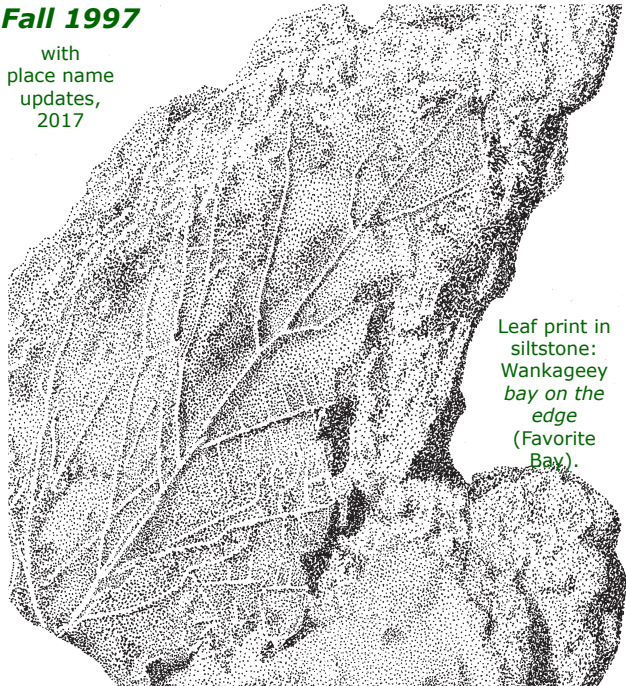


Discoveries

News & views from Discovery Southeast

Fall 1997

with
place name
updates,
2017



Leaf print in
siltstone:
Wankageey
bay on the
edge
(Favorite
Bay).

Admiralty impressions Xutsnoowú through time

Richard Carstensen

The following scenarios draw from several recent discoveries on Xutsnoowú, also known as Admiralty Island. The discoveries involve leaf fossils, bear genetics, ancient forts, and reports of red squirrel invasion. Whichever speculations prove unfounded will doubtless be replaced by truths even stranger.

Place names convention

2017: In all my writing since publication of *Haa L'éelk'w Hás Aani Saax'ú: Our grandparents' names on the land* (Thornton & Martin, eds. 2012), I've used Tlingit place names whenever available, followed by their translation in *italic*, and IWGN (important white guy name) in parentheses. Euro-names, however regal or pre-emptive, were afterthoughts.

Example: Kadigooni X'áat', *island with spring water* (Spuhn Island). Where no place name is listed in Thornton & Martin, I default to the IWGN.

Middle Miocene, about 20 million years ago A squirrel-like rodent dashes up the limb of a beech tree, carrying a chestnut in its stout incisors. The bobbing branch releases a yellowing leaf, which flutters to the stream below. The leaf floats past trunks of elms and maples into a shallow marsh, where a large-headed *Hemicyon* or 'bear-dog' is snuffling at the spoor of a pony-sized, shovel-jawed mastodont. The leaf settles into the mud, where the next fall storm buries it under fresh stream-borne silts.

Over ensuing millennia, an extraordinary diversity of leaves are dumped here, laminated between pages of mud, quietly lithified. One day in the far future, a bipedal primate on the shore of a tidal lagoon will pry a slab of siltstone from a crumbling outcrop, and stare in wonder at delicate veins impressed into rock, testament to a vanished biome.¹

Hemicyon's northwoods home will come to be called Xunyéi, *north wind tidal current*, and later, Mitchell Bay, but for now there's no hint of

¹ Warmer climate nurtured the great circumpolar Arcto-Tertiary flora, which subsequently shrank back leaving remnants in the Smoky Mountains and China. For background on Miocene leaf fossils see Wolfe, J. 1977, *Paleogene floras from the Gulf of Alaska Region*. USGS Prof. Paper #977

salt water here. Nor does Admiralty exist as an island, although the unglaciated mass of its mountains already sheds sediment into this low, inland swamp. Tomorrow's islands will be moated by fiords, and fiords are cut by glaciers, and the ice ages are a few geologic epochs away.

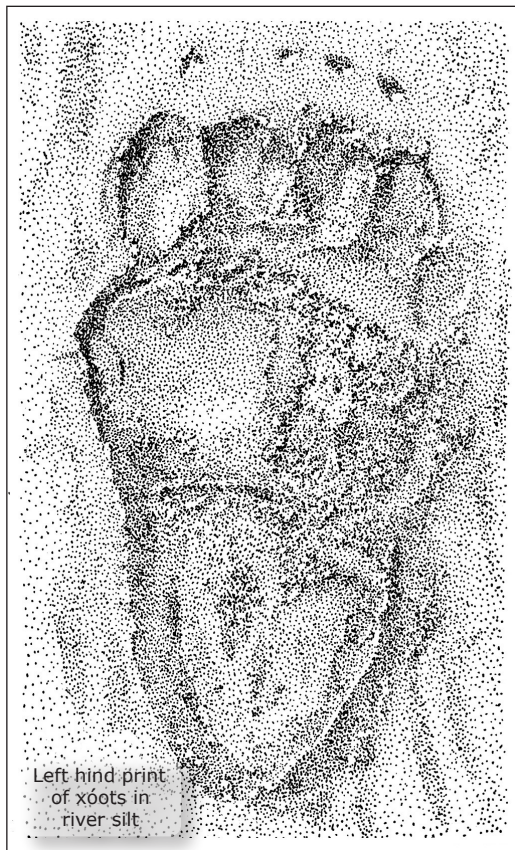
This forest of basswood and tupelo and dawn redwood, of nuts and fruits and flowering vines, hosts a grand mammalian experiment. Freed from the tyranny of *T. rex*, piglike entelodonts root for truffles and tubers, and wolverine-like marsupials prowl in the cliffs of Kanalku Mountain. There are no true bears, nor anything resembling a Sitka deer. Only one mammal genus would look familiar to a 20th-Century naturalist—the precocious bat *Myotis*.

Early Holocene, 14,000 years ago The ice unveils its raw masterwork, the Alexander Archipelago. In the heart lies Xutsnoowú (Admiralty Island), a 100-mile-long rock spine basted with precariously balanced rubble. A glacier 15 miles wide is still calving ice chunks into the head of Lynn Canal. More tidewater glaciers plug T'aakú, *flood of geese* (Taku Inlet) and squat over the bar at Kéet Noowú, *killer whale fort* (Holkam Bay). At times, Chatham Strait and Frederick Sound are so crowded with icebergs that you'd half expect to see a polar bear, stalking those hauled-out ringed seals.

Kuchx'ahéen, *river by the ribbon seaweed* (Tyee, southernmost Admiralty), wears a thin tundra dressing of grasses and sedges and low willow bushes. Ravens and eagles nest in the beach cliffs, for want of trees. With jaegers and falcons they're the island's only large predators, and for that reason seals and sea lions give birth with little anxiety on the upper beach. The island could be a paradise for a marine bear who prefers red meat to skunk cabbage root.

*"I crossed Stephens Passage, which separates the mainland from Admiralty Island. When I pulled my skiff onto a gravelly beach and stepped ashore, I understood why travelers sometimes kiss the soil when returning after a long absence from the land they love. Admiralty—Hootz Na Hoo—Fortress of the Grizzly, now a National Monument.... An entire island where man would not attempt to improve on the handiwork of the Creator!" Ralph Young, *My Lost Wilderness**

Like most open-country bears, her coat is pale. She swims ashore through stranded bergs at Point Gardiner, and breathes the intoxicating aroma of gull rookery. Nobody knows where she came from.



Left hind print
of xóots in
river silt

Maybe her immediate ancestors survived the procession of ice ages on ephemerally exposed plains seaward of Prince of Wales Island. But this bear's mitochondrial DNA shares more with polar bears of the Chukchi Sea than with brownies of Áak'w or T'aakú Aani. Over coming millennia, as softening climate spawns a coniferous rain forest on this island, her descendant's coats will darken to match the shadowy understory. But the "ABC bears"—of Admiralty, Baranof and Chichagof—will remain a race apart, the most genetically unique population of *Ursus arctos* in the world.²

Peak Little Ice Age, 300 years ago A dozen sturdy paddlers drag the 30-foot redcedar canoe up a cleaned path through beach boulders to a recently built log stockade on Ts'aaxweil nook'ú, *crow's little fort*. From this nearly treeless island off Aangóon, *isthmus town* (Angoon) they can scan for the approach of enemies coming out of Peril Strait to the west, or rounding Distant Point to the south.

For 20 generations, warfare's been escalating in the North Pacific. The people of this clan fled Kake to Angoon after a violent dispute, and built Ts'aaxweil nook'ú anticipating retribution. Such palisades now perch on sea stacks and rocky headlands throughout the Archipelago. Most lack fresh water and have few redeeming domestic qualities other than panoramic views, impregnability, and dependable breezes for the drying of fish and seaweed.

Although they come from the south, none of these people have ever seen living laax, *redcedar*, the sacred tree from which their canoe was carved. The hemlock/spruce rain forest has covered Kootznoowoo Island for the past 6000 years, but redcedar is spreading northward more slowly. This canoe was crafted by the people of Skeena River, where redcedar arrived only a millennium ago.

But cedar has enormous power over the Northwest Coast Culture, even to the north of its natural range. It bequeaths mobility, and transportable wealth. Eventually, wealth must be defended.

Other forces are at play. New social structures and food-preserving technologies encourage population growth. The bow and arrow vogue breeches old-fashioned etiquettes. And most important, the coast is sliding into a mini ice age. The country has become less generous. High country meadows are snowbound all summer; deer and bear numbers are declining. Since the land is still sinking, not rising, there are no broad coastal 'uplift meadows' for diggers of rice root or pickers of nagoons and strawberries.³

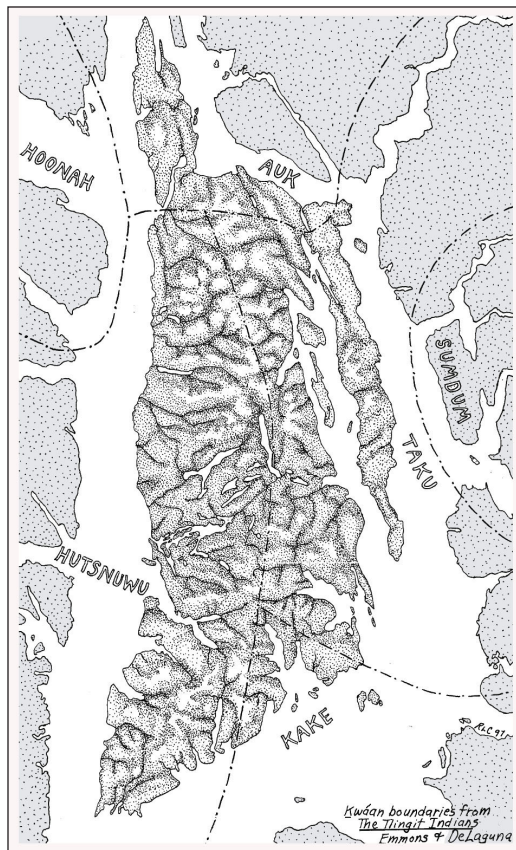
Xutsnoowú superlatives:

- *Highest concentration of nesting bald eagles in the world*
 - *Greatest concentration of brown/grizzlies in a natural forest habitat in the world.*
 - *Largest ecologically intact tract of old-growth coastal temperate rain forest in the world.*
 - *Home to world class wildlife habitats and recreation areas such as: Mitchell Bay/Salt Lake; the cross-Admiralty canoe route; Pack Creek Bear Preserve; Oliver Inlet Portage; Gambier Bay Research Natural Area.*
-

Kwáan and clan boundaries flex and jostle, but the Archipelago's geography dictates a timeless logic of land use. Places like Auke Bay, Hoonah and Angoon are ancient, inevitable village foci, close to rich varieties of fish and game and forage plants, with calmer, drier microclimates and protected boat landings. Only a culture valuing gold above cedar would build a major city in Gastineau Channel, rain hole in summer and gale tunnel in winter.

2 Talbot, S. & G. Sheilds. 1997. Phylogeography of brown bears... in Molecular phylogenetics and evolution, vol 5, #3, 477-494.

3 Moss, M. & J. Erlandson. 1992, Forts, refuge rocks, and defensive sites.... *Arctic Anthropology* vol 29, #2, 73-90



Whereas 20th Century administrators will one day manage islands as natural units, Xutsnoowú is owned by 4 separate kwáans. The people of the salmon and the seal align their territories more with marine features than terrestrial ones. Those who call themselves Xutsnoowú Kwáan are the people of Chatham Strait. Kéex' Kwáan centers on Frederick Sound, using Kuiu and Kupreanof Islands as much as Xutsnoowú. Áak'w and T'aakú Kwáans are better defined by association with Stephens Passage and Taku River, respectively, than by any single terrestrial body.

2025 AD⁴ A fat male red squirrel in the beach fringe at Point Gardiner leans back on his haunches to wipe the egg from his face. The egg belongs to an unsuspecting 'hooter,' or sooty grouse, who bears nothing in her racial memory concerning egg-eating squirrels. Red squirrels aren't native to Xutsnoowú. They mysteriously appeared in the 1970s on the north end of the island. In 1995, a specimen was trapped in Hood Bay, south of Angoon. During the first decade of the 21st Century, Angoon residents began to notice that hooters, once common, were heard much less often.

Waning grouse and waxing squirrels are by now an old story. Squirrels were also introduced to Baranof and Chichagof Islands in the 1930s, under the mistaken assumption that they were essential food for marten planted simultaneously. Marten turned out to prefer the native mice and voles to invasive red squirrels. (No surprise to anyone who's stuck a gloved hand into a squirrel's live trap!)

Old timers at Hoonah, Tenakee and Elfin Cove all claim that hooters once proliferated on Chichagof, but are now locally extinct. They used to blame the spread of marten, but likelier culprits (along with widespread Chichagof logging) are the versatile and omnivorous red squirrels. Introduction of cone-hogging squirrels to Newfoundland contributed to the severe decline of endemic crossbills. 'Ecologically naive' island populations of nonmigratory birds are 'sitting ducks' for these eager predators on eggs and nestlings.

Islands are indispensable to the process of evolution. They encourage lovely oddities, who flourish until their isolation is pierced by invaders: dodos on the island of Mauritius; spotted owls who lingered on the 'old-growth islands' of Oregon until invading horned and barred owls forced us to remove the last wild spottedts into zoos a few years ago. As David Quammen suggested in *Song of the Dodo*, islands are

4 PS, 2017: In 1997, when I wrote this article, the year 2025 seemed almost incomparably far off in the future. Now that it's just around the corner, I should perhaps push this 'crystal ball' date a little farther off. Spotted owls have further declined as I predicted 20 years ago, but have not yet been 'condored', ie, taken into captivity for safe-keeping.

not only where species are born; they're also where they go to die.

Xutsnoowú is far younger than Mauritius, but much older than Oregon's forest patch 'islands.' During its 14,000-year tenure of isolation, Xutsnoowú has fostered unique subspecies of meadow vole and beaver. Its muskrat, marten, newt, grouse, red crossbill and, of course, bear, are similarly divergent and precious.⁵ Placing *Tamiasciurus hudsonicus* on Xutsnoowú was a frivolous but stunningly arrogant act. We can no more remove the squirrel from Admiralty than call back the bullet from a gun we've just fired.



⁵ McDonald, S. & J. Cook, 1994, *The Mammals of Southeast Alaska*, UA Museum.