1):1–35.
- Corner, John  
1968 *Pictographs in the Interior of British Columbia*. Wayside Press, Vernon, BC.
- Dangeli, Reginald H.  
1985 Tsetsaut History, The Forgotten Tribe of Southern–Southeast Alaska: Portland Canal Early History (Misty Fiord National Monument). Alaska Historical Commission Studies in History. Alaska Geographic Society, Anchorage.
- de Laguna, Frederica  
1960 *The Story of a Tlingit Community: A Problem in the Relationship Between Archaeological, Ethnological, and Historical Methods*. Government Printing Office, Washington, DC.  
1972 *Under Mount Saint Elias: The History and Culture of the Yakutat Tlingit*. Smithsonian Contributions to Anthropology, vol. 7. Smithsonian Institution Press, Washington, DC.  
1990 Tlingit. In *Handbook of North American Indians*, vol. 7, Northwest Coast, edited by Wayne Suttles, pp. 203–228. Smithsonian Institution Press, Washington, DC.
- Devereaux, James  
2010 KLGO 00050.000: A Prehistoric Rock Shelter on the Chilkoot Trail. Report on file at the National Park Service, Klondike Gold Rush National Historical Park, Skagway, AK.
- Dixon, E. James, T.H. Heaton, T.E. Fifield, T.D. Hamilton, D.E. Putnam, and F. Grady  
1997 Late Quaternary Regional Geoarchaeology of Southeast Alaska Karst: A Progress Report. *Geoarchaeology* 12:689–712.
- Edmondson, Paul, and Dottie M. Foskin  
1993 Cultural Resource Inventory Report for Misty Fiords National Monument. CRM Report #R1993-1005-52-029, Tongass National Forest, Ketchikan–Misty Fiords District, Ketchikan.
- Emmons, George T.  
1991 *The Tlingit Indians*. Edited by Frederica de Laguna. University of Washington Press, Seattle.
- Goldschmidt, Walter R., and Theodore H. Haas  
1998 *Haa Aani, Our Land: Tlingit and Haida Land Rights and Use*. Edited by Thomas F. Thornton. University of Washington Press, Seattle.
- Grinev, Andrei Val'terovich  
2005 *The Tlingit Indians in Russian America, 1741–1867*. Translated by Richard L. Bland and Katerina G. Solovjova. University of Nebraska Press, Lincoln.
- Hill, Beth, and Ray Hill  
1974 *Indian Petroglyphs of the Pacific Northwest*. Hancock House Publishers, Saanichton, BC.



- Jonaitis, Aldona  
1983 Liminality and Incorporation in the Art of the Tlingit Shaman. *American Indian Quarterly* 7(3):41–68.
- Jopling, Carol F.  
1989 The Coppers of the Northwest Coast Indians: Their Origin, Development, and Possible Antecedents. *Transactions of the American Philosophical Society* (Philadelphia) 79(part 1):1–164.
- Kan, Sergei  
1989 *Symbolic Immortality: The Tlingit Potlatch of the Nineteenth Century*. Smithsonian Institution Press, Washington, DC.
- Keithahn, E. L.  
1940 The Petroglyphs of Southeastern Alaska. *American Antiquity* 6(2):123–132.  
1963 *Monuments in Cedar*. Superior Publishing, Seattle.
- Keyser, James D.  
1992 *Indian Rock Art of the Columbia Plateau*. University of Washington Press, Seattle.
- Krause, Aurel  
1956 *The Tlingit Indians: Results of a Trip to the Northwest Coast of America and the Bering Straits*. Translated by Erna Gunther. University of Washington Press, Seattle.
- Leechman, Douglas  
1932 Native Paints of the Canadian West Coast. *Technical Studies in the Field of the Fine Arts* 5(4).  
1954 Some Pictographs of Southeastern British Columbia. *Transactions of the Royal Society of Canada*, XLVIII, series III, section 2.
- Lively, Ralph  
1997 Archaeological Investigations at the Lake McDonald Site, KET-524 Southeast Alaska. CRM Report #R1997-05-25, Tongass National Forest, Ketchikan–Misty Fiords Ranger District, Ketchikan.
- Lundy, Doris  
1974 The Rock Art of the Northwest Coast. M.A. thesis, Department of Archaeology, Simon Fraser University, Burnaby, BC.  
1982 Styles of Coastal Rock Art. In *Indian Art Traditions of the Northwest Coast*, edited by Roy L. Carlson, pp. 89–97. Archaeology Press, Simon Fraser University, Burnaby, BC.
- Menzies, Archibald  
1993 *The Alaska Travel Journal of Archibald Menzies, 1793–1794*. Introduction and annotations by Wallace M. Olson. University of Alaska Press, Fairbanks.
- Mrzlack, Heather  
2003 Ochre at 49-PET-408. M.A. thesis, Department of Anthropology, University of Colorado, Denver.
- Oberg, Kalervo  
1973 *The Social Economy of the Tlingit Indians*. University of Washington Press, Seattle.
- Olson, Ronald L.  
1967 Social Structure and Social Life of the Tlingit in Alaska. *Anthropological Records*, vol. 26. University of California Press, Berkeley.
- Orth, Donald J.  
1971 *Dictionary of Alaska Place Names*. Geological Survey Professional Paper 567. Government Printing Office, Washington, DC.
- Poetschat, George, James D. Keyser, and Terence E. Fifield  
2002 Pictograph Cave: Rock Art from Southeast Alaska. *INORA International Newsletter on Rock Art* 31:13–22.
- Rasic, Jeff  
1998 49-SKG-148: A Pre-Stampede Rock Shelter on the Chilkoot Trail. Report on file at the National Park Service, Klondike Gold Rush National Historical Park, Skagway.
- Reimer, Paula J., M. G. L. Baillie, E. Bard, A. Bayliss, J. W. Beck, P. G. Blackwell, C. Bronk Ramsey, C. E. Buck, G. S. Burr, R. L. Edwards, M. Friedrich, P. M. Grootes, T. P. Guilderson, I. Hajdas, T. J. Heaton, A. G. Hogg, K. A. Hughen, K. F. Kaiser, B. Kromer, F. G. McCormac, S. W. Manning, R. W. Reimer, D. A. Richards, J. R. Southon, S. Talamo, C. S. M. Turney, J. van der Plicht, and C. E. Weyhenmeyer  
2009 IntCal09 and Marine09 Radiocarbon Age Calibration Curves, 0–50,000 Years cal BP. *Radiocarbon* 51(4):1111–1150.
- Rowe, Marvin W.  
2009 Radiocarbon Dating of Ancient Rock Paintings. *Analytical Chemistry* 81(5):1728–1733.
- Sealaska Corporation  
1975 Native Cemetery and Historic Sites of Southeast Alaska: A Preliminary Report. Report prepared

- for Sealaska Corporation by Wilsey and Ham, Inc. Sealaska Corporation, Juneau.
- Stanford, Martin V.  
 2005 Archaeological Investigations on Duke Island, Southern Southeast Alaska. CRM Report #R2005-100552-0009, Tongass National Forest, Ketchikan–Misty Fiords Ranger District, Ketchikan.  
 2006 Chickamin River Archaeological Site Survey and Monitoring. CRM Report #R2006-100552-0006, Tongass National Forest, Ketchikan–Misty Fiords Ranger District, Ketchikan.
- Stewart, Hilary  
 1996 *Stone, Bone, Antler & Shell Artifacts of the Northwest Coast*. University of Washington Press, Seattle.
- Stuiver, Minze, and Paula J. Reimer  
 1993 Extended <sup>14</sup>C Data Base and Revised CALIB 3.0 <sup>14</sup>C age Calibration Program. *Radiocarbon* 35:215–30.
- Swanton, John R.  
 1908 Social Condition, Beliefs, and Linguistic Relationship of the Tlingit Indians. Bureau of American Ethnology Twenty-Sixth Annual Report, pp. 391–485. Washington, D.C.
- Teit, James A.  
 1918 Notes on Rock Painting in General Spences Bridge. Unpublished manuscript, Division of Anthropology, Provincial Museum, Victoria, BC.
- Vancouver, George  
 1798 [1984] *A Voyage of Discovery to the North Pacific Ocean and Round the World, 1791–1795*, vol. III, edited by K. Lamb. Hakluyt Society, London.
- Wardwell, Allen  
 1996 *Tangible Visions: Northwest Coast Indian Shamanism and Its Art*. Monacelli Press and Corvus Press, New York.
- Waterman, Thomas Talbot  
 1922a Notes. Herbert William Krieger Papers, Box 8. National Anthropological Archives, Suitland, MD.  
 1922b Tlingit Geographical Names of Extreme Southeast Alaska with Historical and Other Notes. Unpublished manuscript, Archives of the Bureau of American Ethnology, NAA MS no. 2938, National Anthropological Archives, Suitland, MD.  
 1923 Some Conundrums in Northwest Coast Art. *American Anthropologist* 25(4):435–451.



