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Edward A. Whitesell

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LOCAL STRUGGLES OVER RAIN-FOREST CONSERVATION IN ALASKA AND AMAZONIA*

EDWARD A. WHITESELL

ABSTRACT. Needed improvements in international conservation strategies are impeded by an uncritical conceptualization of *local,* in which location is taken to be a reliable indicator of attitudes toward nature and of interests in specific types of resource use. A simplistic local–nonlocal dichotomy is at odds with current research on globalization, which emphasizes intensifying connections among people at widely varying spatial and temporal scales. Such a simple dichotomy distorts the social, cultural, and ecological implications of alternative distributions of power over natural-area conservation. Case studies in the rain forests of Alaska and Brazil are combined with current theoretical perspectives on the changing relationships between the global and the local in order to demonstrate the need for conservation through maximum participation of civil society at all spatial scales. *Keywords: Alaska, Amazonia, conservation, globalization, protected areas, spatial determinism.*

The ecological effectiveness and the social costs and benefits of international conservation strategies are coming under increasing scrutiny. This is especially true in restricted-use nature reserves, also called protected areas,[1] which traditionally have been modeled on the U.S. National Park System (Allin 1990) or derived from European colonial systems of game and forest reserves (Grove 1995). Natural-reserve establishment has long represented the leading strategy for maintaining biotic diversity, preserving scenic landscapes, perpetuating natural ecological services, and containing humanity's drive to blanket the globe with its handiwork.

Of late this natural-reserve strategy has been criticized for a variety of reasons, with consideration of social justice a prominent concern.[2] In many documented cases the establishment of a restricted-use reserve has had serious negative social consequences, including the forced dislocation of residents and severe—even lethal— sanctions against those who persist in attempting to extract resources (Anderson and Grove 1987; West and Brechin 1991b; Bonner 1993). Critics have demonstrated that the imposition of U.S. and European conservation models represents a form of environmental intervention in local affairs that is designed to serve the interests of foreigners and local elites while overlooking the basic human rights and needs of many local peoples (Schroeder and Neumann 1995). Although promoted under the banner of common global interests, international preservation strate-

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DR. WHITESELL is an assistant professor of geography at Michigan State University, East Lansing, Michigan 48824–1115.

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gies, in this accounting, actually amount to "imperialist interventions" (Cosgrove 1995, 38). Even those who would defend conventional protected areas acknowledge a need for increased local involvement in nature-reserve management (McNeely 1994). Consensus exists on this point for the very pragmatic reason that effective enforcement of a reserve's use restrictions requires that local opposition be reduced by shifting the balance of the social costs and benefits of nature reserves more in favor of local people (Hobbs 1996). Still, questions of power sharing, such as who should establish conservation priorities and strategies and who should be involved in natural-resource policymaking and implementation, are highly contentious.

To Be Local or Nonlocal—Is This the Question?

Such debates over conservation strategies, particularly those that deal with the establishment of nature reserves, have commonly been framed in terms of the spatial location and cultural attributes of different groups of people who have interests in a given territory. Consideration of location and culture is, undoubtedly, essential for conservation policy. But there has also been an unfortunate tendency in much of the literature to reduce spatial and cultural categories to a misleading dichotomy between two poorly differentiated social groups: so-called local people and outsiders.[3] This has led to arguments over the relative merits of local resource management versus outside intervention. It would seem, in this formulation, that everyone must choose sides, either supporting the devolution of power over nature reserves to local people or adhering to the customary approach, with power to set agendas for international nature preservation relatively centralized among a nonlocal political and scientific elite.

The word *local* is almost never precisely defined in this literature. A general, if unwritten, assumption seems to be that local people can be empirically identified in purely spatial terms, by measuring the proximity of their residence and/or work to any given nature reserve or potential reserve. Another characteristic of this debate, though, is that it quite often intertwines spatial and cultural descriptors, so that *local* may imply *indigenous* or *traditional.* In the debate over conservation politics, a potentially confusing and inaccurate conflation of the spatial and the cultural is understandable, because many people who reside in or close to the remaining large, undeveloped spaces could be described as indigenous peoples or, at least, as culturally traditional with respect to majority populations in their respective regions.

To illustrate the general tenor of this increasingly polarized debate, a number of arguments for and against local conservation are summarized below, necessarily in a simplified form. Listed first are those in favor of placing greater power over conservation policy in the hands of local peoples, who are variously defined by different advocates of this general argument as residents, as indigenous peoples, and/or as traditional peoples. Some of these positions are used in support of locally managed nature reserves, but they are most often presented in combination with either implicit or explicit arguments against the whole idea of strict preservation within na-

ture reserves. The most prominent arguments in favor of local conservation are the following:

- Exclusionary nature preservation is culturally inappropriate in many places and has resulted in the criminalization of customary land uses and the oppression of traditional peoples. Where nature-preservation goals cannot be reconciled with protecting cultural and human rights, the latter should prevail (Anderson and Grove 1987; West and Brechin 1991a).
- Identifiable social groups possess resource-use patterns or so-called alternative systems of knowledge that are relatively environmentally benign and that may actually foster greater biodiversity. Conservation is positively correlated with the power that such social groups exercise over natural-resource use (Banuri and Marglin 1993).
- States have often proved themselves to be largely ineffective in long-term protection of natural areas, due to insufficient resources, lack of political commitment, and/or corruption (Alcorn 1994).
- Combining conservation with human habitation and multiple resource uses over very large areas (as in biosphere reserves) is the only effective conservation strategy in the long term. Isolated, exclusionary protected areas (as in conventional national parks) will eventually become biologically impoverished islands surrounded by ecological devastation.
- Conservation without alleviation of poverty is ineffective in developing regions, and poverty alleviation almost always requires some degree of resource exploitation by local people. Thus it is usually impossible to maintain protected areas in which all resource exploitation is prohibited.
- Empowering local people by sanctioning and aiding local resource use and management increases the power of civil society to resist top-down, large-scale, unsustainable development. Local conservation projects can therefore change the balance of power in a society to achieve broad social and environmental goals (Wapner 1996).

On the other side in the polarized debate over local conservation is not opposition to local participation but, instead, defense of the principle of nature preservation and resistance to the devolution of ultimate power over protected areas from the state to more decentralized entities in civil society. The following arguments illustrate this position:

- In situ conservation of biodiversity for an indefinite period of time is best achieved through large-scale land-use zoning based on progressive scientific expertise. This process requires knowledge of land-use capability, centers of highest biological diversity, effective reserve-design methodology, and similar considerations about which local people are less knowledgeable than scientists. Such land-use zoning "should be the province of national planning and development organizations in conjunction with the major international lending agencies" (Terborgh 1992, 290).

- Local people are usually threats to biotic diversity and ecosystem stability. Regardless of historical cultural differences in resource use and conservation, all rural peoples are now caught up in the whirlwind of globalization and modernization, which means that they will tend to use natural areas to serve unsustainable short-term needs, especially when faced with poverty and rapid population growth (Redford 1990).
- Local people may augment some aspects of biodiversity, but much of that increase is due to management that prevents succession to climax communities, to the introduction of exotic species, and to the so-called pollution of native gene pools through endemic-exotic hybridization.
- The global and intergenerational interests of humanity and the biosphere should have priority over the more transitory economic interests of small, rapidly changing groups of local peoples. The former set of interests is best safeguarded by isolating natural areas from economic development as much as possible, through legal actions by states and treaties between states (Foresta 1991).

Spatial Determinism

Although this debate has stimulated a great deal of insightful and informative research and analysis, it has also led to an impasse in which one feels compelled to take one of the opposing sides. Local and indigenous interests have been conceptualized in such a manner as to obscure complicated social and cultural divisions that are, in reality, found at every spatial scale from the local to the global. In short, the literature demonstrates a sort of spatial determinism, in which location is taken to be a reliable indicator of cultural attitudes toward nature and of social and economic interests in specific types of resource use and conservation. Through two ongoing case studies, I hope to help guide discussions of local conservation beyond its current impasse and, in a more general sense, to advance our understanding of the relationship between place and preservation.

Theories about world conservation strategies are apt to take on a life of their own if the global scale of analysis is not grounded in the delightful and confounding variety of particular peoples and places. The conclusions I present in this article are based on the observed relationships among place, culture, and conservation in two groups of rural people with intimate ties to two very different rain forests—the temperate rain forest of southeastern Alaska and the humid tropical rain forest of western Brazilian Amazonia. In each case long-term residents near existing or proposed reserves are grappling with difficult choices entailing different allocations of the social costs and benefits of alternative land-use policies. Their land-use decisions will directly affect their struggles to determine the course of their own cultural and economic futures.

Case Studies in Alaskan and Amazonian Rain Forests

Although the Alaskan and Amazonian rain forests are far removed from each other and are ecologically unrelated, they share at least three traits that make their com-

parison useful in a discussion of so-called local conservation. First, both are regions of major importance to any international strategy for the establishment of an ecologically diverse and representative system of nature reserves around the world. Second, both places have recently undergone dramatic ecological, social, and cultural changes that are due partly to large-scale deforestation and, to a lesser extent, to commercial fishing. Third, in both regions rural peoples in relatively undeveloped areas are profoundly divided over their options for the use and conservation of resources in their vicinity.

The Amazon Basin and the Arctic and sub-Arctic regions of Canada and Alaska are the largest regions in the Western Hemisphere that are available for the maintenance of relatively unaltered nature reserves. These are also the places in which Native Americans have the widest range of options in their struggles to control the evolution of their own relationships with their natural surroundings. Both regions include some of the most extensive old-growth rain forests in the world. These forests sequester significant amounts of atmospheric carbon and provide high-quality habitats for rain-forest species that have become rare or extinct in other regions, in which temperate and tropical rain forests have been depleted or eliminated.

The North American rain forest extends along the West Coast of North America from northern California to southern Alaska (38°–61° north latitude). Persistent westerly winds and warm Kuriosho currents produce a moderate, maritime climate with little annual temperature variation and more than 1,400 millimeters of annual precipitation. Under such conditions these forests have produced the greatest phytomass accumulations to be found anywhere, harboring "the world's largest and longest-lived species. . . for virtually every dominant genus of conifer: *Abies, Chamaecyparis Larix, Libocedrus Picea, Pseudotsuga, Sequoia, Thuja,* and *Tsuga*" (Alaback 1996, 111).

My Alaskan study area is in Glacier Bay National Park, which lies at the northern end of the perhumid rain-forest zone (Figure 1). The perhumid zone is the core of this biome; the subpolar and seasonal rain forests display transitional characteristics (Veblen and Alaback 1996). The case-study region receives about 1,900 millimeters of annual precipitation, with ample moisture available in all seasons thanks to the existence of semipermanent low-pressure systems. Some 30 percent is forested, with Sitka spruce (*Picea sitchensis*) and western hemlock (*Tsuga heterophylla*) the defining rain-forest association.

Species diversity within the North American and Amazonian rain forests is not at all comparable. This is expected, because Amazonia is estimated to shelter 10 to 20 percent of all species on the planet. There are approximately 1,200 known vascular plant taxa in southeastern Alaskan coastal rain forests, as compared with possibly 30,000 in Amazonia (Eden 1990). Nevertheless, Alaska's rain forests harbor a disproportionately high number of the species in the entire state. The coastal rain forest, for example, is habitat for 70 percent of Alaskan vascular plant species, even though it covers only 20 percent of the state (Alaback 1996). The riparian forests are habitats for the highest number of species per unit of land area in this coastal region and are

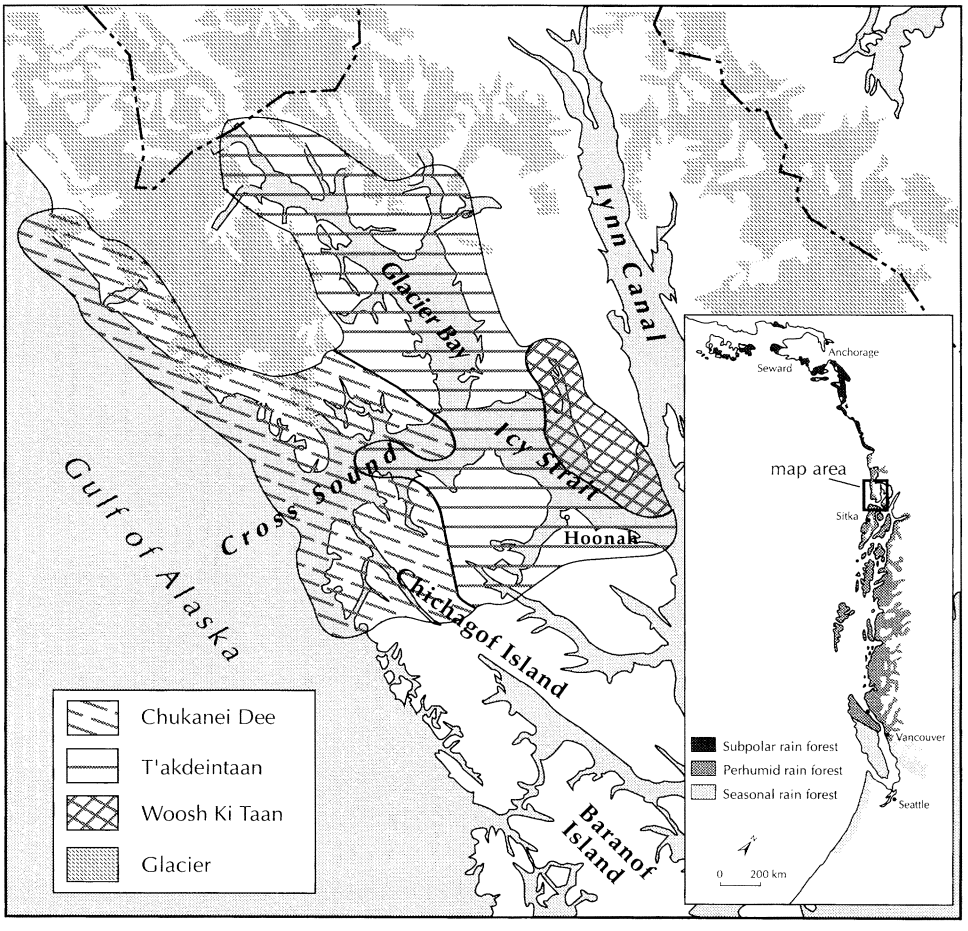

FIG. 1—Glacier Bay and the traditional clan territories of the Huna people in southeastern Alaska. *Source:* Goldschmidt and Haas 1946; *insert map source:* Veblen and Alaback 1976, 176. (Cartography by Ellen White, Michigan State University Cartographic Laboratory)

important regulators of water flow and water quality. Moreover, they are essential to the breeding and rearing of freshwater and anadromous fishes.

The humid tropical forests centered in the Amazon Basin occupy 4.5 million square kilometers (equivalent to 56 percent of the area of the forty-eight contiguous United States), making this by far the world's largest tropical forest. This region is renowned for its biological diversity. My Amazonian case study is in the lowland moist forest zone along the Juruá River in western Amazonas State, Brazil (Figure 2). Although tropical lowland rain forests vary widely, this one has as many as several hundred broad-leaved evergreen tree species per hectare (Gentry 1988), canopy heights of 30–60 meters,[4] many trees with large buttresses and smooth-barked, columnar boles, thick-stemmed, woody, climbing plants (such as lianas), and large numbers of epiphytes.

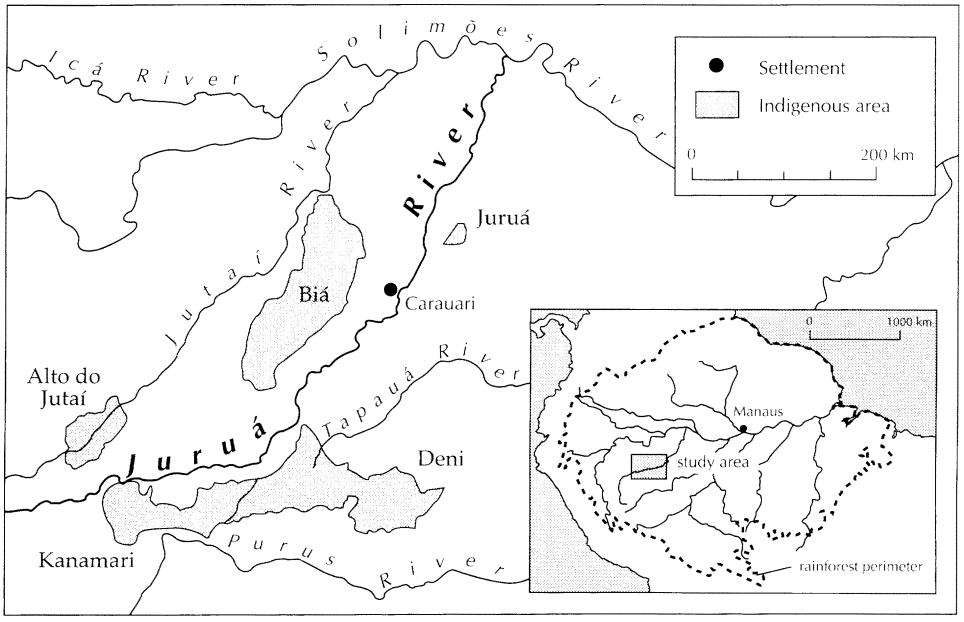

FIG. 2—The Juruá River study area in Amazonas, Brazil. (Cartography by Ellen White, Michigan State University Cartographic Laboratory)

Both regions have largely frontier economies. Each has a long history of boom-and-bust cycles caused by dependence on widely fluctuating supplies and markets for primary export commodities such as fish and wildlife products, minerals, and forest products. Both are net importers of manufactured goods. In both, "a dual economy with wages, cash, and entitlements dominates in cities and towns, and mixed cash and subsistence economies prevail in rural areas" (Kochmer and Johnson 1995, 47). In each area rural populations who depend on natural resources for direct consumption and for cultural continuity (and for market exchange) face powerful competitors for access to resources.

In recent decades both rain forests have seen rapid deforestation through large clearings—for timber and pulp production in Alaska and mostly for conversion to pastures and cultivation in Amazonia. Recovery of species diversity after the old growth is disturbed takes much longer in Alaskan rain forests than in either tropical rain forests or more southerly portions of the North American rain forest. Recovery can occur within two centuries in the Oregon Cascades, but in southeastern Alaska it can take as long as three to four centuries on upland sites and five centuries or more in the highly diverse riparian forests (Alaback 1996).

Although the federal government has long subsidized large-scale deforestation in both Alaska and Brazil, the economic importance of natural areas is also being taken seriously as of late. Alaskan and Brazilian leaders in government and business are now promoting stronger tourism industries, including significant development

of ecotourism, oriented toward natural areas and wildlife, and ethnotourism, oriented toward indigenous cultures.

The two groups I describe in this article are culturally very different. The Alaskans are Native Americans known as Tlingits. The Brazilians are nonnative *caboclos*,[5] rural Amazonians largely descended from peasants who migrated to the Juruá River from northeastern Brazil to seek their fortunes as rubber tappers. Of the two groups, the Tlingits are better organized politically and have achieved more legal recognition of their rights to land and natural resources.

Despite these differences, there are important similarities between the specific groups of Tlingits and caboclos I examined. The majority in both groups is striving for economic security in the midst of a rich natural environment. Both groups seek to determine the use of local resources, particularly timber and fish. Both are currently exploring the use of some sort of protected-area or development moratorium as a partial solution to their problems.

Each group of rural residents is deeply divided over questions of resource use and conservation. In recent years Tlingit and other southeastern Alaskan Native—that is, indigenous—corporations have been responsible for some of the most environmentally damaging and economically unsustainable logging operations ever seen in the region (Knapp 1992). This has produced strong opposition to logging by many Native residents of the community of Hoonah, where my research is focused. Similarly, in the Juruá River study area, participation by some local residents in uncontrolled extractive production has produced significant local divisions over questions of resource use.

The Alaskan case study focuses on two resource-use controversies. One is the Hoonah Indian Association's efforts to gain influence in decisions about the use of Glacier Bay National Park, all the while supporting the park's protection of rain-forest, marine, and associated habitats. The other is the same organization's fight with another local, Native entity that is responsible for extensive deforestation around the town of Hoonah. In Brazil some caboclos of the Juruá study site seek to maintain rain-forest, aquatic, and associated habitats by creating a new protected area—an extractive reserve—where they would have significant power to determine resource use and allocation. In both cases social entities for and against specific resource-use proposals may be found at a wide variety of spatial scales.

The Tlingits of Hoonah

The Tlingits occupy the northern end of the Northwest Coast Culture Area, coextensive with the North American rain forest. In this bountiful environment arose several indigenous nations with a stratified social structure—including nobles, commoners, and slaves—and a sophisticated artistic tradition. The Tlingits are one of Alaska's largest indigenous nations, with an estimated precontact population of 10,000 to 15,000 and a current population of around 11,000 in Alaska—and more than 18,000 in all (Betts and Wolfe 1992).

The people of Hoonah are members of the Huna *kwaan,* a kwaan being a group of related clans with a specific territory. Nowadays a kwaan largely translates to a village, because many former Northwest Coast villages were consolidated at the turn of the century. The people of the Huna kwaan have lived in several different villages throughout their territory, including some in Glacier Bay (Figure 1). In the beginning of the twentieth century most of them began to move to Hoonah, the traditional village of Gaudekan,[6] just south of Glacier Bay. Most had relocated by the mid-1930s, under pressure from fisheries depletion by the new commercial fishing industry, compulsory schooling, and missionary activities (Bosworth 1988).

The Hoonah Indian Association, a federally recognized tribe under the provisions of the Indian Self-Determination and Education Assistance Act, Public Law 93–638, seeks to maintain its territorial and resource base.[7] This is part of a larger struggle to control the cultural destiny of the Huna Tlingit in the face of rapid and dramatic forces for change. Although some dispute remains over the scant archaeological evidence from this region of recurring glaciation, the Huna Tlingit have continuously used the area that is now Glacier Bay National Park for certainly hundreds and perhaps thousands of years. Tlingit place-names for Glacier Bay mean "the main place for the Huna people" or "the Huna breadbasket" (Bosworth 1988). Glacier Bay National Monument—later expanded and given the status of a national park—was created in 1925, principally at the behest of the Ecological Society of America, to preserve a scientific and scenic treasure. After designation, the National Park Service restricted more and more resource uses until traditional hunting and fishing were prohibited in the late 1970s (Bosworth 1988). Resources traditionally exploited in the area included fish, terrestrial wildlife, seals, birds, and bird eggs.

This may be seen as a conflict between, on the one hand, national and intergenerational interests as defined by Congress and interpreted by the National Park Service and, on the other hand, the interests of the indigenous people who have traditionally lived in and used the area, as their desires have been identified by the Hoonah Indian Association. Claiming that current resource-use restrictions have "resulted in the loss of dignity and cultural pride" (Hoonah Indian Association 1994), the association is now seeking a significant role in park planning and management. Negotiations are currently under way between the association and the National Park Service.

The issue of Native uses of Glacier Bay National Park is best understood within the context of the more general relationships between Native peoples and national parks in Alaska. The U.S. National Park System was dramatically enlarged through the Alaska National Interest Lands Conservation Act (ANILCA) of 1980, which gave Alaska almost 70 percent of the total land area in the system. Such large-scale designation of protected areas might be interpreted as another case of environmental intervention by powerful coalitions of national environmental organizations and members of Congress from outside Alaska. But that portrayal is not fair. A wide variety of alliances, formed by interest groups across state boundaries, ultimately determined the content of the final legislation. Alaska's protected areas affect rural,

subsistence resource users both positively—e.g., by protecting fish and wildlife habitats—and negatively—e.g., by restricting access to resources. As part of the accommodation among conflicting interests that was a prerequisite for passage of the act, ANILCA allows traditional subsistence uses, including hunting and fishing, to continue within new national wildlife refuges, national preserves, and national parks. This was a significant policy shift for U.S. national parks which came about only because in the 1970s important leaders of both Native communities and largely nonnative Alaskan conservation organizations jointly campaigned for less restrictive protected areas. Native leaders knew that the survival of essential subsistence resources such as fish and wildlife required the maintenance of greater areas of natural habitats than they could directly control through Native land selections. Their need to limit the development of extensive areas surrounding Native lands coincided, in turn, with a desire of major conservation organizations to establish extensive new protected areas on lands traditionally used by Native peoples (Dennerlein 1995).

Use restrictions in Glacier Bay National Park present a problem for the Huna Tlingit because ANILCA did not change the standard hunting and fishing prohibitions in effect for preexisting national parks in Alaska. Now, however, new planning processes are offering the possibility that this conflict may be resolved in ways that have interesting parallels with current experimentation in developing countries. Not only is there an ongoing planning process between the National Park Service and the Hoonah Indian Association, but Glacier Bay is now one component of a Glacier Bay–Admiralty Island Biosphere Reserve, meaning that a developing-country model for protected areas has been imported into this part of the United States. Planning is also under way to link that biosphere reserve with contiguous protected areas in Alaska and Canada—Kluane National Park in the Yukon Territory, Wrangell–St. Elias National Park in Alaska, and the Tatshenshini-Alsek Wilderness in British Columbia—to create an international biosphere reserve that would be the largest such reserve in North America and that is already the largest designated area of contiguous wild lands in the world (Dennerlein 1995; Price 1995). With recent research focused on problems created by export of the U.S. national park model and experimentation with new ways to protect natural areas in developing countries, more attention can also be paid to Alaska as a testing ground for the evolution of the U.S. model itself.

Also of interest for purposes of comparison are conflicts over fish and forests. The Huna Tlingit share with the Juruá caboclos ongoing conflict with outsiders over fisheries that provide nutritional staples which are culturally important to each group. Commercial fishing for many Alaskan fish species is limited to a fixed number of permit holders, most of whom are currently nonnatives. Because of the unique history of their relationship with the U.S. government, Alaskan Natives, unlike Native Americans in other states, have not had fishing rights assigned to them by treaty. The Alaska Native Claims Settlement Act (ANCSA) of 1971 extinguished Native land and resource claims in exchange for a cash settlement combined with grants of specific lands to regional and village corporations established pursuant to

the act. A subsistence provision in ANILCA gives priority to rural subsistence users of fish and wildlife on federal lands in times of scarcity (Morehouse and Holleman 1994). Nevertheless, this has not resolved problems of local fishery depletion. Over the last two centuries Tlingit territorial claims to fishing areas have largely been ignored by the commercial fishing industry, resulting in hardships for villagers. The historic offshore commercial fisheries for salmon, herring, and other species have depleted local stocks for Alaskan Native fishers, who capture their fish as they return to freshwater systems and nearshore waters in traditional tribal harvest areas (Betts and Wolfe 1992).

The division over Native logging operations is deep in Hoonah. For fifteen years the reliance of the people of Hoonah on surrounding rain forests and waterways for physical and spiritual sustenance has been gravely challenged by clear-cut logging operations on both the federal lands of the Tongass National Forest and the Native lands controlled by the Native corporations established under ANCSA—the village corporation, Huna Totem, and the regional corporation, Sealaska (Schroeder and Kookesh 1990). The Hoonah Indian Association argues that what is at stake are cultural survival and opportunities for local economic diversification through fishing, tourism, and small-scale timber processing. In local meetings with angry residents, Native corporation representatives contend that it would be economically devastating to cease logging operations. The association, for its part, seeks "a three-year moratorium on clearcut logging in the Hoonah area. During this period, all parties [would] formally consider the future use of our forest lands" (Hoonah Indian Association 1996).

The People of the Juruá River

Residents of the Juruá River area face similar resource issues, including determination of their stake in a potential protected area, conflicts between subsistence and commercial fishing, and divided opinions over local logging. Their central struggle for survival is against an economic hardship imposed on Amazonian resource extractors for centuries through a system of indebtedness contrived and maintained by local and regional merchants.

The economy of this region is what has been called "agroextractivism" (Almeida 1988), signifying a reliance on gathering and cultivation. Extraction furnishes both subsistence needs and such marketable products as timber, fish, and rubber. Agriculture is primarily for subsistence, although there is minor commercial production, mostly of manioc flour.

Juruá residents have become interested of late in acquiring greater control over subsistence and commercial resources by establishing an extractive reserve. First proposed by Brazil's National Council of Rubber Tappers in 1985, this is a type of protected area that permits agroextractivists to maintain residency, sustainably using local resources within bounds agreed upon with the federal government. The extractive-reserve model of conservation and grassroots development emerged from struggles over land and resource rights in the neighboring state of Acre. There a

rubber tapper and union organizer named Chico Mendes—one of many activists, of course—advanced the extractive-reserve idea through astute alliances among local rural workers' unions and regional, national, and international political parties, churches, and environmental organizations. The success of these alliances is evident by the fact that the extractive-reserve model has been adopted as a policy instrument by institutions such as the Brazilian government and the World Bank. With Brazilian extractive reserves internationally perceived as an example of local conservation, the model is now institutionalized and has been imported into parts of the vast Amazon Basin, where it is—initially, at least—an exogenous protected-area model (Whitesell 1994).

Over the past few years Juruá residents have been intermittently advised about extractive reserves by local representatives of the National Council of Rubber Tappers, union organizers, Catholic clergy, scientists, and even residents of other regions where fisheries reserves and extractive reserves are established. The process of self-education and political organization is slow, owing to remoteness and limitations on freedom to engage in political activities. Survey research shows that even by 1990, after Chico Mendes's assassination had made his name known worldwide, very few people in the region had ever heard of him or understood what an extractive reserve was (Whitesell 1993). This same protected-area model, viewed as an unknown, foreign idea in the Juruá region only a few years ago, is in the process of being seriously considered for implementation through an intricate series of discussions that link isolated Juruá households to the National Council of Rubber Tappers office in Acre, the halls of Brazilian government agencies in Brasília, and the offices of international conservation organizations in Washington, D.C.

The people of the Juruá study area are extremely concerned about declines in fisheries due to overexploitation by both local residents and commercial boats from outside the area (Whitesell 1993). The protein staple is fish. Contrary to assertions that rubber tappers rely heavily on game (Peres 1990; Redford 1992), the consumption of wild game is a rare treat for area residents because competing labor demands and the cost of ammunition limit hunting. Low availability and high prices mean that they seldom purchase canned meat, dried fish, or powdered milk. Consequently, fishing pressure is intense in some lakes, streams, and flooded forests. Commercial fish production by study-area residents is almost entirely in the form of dried and salted fish, principally *pirarucu* (*Arapaima gigas*) and *peixe liso* (a colloquial category that includes many species from several siluroid families).

Residents complain of a dramatic increase in the fishing effort by boats from Manaus and other urban ports, which supply fresh fish to regional towns and cities. Commercial pressure competes with subsistence production by area residents. Information on the status of food-fish populations is completely inadequate, however. Harvest records are sporadic, inconsistently compiled, and generally uncorrelated with the degree of fishing effort, gear types utilized, locations, and seasons of harvest. Basic research on the population biology of most of the commercially important species is nonexistent. Nevertheless, in surveys area residents reveal significant

concern (Whitesell 1993). Particularly aggravating to them are practices by urban-based fishermen: the use of bombs in small lakes to stun or kill fish, catching and keeping fish below minimum size standards, tossing overboard previously captured fish when more valuable ones are encountered on the way to port, and use of a type of seine net that kills far more species than are marketed.

There is no effective governmental monitoring of fishing practices or enforcement of fisheries regulations in the area. Some communities have attempted to control pressure on important subsistence fisheries through self-imposed limitations on harvesting and through the imposition of limits on commercial fishing. The communities have encountered difficulties, however, in devising the necessary social regulatory mechanisms within their own communities. They have found that even a small number of nonconforming community members can seriously undermine the efforts of the majority to protect local fisheries. A local resident may either directly violate the community's unofficial fishing restrictions or legitimate the exploitation of locally protected waters by outside commercial fishing boats by the unauthorized granting of permission to do so. Fear of provoking violent conflicts among community members limits the power of the majority to prevail in attempts to conserve local resources.

Juruá residents are also divided over the role that logging should play in their future. Having begun during the rubber boom of the late nineteenth century with the production of fuel for steamships, commercial logging has since experienced several boom-and-bust cycles, each characterized by the exploitation of a limited number of highly valuable timber species (that is, "high grading"). In the late 1950s and 1960s upland logging focused on cedar (*Cedrela odorata*) and mahogany (*Swietenia macrophylla*). After a ten-year hiatus logging was renewed, and smaller, second-growth cedar, along with *louro* (*Ocotea* spp.), *virola* (*Virola surinamensis*) and *jacareúba* (*Callophyllum brasiliense*), among other species, was exploited. Mahogany, however, was never again exploited in this region, apparently because it had been overharvested during the 1960s.

In the late 1980s, 75 percent of the volume of timber taken from the study area was derived from just two species, *Ceiba pentandra* and *Copaifera reticulata. C. pentandra* alone accounted for 58 percent of the timber volume registered in the *município* (equivalent to a county) between January 1986 and July 1990. Known in Brazil as the *samaumeira,* it is the most conspicuous tree on the natural levees of the Juruá River, its crown standing well above the surrounding forest (Figure 3). Rising to heights of 50 meters, its buttressed trunk is a straight column until the very top, where massive branches, of the same girth as many tree trunks, seem to be suspended almost horizontally above the forest canopy. This tree has long been valued for its silky seed-dispersal agent, kapok, which is widely used in the manufacture of life jackets, insulation, and soundproofing material. Once of no commercial value, its wood has recently become so heavily exploited by loggers that this majestic landmark of the Juruá is swiftly being turned into plywood.[8]

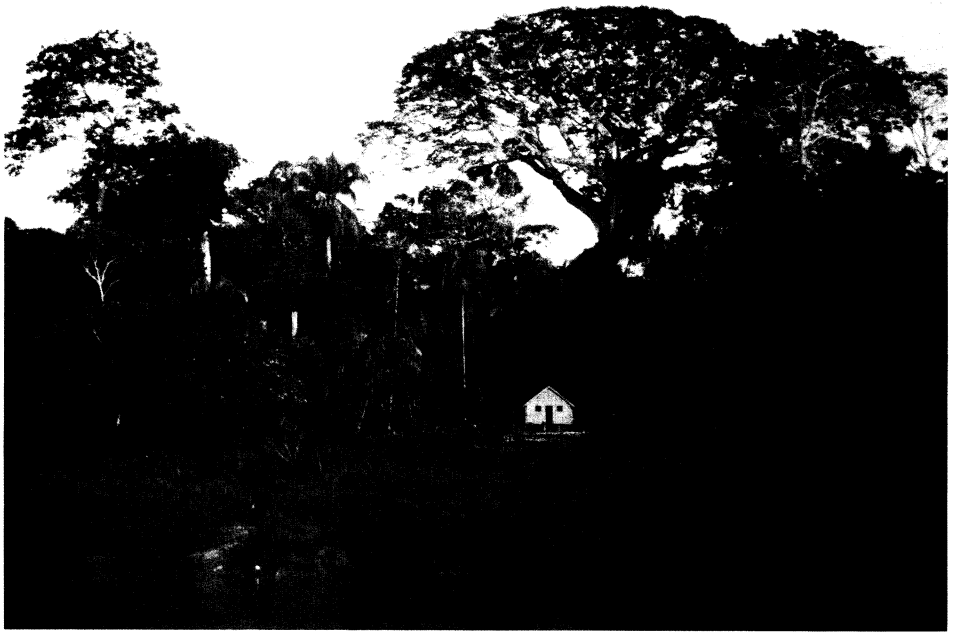

FIG. 3—A house on a natural levee in the Juruá River study area, dominated by a samaumeira, in 1990. (Photograph by the author)

Logging in the study area is currently concentrated in the floodplain, in violation of the Brazilian Forestry Code, and proceeds completely free of regulated forest management. There have been no timber inventories, no regeneration studies, no regulation of species and sizes harvested, and no mitigation of the environmental impacts of logging. Timber is cut using axes and two-person crosscut saws, felling trees in the low-water season. When the water level rises enough to float the logs out, they are laboriously prodded and tugged out of the flooded forest and into the main channel of the Juruá River, where they are rafted together for the journey to domestic and export markets.

Of 161 households I surveyed in 1989 and 1990, 44 percent were engaged in commercial logging. The endeavor is relatively new for most of them. Whereas those who were engaged in rubber tapping started doing so at an average age of eleven, two-thirds of those who were logging had been doing so for three years or less. Only 7 percent had logged for ten years or more. Local people are divided over the desirability of timber harvesting. Most who have tried it find it undesirable, for it does not pay enough to compensate for the brutal and dangerous working conditions. Others argue that it is ecologically harmful, because it depletes specific trees that are important for construction of houses and canoes or because it reduces habitats for important fish and game species. Local representatives of the National Council of Rubber Tappers have been working to persuade larger numbers of local residents to oppose

the expansion of logging in the area, matching the generally antilogging position that this national organization has adopted in concert with national and international environmental organizations. Other residents remain unwilling to restrict logging because so few alternative employment opportunities exist.

Divisions over such things as the desirability of an extractive reserve, adherence to locally imposed fishing restrictions, and logging are all complicated by the weak social bonds among the caboclos of the region. A long history of patron dependency in Amazonian extractive industries has left a mark in this area, where the formation of self-reliant, cohesive local communities has been a rare and recent phenomenon (Whitesell 1993). Replacing divisions among local people with a new sense of community cooperation was a central strategy of the Movement for Grassroots Education (MEB), an arm of the progressive wing of the Catholic Church, after its 1983 analysis of the causes of poverty in the study area identified, among other problems, a lack of the social and political organization that is necessary for defense against exploitation and for the construction of political and economic alternatives. Community organizing by MEB staff from other Brazilian states and by a small number of Brazilian and foreign priests has led to social change, helping area residents to formulate and act on consensual positions about resource use. There is no local consensus, however, that, if there is increased income from local economic advancement, it would be best reinvested in small-scale extraction and environmental conservation rather than in agriculture, livestock production, improvement of access, or even migration to cities. As in the case of the Huna people, there is no single local perspective on such issues.

Local Conservation in the Age of Globalization

We err in assuming a simple opposition between local and nonlocal interests in conservation. Any case study of a specific conservation issue is bound to tremendously complicate a facile assumption that greater local control over resources necessarily equals more or less conservation or greater or less social equity. In the cases of the Tlingits in Hoonah and the riverine peoples along the Juruá River, insiders are divided over issues of cultural change and resource use. Each area's residents are struggling with difficult questions about how protected-area regulations and alternative resource-use options may alter the landscapes in which they and their children will live out their lives.

It should be stressed that many important local–nonlocal distinctions should be recognized in resource-use and -conservation policies. No doubt one of the most important uses of such a dichotomy is to address the distribution of power by clarifying critical issues of social justice and democracy. Yet, when it comes to identifying the social groups and institutions that are most likely to achieve certain conservation objectives and to deciding who should establish those objectives in the first place, "localness" is best seen as a misused spatial referent for other social, cultural, and economic influences on social and environmental conditions.

In this article I assume that protected areas constitute one essential strategy among a wide range of conservation options and that, in the aggregate, such areas should be designed to serve a variety of interests, including but not limited to those of people living at a given time near a given protected area or a proposed protected area. These assumptions necessitate the development of working hypotheses about how to satisfy current, local social demands while also serving nonlocal interests, intergenerational interests, and biocentric ethical concerns. An important obstacle to be overcome in deriving such working hypotheses is the prevailing imprecision and confusion produced by a simple local–nonlocal dichotomy that overstates the correlations between place, culture, and environment.

Pervasive spatial determinism has polarized debates about the environmental and social implications of alternative distributions of power over land-use policies. A more promising approach is to start with the recognition that spatial location is significant but of secondary importance to the nonspatial characteristics of potential or actual resource users. The spatial location of residence or workplace has important effects on but does not determine the existence of such things as legal rights or moral claims to a given territory, skills and traditions that favor conservation practices, tenurial and economic incentives to preserve or sustainably use resources, and many other important characteristics of people's relationship with the rest of nature. Those who may make persuasive claims on the resources of a given protected area, based on considerations of human rights, cultural self-determination, and conservation, are rarely mappable in concentric rings around that area. They would more accurately be sketched as complexly interwoven spatial and temporal networks of interacting—or potentially interacting—social groups, each with overlapping ecological, economic, and moral interests, who are located in different parts of the world and who exist at different times over the course of history.

An unproblematic local–nonlocal dichotomy is at variance with most current scholarship on globalization,[9] with its emphasis on the intensification of the linkages among people at widely varying spatial and temporal scales. Scholars from across the disciplinary spectrum have become captivated by the study of social and environmental change at global and regional scales. What were once understood as local, spatially distinct patterns of society and cultural ecology are now described as relationships that are intertwined across spatial boundaries (Gupta and Ferguson 1992; Watts 1992; Kearney 1995). The implication for the study of people and the environment is that "a new 'globalized' localism" (Thrift 1994, 224) is replacing the sort of clear and distinct localism described in traditional regional geography. In the study of social systems, "globalization does not only concern the creation of large-scale systems, but also the transformation of local, and even personal, contexts of social experience" (Giddens 1994, 4–5). In the pursuit of modern geographical inquiry, we are now encouraged to think in terms of a local–global dialectic (Watts 1992). In the postmodern age, we are told, "the parameters of the local and global are often indefinable or indistinct—they are permeable constructs" (Grewal and Kaplan 1994, 11). Such ideas also underlie cultural studies as a whole, with its current focus on the

construction of identities and the formation of imagined communities and a sense of place, as opposed to the traditional view that the world is composed of bounded, separate culture groups.

Although this article and its case studies support much of this perspective on the concept of the local, an important caveat is due at this point in the discussion. Understanding international conservation within the context of a globalization that blurs old distinctions between the local and the nonlocal is not the same as accepting a globalization discourse that obscures local perspectives, interests, and environmental variability. Today, more and more environmental problems are defined as global crises that demand urgent and radical interventions in the name of an indivisible humanity which shares one holistically interconnected planet and a common future. Conceptualization of environmental problems in global terms reduces our attention to local variation and social differentiation (Taylor and Buttel 1992) and also encourages technocratic and morally rationalized interventions by fostering an ideology aptly labeled "manifest ecological destiny" (Schroeder and Neumann 1995). In his discussion of this globalization discourse, Tim Ingold (1993, 41) warns that the "one-world" perspective is really "a privileging of the global ontology of detachment over the local ontology of engagement. To the extent that it has been used to legitimate the disempowerment of local people in the management of their environments, this idea has had serious practical consequences."

Rudolf A. Treumann (1991, 50) recommends that we tread carefully through the terminological minefield of culturally constructed global problems, understanding that "any problem which we consider to be global from greater proximity turns out to consist of a multitude of smaller and smaller local problems interwoven into the net of the dominating problem which we considered to be the global one." "Global solutions, if they can be constructed, are," according to Treumann (1991, 49), "something like a general framework for local solutions which fit into this framework but at the same time account for the very different needs and requirements of the local situation to which they are applied. Only if global solutions are understood in this way they can from a moral standpoint be accepted."

In short, we must avoid both the reification and the denial of the local. We must be able to grapple with a complex local–global dialectic without conceptually painting ourselves into a political corner in which problem identification and policy solutions are centralized into the hands of self-appointed, global authorities (Ecologist 1992). The literature that advocates local approaches to conservation rests on a distinction between insiders' and outsiders' understandings and perspectives, favoring the local social construction of the environment and environmental problems over that of outsiders. Although the distinction between insiders' and outsiders' social constructions of the environment and of environmental problems is important, we must not assume that locality alone is a good indicator of any particular social construction of nature or actual pattern of resource use.

In these Alaskan and Brazilian cases one distinction between the local and the global is that each area displays some degree of local contestation of the sort of

globalization that obliterates a people's attachment to a particular place, sense of community, and traditional resource-use patterns. Viewed in this light, one might even be tempted to say that the members of the Hoonah Indian Association and the advocates of a reserve along the Juruá River are more local than their neighbors are, in the sense that they are resisting exogenous development models and proposing their own alternatives. Viewed from a wider perspective, their struggles could be said to represent part of the ongoing, worldwide redefinition of cultural identity and the scramble for self-determination in the face of the environmental and developmental interventions of globalization (Pred and Watts 1992; Giddens 1994). As Anthony Giddens sees it, a characteristic of globalization is the necessity of traditions "to explain themselves, to become open to interrogation or discourse" (1994, 5) and the need for "selective preservation, or even perhaps reinvention, of tradition" (1994, 12).

International conservation organizations increasingly look for allies where there is just this sort of local opposition to the maxim that development means modernization, as defined by Euro-American standards. Underlying at least part of the international environmental movement is a critical and fundamentally conservative attitude toward modernization and globalization. Bret Wallach tells us that this is nothing new to environmentalists in the United States. He argues that the U.S. conservation movement has long been motivated by ambiguous feelings about progress: "Conservation has been our way . . . to resist [progress]. Looking back over nearly a century, I think that we are learning how very uneasy we are with the same course of development that we welcome as the bringer of prosperity" (Wallach 1991, 48). He suggests that conservation in the United States may be seen, in part, as the manifestation of a consistent but unacknowledged ("disguised" is his word) form of philosophical conservatism in this country that resists or at least bemoans the loss of traditional social relationships and land-use patterns in the face of economic and technological development.

It is important to discriminate between local groups who oppose and those who support or acquiesce in the violation of local environments and local self-determination caused by globalization. *Local conservation* is an apt term for contestation, within a given locality, of global processes that threaten local control over culture, society, and environment. But, because environmentalists throughout the world have a long history of questioning so-called progress, contestation of globalization's negative environmental effects is never purely local. This makes it logical—though not necessarily easy—to forge broad alliances among social groups with overlapping interests at many spatial and temporal scales.

In geographical terms, once we understand the debate over local versus nonlocal approaches to conservation within the context of local struggles over globalization, we may characterize the growing interest in local conservation as an expression of a widespread desire for cultural landscapes other than those that are being shaped by the forces of modernization. In political terms, support for local conservation efforts represents a search for strategies by which to oppose the loss of relatively unaltered natural ecosystems and traditional societies via globalization. This should

not be misunderstood as the futile politics of opposition to globalization as a whole. In fact, it is precisely because of globalization that these political strategies may be developed and implemented through alliances of many social groups over different spatial and temporal scales. Akhil Gupta and James Ferguson assert that global integration has not only "rendered any strictly bounded sense of community or locality obsolete" but has also "enabled the creation of forms of solidarity and identity that do not rest on an appropriation of space where contiguity and face-to-face contact are paramount" (1992, 9). As Neva R. Goodwin (1991, 7) puts it, "An interaction is emerging in our understanding of the superficially opposed concepts of global and local: it becomes increasingly clear that the contemporary pressures toward globalism are most likely to be benign in their effects if the new globalism is accompanied by a plurality of positive new forms of localism." Part of such a politics of international conservation is democratic, pluralistic forms of resource-use planning, in alliance with nonstate entities with similar interests (Morss 1991).

Ironically, international conservation politics, regardless of whether it directly challenges globalization's harmful ecological effects, is itself inevitably caught up in the process of globalization, insofar as that term denotes broad geopolitical changes, including the rise of nonstate political powers. Protected areas are the result of political processes that often include institutions and social groups operating across state borders or challenging state authority over part of its territory (as do some indigenous movements for autonomy). International conservation increasingly unites "new social movements" of many sorts and at all spatial scales (including coalitions of conservationists, indigenous peoples, rubber tappers, unions, political parties, and so forth) in what Paul Wapner calls an emerging world civil society (1996).

As we abandon the false local–global dichotomy, so must we abandon a simplistic conceptual opposition of virtuous local and imperialist global conservation strategies and seek, instead, to define and implement conservation through the maximum participation of civil society across spatial barriers and with ample consideration given to future generations. We should seek to foster global alliances that support local resistance and self-determination but that do not support local acquiescence and complicity in environmental and cultural homogenization. Doing so is inevitably a normative, judgmental, and partisan act in that it necessitates taking sides in local, regional, and global disputes. It should be recognized as such and not obscured as either support for "local" people or defense of the "common future" of humanity.

Notes

1. Despite a widely accepted convention (established by the International Union for the Conservation of Nature) for precisely labeling reserves according to their purposes and uses, in this article I employ the terms *nature reserves* and *protected areas* in the more general and colloquial sense of all areas that are demarcated to maintain scenic and ecological values with relatively little human alteration. The many important variations among different kinds of reserves are not a central concern in this article.

2. The current reevaluation of international conservation strategies has many aspects involving conservation biology, the economics of protected areas, international relations, details of reserve-management policies, and the like, which I do not consider in this article.

3. This way of thinking is a manifestation of wider debates over the relative social and ecological implications of local versus nonlocal or, alternatively, indigenous versus nonindigenous ways of socially constructing and materially altering nature (Nelson 1982; Ellen 1986, 1993; Callicott 1989; Redford 1990; Hames 1991; Oldfield and Alcorn 1991; Toledo 1991; West and Brechin 1991b; Denevan 1992; Richards 1992; Wells, Brandon, and Hannah 1992; Alvard 1993; Barzetti 1993; Davis 1993; Alcorn 1994; Balée 1994; Davis and Wali 1994; Leach 1994; Little 1994; Reichhardt, Mellink, Nabhan, and Rea 1994; Nabhan 1995).

4. This amounts to a relatively modest 100–195 feet, as compared with the towering redwoods of North America's coastal rain forest, which commonly grow to 200– 275 feet.

5. Usage of the word *caboclo* in the literature is inconsistent. I use it in reference to a rural Amazonian of modest economic means who is not a member of an indigenous social or cultural unit.

6. *Huna* is a cultural term referring to the people themselves, whereas *Hoonah* is a geographical term referring to the settlement.

7. "The Hoonah Indian Association is a tribal association dedicated to perpetuating our culture, our common sense of community, and our traditional, customary and cultural usage of our natural resources" (Hoonah Indian Association 1996).

8. Like the samaumeira, the second most commonly logged species in the study area is a species with an important nontimber byproduct. The medicinal oil of *Copaifera reticulata* in the Juruá Valley was extracted and marketed from the nineteenth century through the mid–twentieth century. The medicinal oils of both *copaíba* and *andiroba* (*Carapa guianensis*) are probably the most widely used natural medicinal oils in Amazonas. *Andiroba* is also being cut in the study area for its timber.

9. In this article it may seem that I use the word *globalization* with even more abandon than I display with the terms *nature reserve* and *protected area.* The difficulty is that the meaning of globalization and the application of the word to specific processes is highly contested. Because I make no attempt to resolve the matter here, I am resigned to the ambiguities inherent in the term. In general, I adopt the view that globalization refers to increasing social interactions of all sorts (economic, cultural, political, and so forth) at a scale that is not limited by state or regional boundaries. Although I do not doubt that globalization is a central characteristic of our times, I am nevertheless skeptical about most applications of the word. As Treumann (1991) has observed, its use often reflects the totalizing, technocratic worldview of the West more than it accurately describes the nature of the processes so labeled.

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