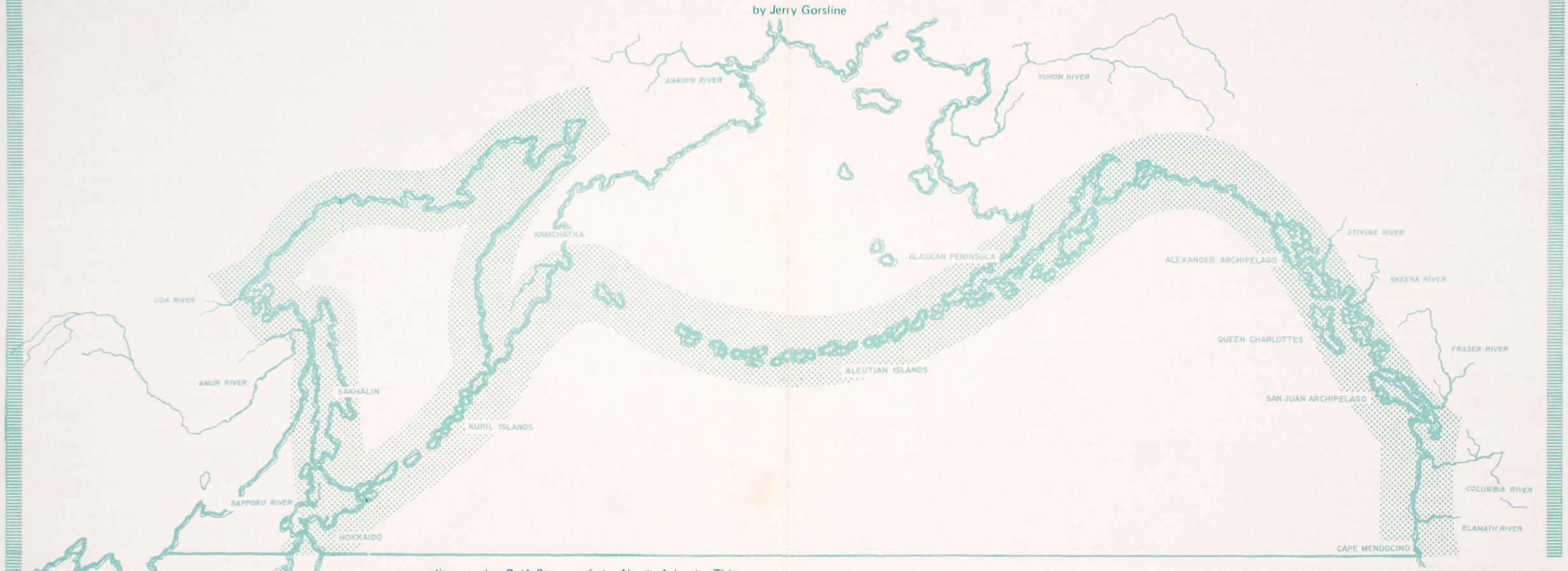
# NORTH PACIFIC RANGE

by Jerry Gorsline




## THE PHYSICAL BASE

The North Pacific Rim is more continuous with itself than with any land mass surrounding. Physically this unity is based on a continuous watershed and on the maritime influence. The North Pacific is defined by the subarctic water mass found north of 40 degrees and by the Japanese Current (Kiro Siwo), the warm current of the North Pacific corresponding to the Gulf Stream of the North Atlantic. This great flow of warm water, and the differing thermal capacities of land and water, is responsible for the moderate, damp climate around the coastal rim, an otherwise diversified habitat in terms of climatic zones, biomes, physiographic regions and cultures.

**Ecosystem: the interaction of a community of organisms and their physical environment so that a flow of energy through the system produces characteristic food-chains and nutrient cycles.**

On either side of the narrow Alaskan Peninsula, for example, are distinctly different ecosystems separated by the Aleutian Range. The northwest coast of the peninsula is oriented toward the Bering Sea, with an Arctic ecology and a culture that once belonged to the Arctic complex, extending north and east. The southeastern side of the peninsula is a continuation of the North Pacific drainage basin. Cultural imprints came originally from the south and east.

Bordering the west coast are volcanic island arcs following deep ocean trenches—the Japanese Archipelago, Kuril Islands, the Aleutian Chain—and coastal mountains of volcanic origin. On the east are the Alexander and San Juan archipelagos, a system of fjord estuaries and partially drowned valleys eroded by streams and pleistocene glaciers, with coast ranges both folded and volcanic in origin.



## BIOGEOGRAPHY

A moist-cool, transcontinental coniferous forest biome lying largely between the 40th and 57th north latitudes surround the North Pacific. Climate is generally cool with cold winters on the Siberian coast. Precipitation is greater than in the tundra and occurs mostly in summer. Predominant vegetation is of the needle-leaf, evergreen variety. Soils tend to be acidic and deficient in minerals because of the large volume of water moving through with little counter upward movement of evaporation.

**There is no "independent existence". Each organism contributes the integrated energies and functions at its disposal to the community and in turn receives an environment which enables it to survive.**

Tundra and ice take over from the coniferous forest along the contours of the 50 degree F. isotherm (a line connecting points at an equal temperature). The same contour delineates the northern limit of many marine animals of this temperate plankton-herring sea.

Because they must breed on land but take their food from the marine ecosystem, aquatic mammals such as the hair seal, northern fur seal, sea lion and sea otter, along with the sea birds such as loons, grebes and cormorants, are the link between land and sea. Although air-breathers, they participate in marine food chains.

Along both coasts are numerous estuaries formed by coastal bays, river mouths and tidal marshes; places where sea water mixes with fresh water. They are the richest of the coastal habitats. Mixing lighter fresh water with heavier sea water tends to produce a "nutrient trap" which retains and recirculates nutrients within the estuary. Since they combine protection and abundant food they function also as nursery grounds for coastal fisheries, notably the salmon. Key habitats of temperate estuaries include tide pools, salt marshes, eel grass beds, algal mats, sea weed bottoms, kelp beds, oyster reefs and mud flats densely populated with clams and sea worms.

**Evolution is a function of community. In the development of the ecosystem negative interactions tend to be minimized in favor of a positive symbiosis which enhances the survival of the interwoven community.**

## THE RIM CONTINUOUS

On a clear day from the heights at Cape Prince of Wales in Alaska it is possible to look across the strait and see land at Cape Dezhnev in Siberia. Depth contours of the Bering Strait reveal a vast, shallow plain stretching 1,300 miles north and south at its widest point. At various times fluctuating water levels exposed this plain forming a land bridge between North America and Asia; a mixing point for plants and animals. In consequence, the biotic communities of Alaska and Siberia overlap providing visible continuity through the present-day water barrier. Carl Ortwin Sauer, an American geographer with an exquisite sense of "real non-duplicated time and place" imagines the conditions favorable for human migrations in the following terms:

> *"The best time after the early Pleistocene for movement between the old and the new worlds seems to have been during the third glaciation. Then, the lands bordering the North Pacific were freely supplied with moist, warm air from the ocean to the south and, though mountain snows were breeding glaciers the lowlands should have remained warmed and free from permanently frozen ground. With a dropping sea level that formed a land bridge at Bering Strait, the Alaskan and Siberian streams flowing across the lowlands cut down valleys. Instead of tundra and muskeg there were mixed woodlands, including white birch, willow, alder and poplar. Some of the streams may well have remained open in winter and at such time man could make his entry in the new world as readily as did other mammals. He had them to prey upon; he had plants that were useful and familiar, and wood for fire and shelter."*

## PARTICIPATION

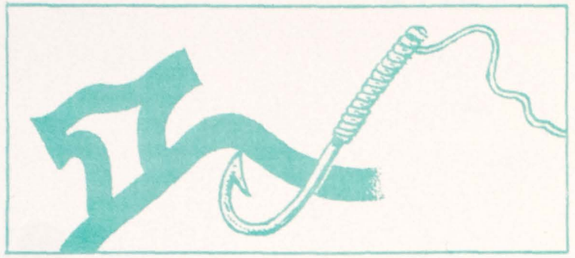
**Culture doesn't exist apart from the ecosystem; it mediates species and ecosystem. Cultural evolution of hunter-gathering peoples in the North Pacific range was essentially adaptive. Population size and distribution, cultural structure, mode of subsistence, all were responsive to ecological dynamics.**

Until European contact in the 17th century, human populations ranging the North Pacific rim existed in a food-collecting economy. The economic system centered on the household where subsistence activities and cultural activities formed a single, integrated system by which a population adapted to its specific environment. Households joined in bands were part of a larger breeding and linguistic community. In general, northern adaptations required a more elaborate material basis such as fish weirs, storage areas, substantial dwellings, clothing and tool kits.

In common with other species occupying temperate coastal ecosystems, their activities depended on regular tidal, seasonal and diurnal pulses. Adaptation involved adjustment to fluctuations in food supply between scarcity and surplus. The cultural systems were structured in relation to a maritime subsistence base, in geographic patterns conforming to coastal river basins. Regional variation among cultures followed from adaptation to local environmental differences.

The only energy was metabolic, derived from the ecosystem, winds and tides. Human culture was a small part of the whole and was protected by the great staying power and flexibility of self-correcting ecosystems which provided regeneration of plant materials, epidemic protection, insect pollination, fisheries and herds, stable programs of fruiting and reproduction, salmon migrations, climate regulation, soil formation and composition of atmosphere.

Drawing on recent ethnographic research, the diversity of regional adaptations can be partly demonstrated by contrasting the Salish people of the North American coast with the Ainu, whose range included Hokkaido Island, southern Sakhalin and the Kuril Islands off the Asiatic coast.



Coast Salish

**Culture centered on knowledge of species properties, biochemistry and seasonal change.**

Along the northwest coast of North America extending from 40 degrees north latitude to Kodiak Island lies a long, narrow, temperate rain forest biome. The tree dominants along the west slope of the Cascades and throughout the coast ranges are hemlock, cedar and red alder, redwood predominating to the south and sitka spruce to the north. Climate is characterized by an annual rainfall of 50 to 100 inches, occuring mainly in winter. Mean annual temperatures range from 40 to 56 degrees F.

Wapiti and deer, mountain lion and bobcat, black bear and wolf, hawks, eagles and owls, deermice, voles and rabbits, and the "people" (northwest Indian tribes) shared a rich, maritime, temperate zone habitat.

Wayne Suttles, anthropologist, offers an ecologically consistent interpretation of northwest culture based on his field work with the Coast Salish peoples of the southern Georgia Strait and Puget Sound region. He maintains that recognizing the existence of times of scarcity amid an overall abundance is essential to understanding the complexity of northwest cultures. The habitat was not a constant source of plenty.

> *"The environmental setting of native culture was characterized by four significant features: 1) variety of types of food, including sprouts, roots, berries, shellfish, fish, waterfowl, land and sea mammals; 2) local variation in the occurence of these types due to irregular shorelines, broken topography, differences between fresh and salt water; local differences in temperature and precipitation; 3) seasonal variation, especially in vegetable foods, and anadramous fishes; 4) fluctuations from year to year, in part due to the regular cycles of the different populations of fish, in part to less predictable changes as in weather."*

**Dependence on other species in the ecosystem was absolute. Ecological integrity could not be abused; it provided food, materials for clothing, shelter and tools, medicines and, most important, an environment for survival.**

In Suttles' scheme the first three factors produce the yearly round of subsistence activities, but the fourth factor, fluctuation from year to year, required intercommunity cooperation. There was shared access to resources and a mechanism whereby one community could "bank" a temporary surplus with members of another community. This was the function of the northwest coast search for "prestige wealth", and the curious and commonly misunderstood institution of the potlatch.



Summarized, Suttles' theory goes like this: where people are faced with great seasonal and local variations in the amount of food offered by their habitat success in utilizing the abundance depends on more than technology alone. Labor for getting and storing food must be organized; some means of redistribution found.

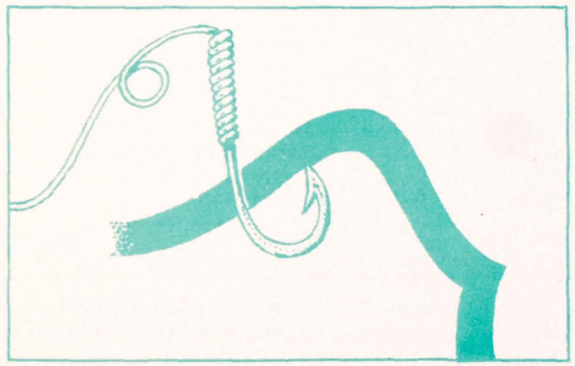
Food and wealth were quite different categories. Food was sacred, a gift from the supernatural. Wealth consisted of such things as tools, blankets, shell ornaments, canoes, woodpecker scalps and hide shirts. Wealth was accumulated by various means. It could be produced in a household, received through services and bride payment, or be a gift validating the status of a potlatch host. It could be exchanged for food.

**Population density was well below the potential food resources. Ecological dynamics related population size to extremes of environmental fluctuation.**

Inequalities in food production would be translated into inequalities in wealth. If amassing wealth were an end in itself the process of sharing food would break down; but wealth, in the native view, was a means to status through giving it away. The potlatch was the way to distribute wealth.

Cultural reasons may have enabled people to survive in this habitat with greater wisdom than rational planning could ever provide.

Suttles' interpretation suggests a way to understand the complexity of the northwest adaptation, and how fishermen of the region may have been led into surplus accumulation, heavy facilities, and ceremonial exchange by a necessity to bank against vagaries in the salmon supply.



Ainu

**Economic self-sufficiency protects ecological integrity if centered on production for use.**

The domain of the Ainu was one of wooded mountain ranges and river valleys. A settlement was usually situated on a river terrace near salmon spawning grounds and was named for the tributary where it was located. Distribution of main food resources within river zones was so stable that the Ainu could maintain permanent settlements. Each river valley was self-sufficient.

Anthropologist Hitoshi Watanabe, describing the Ainu cosmology, points out that all plant and animal resources were regarded as deities in temporary guise.

> *"In consequence, all Ainu activities in exploiting natural resources implied social intercourse with the supernatural and could not be done without ritual observance. Every household was the center of religious as well as economic activity."*

**Cultural behavior functioned to ensure a stable relationship between the social and environmental systems placing people in harmony with the physical and biotic community.**

They were linked to nature and each other through a complex web of myth and ritual cycles. The entire drainage basin was a soulful and sacred domain in which beings were connected by a spiritual thread. The bonds that linked a settlement to a particular river were more than economic—they included spiritual ties transmitted through ancestry and a deeply rooted cosmological background ritually refreshed generation after generation, season after season, day after day.

Here Watanabe describes seasonal movements of Ainu within their habitat:

> *"Their subsistence activities were conducted in five ecological zones, yielding specified resources in specific seasons: 1) the river: cherry salmon, summer, in the main streams and tributaries; dog salmon, autumn, in the main streams; 2) the river banks: collecting of wild plants, spring to autumn; human habitation all year; 3) hillsides along the river course: deer hunting early winter, at or near the animal's winter quarters; 4) the mountain region around the source of the river: bear hunting, specialized, spring and autumn; collection of elm bark for clothing, usually spring."*

## DISRUPTION

Russians were the catalyst of "history" in the North Pacific. Cossacks, trappers, merchants and traders spilled across the Urals in the middle of the 16th century moving across the Aleutian chain in search of sea otter to supply the marine peltry market, beginning the advance on the North Pacific Rim.

In 1785 they established a permanent colony in Etorofu in the southern Kuril. Japan, no longer able to ignore the fact that Hokkaido was becoming the object of Russian colonial design, assumed direct control of the island in 1799, adopting an official policy of assimilation toward the Ainu people and introducing agricultural programs.

After European contact the North Pacific rim is no longer a bounded sytem but becomes runaway in the direction of surplus.

Daniela Weinberg, in her study of northwest Kwakiutl culture, interprets it as a self-regulating adaptive system. Stability depended on a bounded range of fluctuations. When the limits were exceeded in the direction of surplus, the spectacular growth of the potlatch that followed was essentially an effort to maintain stability in response to excess.

> *"Prior to about 1849 the most common and abundant potlatch 'gift' was a blanket made of cedarbark, mountain goat hair, deerskin or fur, and the particular type of blanket given depended directly on the rank of the recipient. From 1849 on there is an almost total replacement of these homemade and differentially graded blankets by European store bought blankets, all having the same fixed value, and there is also a sharp increase in the quantity distributed at a single potlatch."*

At the last recorded Kwakiutl potlatch in 1936 some 33,000 blankets were given away, compared to 320 in 1849.

Sharp discontinuity follows European "contact". Previously self-regulating cultures are coupled to a less viable world system governed by a market economy, with marine fur-peltry its first object in the "new" world.