
Interrupting the telos: locating subsistence in contemporary US forests

Marla R Emery

USDA Forest Service, 705 Spear Street, PO Box 968, So. Burlington, VT 05403-0968, USA;
e-mail: memery@fs.fed.us

Alan R Pierce

Independent scholar, Duxbury, VT, USA; e-mail: arp@sover.net
Received 16 November 2003; in revised form 20 May 2004

Abstract. People continue to hunt, fish, trap, and gather for subsistence purposes in the contemporary United States. This fact has implications for forest policy, as suggested by an international convention on temperate and boreal forests, commonly known as the Montréal Process. Three canons of law provide a legal basis for subsistence activities by designated social groups in Alaska and Hawaii and by American Indians with treaty rights in the coterminous forty-eight states. A literature review also presents evidence of such practices by people from a variety of ethnic backgrounds throughout the nation. Teleological notions of development espoused by both neoliberal and Marxist scholars suggest that subsistence activities should not persist in a First World setting except as failures of the officially sanctioned economic system. However, alternative economic perspectives from peasant studies and economic geography offer a conceptual framework for viewing at least some subsistence activities as having a logic and values outside of, if articulated with, market structures. Meeting the Montréal Process goal of providing for subsistence use of forests will require research focused on local practices and terms of access to resources as well as their relationship to state and capital processes. We outline the basics of a research agenda on subsistence for an emerging First World political ecology.

Subsistence at the heart of the modern world?

"[Subsistence] uses of the forest can be valid and their extent should be known and forest management regimes developed to provide for them."

Montréal Process Technical Advisory Committee (2000)

At the heart of the most advanced capitalist nation in the world we imagine, even assume, that the modernist goal of rationalizing the means of survival and well-being has been fully realized. In this center of industrialized agriculture and resource extraction, surely life's most basic needs—food, medicine, clothing, and shelter—are met fully in the market. We recognize that poverty and hunger exist in our midst. But we see this as a failure of a system that ought to fully embrace all people within its boundaries. Whether from the right or the left, we seek solutions largely without questioning the desirability of being thus enfolded. Given this imaginary, there are quite reasonable grounds for astonishment, even incredulity, that in the United States today there are people who hunt, fish, trap, and gather in the nation's forests to provide for their survival.

And, yet, it is so. This fact is not news in Alaska, where subsistence is an active political issue. Nor is it news to the small group of researchers who began studying subsistence in Alaska and then found evidence of similar practices elsewhere in the United States (Glass et al, 1990a; Muth, 1990; Muth et al, 1996). But unlike petroleum products, news rarely flows from the forty-ninth state into the lower forty eight. Much scholarly work on the topic has been published in the gray literature of government reports and conference proceedings, which, like the subject matter that it examines, is for the most part invisible to the systems that catalog and thereby validate knowledge.

So the existence of people who pursue subsistence practices in the contemporary United States is largely unknown outside Alaska. The nature of these activities, the reasons for their persistence, and the factors that enable or constrain them are mostly unexamined.

We undertook an analysis of subsistence in the United States as part of an international convention on sustainable management of temperate and boreal forests, commonly referred to as the Montréal Process (Montréal Process Working Group, 1998). The wording of the indicator to which we were responding—area and percentage of forests available for subsistence activities—reflects the modernist spirit of hard-boundaried, rational quantification. However, the interpretive language of a group of experts convened to help guide the development of the US report (Montréal Process Technical Advisory Committee 2000) opened up the possibility for a thicker description (Geertz, 1973).

In previous rounds, the US report on this indicator consisted of two words—"no data". As we prepared to develop a less abbreviated report, one member of the US delegation to the Montréal Process expressed doubt that there was anything to add to the earlier accountings. In the course of informal correspondence, he suggested that subsistence is the domain of indigenous peoples in the Third World. Our colleague's skepticism was a clear indication that teleological notions of economic development pervade forest policy as well as the academy and popular imagination; any such uses of US forests must be a matter for historical study not contemporary deliberation. Clearly, the task of inserting subsistence into a report on the state of the nation's temperate and boreal forests would be twofold: (1) compiling empirical data, and (2) interrupting this telos in the understandings of those who make decisions about many of the spaces where hunting, fishing, trapping, and gathering take place.

Neither time nor money was sufficient to undertake the thorough fieldwork that is characteristic of political ecology research. Instead, we set out to conduct a review of the literature on subsistence in the United States. This presented a challenge as little research outside Alaska explicitly addresses subsistence. However, by casting a broad net, we identified ethnographic and other studies that helped to establish the existence of such practices throughout the nation by people of diverse cultural backgrounds. Here, we summarize briefly the empirical evidence of contemporary subsistence activity and trends in access to the forest resources on which much of it depends (for a more detailed report, see Emery et al, 2004). Mere compilation of empirical facts is useful but insufficient to guide policy and set a research agenda. Thus, we precede our recitation with brief musings on the teleological notions that have served to conceal contemporary US subsistence and some alternative lenses that might bring it into focus. We conclude by returning to the Montréal Process and suggesting a role for First World political ecology in siting contemporary subsistence activities within the purview of US forest policy.

Defining contemporary subsistence

The first obstacle to locating subsistence is clarifying what is envisioned by the term in the contemporary context. Debates about the boundaries of what may legitimately be considered subsistence activities typically focus on the proportion of livelihood resources that are obtained by these means, whether exchange values may be considered within the scope of such activities, and the distinction between subsistence and recreation.

By nearly all definitions, subsistence activities are present in indigenous communities in the Amazon (Grenand and Grenand, 1996; Shanley and Luz, 2003) and the Canadian North (Beckley and Hirsch, 1997; Berkes et al, 1995). These are the places

that were envisioned by our colleague and others when a subsistence indicator was included in the Montréal Process. It is recognized that subsistence practices are articulated with the formal market economy even in these locations. Given this fact, the identification of contemporary subsistence is not so much a matter of establishing a quantifiable proportion of household income thus obtained as determining the presence of activities outside the formal market to meet material and/or cultural needs, as defined by the participants themselves (Bennholdt-Thomsen and Mies, 1999). This may include provision of basic calories and nutrients as well as materials with special physical or spiritual properties (Dick, 1996).

A related question is whether subsistence includes only use values or may also encompass some types of exchange. If we adopt a strict focus on use values, it would be reasonable to exclude trade and barter from the purview of subsistence. However, proponents of the inclusion of small-scale trade and barter within the definition do so on the basis of its continuity with precapitalist practices and the operation of a logic outside the dictates of free-market theory. As economic historian Polanyi (1977) noted, exchange predates the establishment of capitalist relations of production. Further, economic botanists Turner and Loewen (1998) have demonstrated that trade has been a part of North American human-environment relations since pre-Columbian times.

A final definitional point is raised by the objection that all hunting, fishing, trapping, and gathering in the contemporary United States are more properly recreation than subsistence. In their review of the distinction between the two, Glass et al (1990b) note that the definitions of each have expanded to produce considerable overlap in understandings of their material and social content. The social, cultural, and psychological benefits of subsistence activities are prized in addition to their direct material contributions. Recreation is recognized as providing physical health benefits as well as pleasant leisure pastimes. However, some characteristics can be identified as definitionally essential to subsistence. The subsistence practitioner's primary motive is to obtain the resource. The need that is met may be more social and cultural than material. But the goal is to acquire a substance that will be used in some way.

Redclift (1985) argues that emphasis on the set of activities that constitute subsistence diverts attention from the important question of the processes within which they are inscribed. Instead, she suggests viewing subsistence as defined by particular types of relationships between individuals. We would add relationships between people and resources to that definition. Thus, we understand subsistence uses of forests to include any direct use of natural resources to meet the requirements of material and cultural survival outside the formal market: that is, hunting, fishing, trapping, and gathering to obtain food, medicine, and utilitarian materials for the individual and his or her social network. Subsistence is a set of socially embedded practices that include preharvest, processing, and redistribution activities as well as the harvest itself. These activities simultaneously rely on and reinforce social networks. Success in harvesting requires knowledge of place and the temporal patterns of the resources being sought, as well as access to those resources.

Locating contemporary subsistence

If subsistence, understood in these terms, persists in the contemporary United States, does it do so because of or in spite of capitalist economic structures? Is it required by or might it sometimes be enabled by integration into the capitalist economy? Answers to these questions has implications for the location of subsistence in US forest policy.

Gibson-Graham (1996) have noted the tendency on both the right and the left to represent capitalism as monolithic and totalizing, with an evolutionary telos that ultimately encompasses all social space that it does not extinguish. Neoliberal economist

and global trade enthusiast Bauer (2000) reflects this teleological orthodoxy in the title of his book, *From Subsistence to Exchange*. Like other champions of modernism, in his text he promotes the notion that incorporation into the formal market system effaces all other livelihood structures and their associated economic and moral logics. Even when the analysis admits to failures, it discursively implies an irreversible unidirectionality to the process. It also implies that such incorporation is universally desired and desirable.

Critiques from the left are scarcely less teleological in their portrayals of economic processes and this analysis extends to considerations of contemporary subsistence activities. Examining self-provisioning in Latin America, de Janvry (1981) declared these practices to be the result of capitalist relations of agricultural production. While declaring that "Only after people's capacity to subsist is destroyed, are they totally and unconditionally in the power of capital", Bennholdt-Thomsen and Mies (1999, page 19) extol the examples of (vestigial) Third World strategies as models for First World futures. And Dickinson (1995) declares that meaningful subsistence activity in the United States ceased after the Second World War.

Both empirical and theoretical work interrupts this telos. The informal economy literature has abundantly documented the existence of exchange relations outside officially sanctioned markets (see, for example, Gaughan and Ferman, 1987; Portes et al, 1989). Studying changes in agricultural labor structures in 1970s Java, Hart noted that "'precapitalist' institutions not only survive the development of capitalism in the countryside but are often reinforced, adapted, and embellished in highly imaginative and varied ways" (1986, page 8). Gibson-Graham (1996) lay the groundwork for re-envisioning the economy as a space containing multifarious logics and relations of production. Decrying "the discursive violence involved in theorizing household economic practices as 'capitalist reproduction'" (page 12), they note that such a perspective might enable the understanding of alternative economic activities as "both a domain of difference and a region of possibility" (page 19).

Chayanov's (1986) work may be particularly useful for conceptualizing and revealing such possibilities as they relate to subsistence. On the basis of his studies of Russian peasant economies in the late 19th and early 20th centuries, he described the existence of economic activities outside capitalist and state-planned systems. These forms function in parallel with and articulated with officially sanctioned economic structures. They possess their own distinctive internal logic and contradictions, with households functioning as the basic unit of production and consumption. Relations of production are more explicitly social in nature and demographics condition the relative wealth of households, the most prosperous being those with many able-bodied hands relative to the number of mouths to feed. Chayanov went on to predict that such forms would persist even when strictly peasant modes disappeared.

Importantly for forest policy, teleological notions of economic development also pervade concepts of land use and land tenure. In his paper on the possibility of a First World political ecology, McCarthy notes the "enduring myths that modernist rationality governs Western relations to nature" (2002, page 1298). The notion that this project has been fully accomplished in relation to human-environment relations in the United States rests on the assumption that all land and resources have been fully absorbed by the dictates of the free-market economy and the nation-state. Fortmann (1996) calls this belief into question and proposes the application of international land-tenure literature to the domestic context, and others have demonstrated the dynamic and contested nature of claims to usufruct rights on US public forests and grasslands (Fairfax et al, 1999; McCarthy, 2002). In the case of subsistence activities, their continued viability rests on the existence of common property regimes (McGranahan, 1991). As Dolsak and Ostrom (2003) note, commons are not mere historical curiosities

but, rather, very present and dynamic contemporary spaces and institutions. These local systems of resource use and property rights are diverse in their terms of access and restrictions on use (McCay and Acheson, 1987). Understanding their relation to subsistence practices will require detailed historical and ethnographic research that recognizes the fundamentally social nature of the commons, whether informal or legally protected.

Empirical evidence of subsistence activities

Three canons of law guarantee access to subsistence resources in the United States: the Alaska National Interest Land Conservation Act (ANILCA; Public Law 96-487, December 2, 1980), the Hawaii State constitution (Article XII, Section 7), and the body of treaties and statutes that explicitly guarantee the hunting and fishing rights of American Indian tribes, which have been interpreted by the courts also to include trapping and gathering (Pevar, 1992). Empirical evidence of contemporary subsistence activities corresponds strongly to their legal status. Data are richest and most systematic where these activities are recognized and protected by law. Outside the two most recently admitted states and indigenous cultures, evidence must be gleaned from research that by and large has other objectives.

Alaska

ANILCA provides for

“customary and traditional uses by rural Alaska residents of wild, renewable resources for direct personal or family consumption as food, shelter, fuel, clothing, tools, or transportation; for the making and selling of handicraft articles out of nonedible byproducts of fish and wildlife resources taken for personal or family consumption; for barter, or sharing for personal or family consumption; and for customary trade” (Section 803).

Alaska boasts the only comprehensive, longitudinal information on subsistence practices in the United States. The establishment of a Subsistence Division in the state Department of Fish and Game in 1978 assured that participation by rural Alaskans in hunting and fishing would receive detailed study. Federal land-management agencies (that is, the Bureau of Indian Affairs, Fish and Wildlife Service, Forest Service, and National Park Service) also have programs that document the nature and importance of subsistence in the state. This research paints a detailed picture of hunting and fishing. A recent survey of households in rural communities provides some quantitative measure of the prevalence of subsistence practices (Wolfe, 2000). In communities surveyed, 60% of households engaged in subsistence hunting and 86% benefited from the game thus obtained. In those same settlements, 83% of households fished and 95% used that fish. Subsistence use of plant materials is less extensively documented but is also important. In contrast to hunting and fishing, where sport and commercial activities take substantial portions of the total catch (Wolfe, 1999), subsistence and personal consumption account for a majority of nontimber uses of plant materials (Schroeder, 2002). The most common subsistence use of plants is for food. Other uses include medicinal, craft, and construction. Recent surveys of communities in south central and southeast Alaska indicate that 80% or more of households participate in the subsistence harvest and use of vegetation (Johnson et al, 1998).

The importance of subsistence as an ongoing political issue in Alaska is attested to by controversy over federal versus state management of subsistence resources. In the United States, power over the regulation of fish and wildlife is vested primarily in the states. In 1989 the Alaska Supreme Court struck down that state's subsistence management system on the grounds that priority for rural residents violated the equal

protection clause of the state constitution (Norris, 2002). As a result, federal agencies assumed management of subsistence resources on public lands. An Anchorage sport-hunting advocate brought the case that prompted the decision, *McDowell vs the State of Alaska*. However, it is seen also to have important implications for Alaska Natives who reside in Anchorage, Fairbanks, and other designated urban areas but retain connections to village kin and lifeways. The state of Alaska was predictably resentful of this loss of sovereignty. Special legislative sessions and constitutional amendments have attempted to restore the grounds for state control of fish and wildlife on all lands. However, the struggle continues, along with other perennial controversies such as the allocation of marine resources among subsistence, sport, and commercial fishers.

Historically and in the present day, subsistence hunting and fishing in Alaska represent cases of genuine common property regimes. Traditional social structures for deciding allowable resource takes, determining their distribution, and enforcing those amounts are formalized through Regional Subsistence Councils and other strategies (US Fish and Wildlife Service, 2002). Also, true to historical patterns, the decisions and legitimacy of contemporary institutions are not without their challengers. Cultural politics are prominent in these deliberations. ANILCA recognizes a special importance of subsistence activities to Alaska Natives. It also invokes a distinctive identity centered on lifestyles and livelihoods for rural residents with other ethnic heritages. The centrality of a moral economy to subsistence practices in Alaska is illustrated by the sharing norms that redistribute fish, game, berries, etc, so that a substantially greater percentage of households benefit from those resources than actively participate in their harvest. We consulted with Alaska subsistence practitioners and land managers who work with them throughout the course of our study. Without exception, they insisted that, in their context, subsistence is a form of wealth. They pointed out that the most successful hunters and fishers are often individuals in midlife, whose good health and steady incomes allow them to purchase equipment and travel to places that increase their catches, which is subsequently distributed to a larger community.

Hawaii

The Hawaii State constitution explicitly protects the rights of descendants of Native Hawaiians to harvest marine and terrestrial resources traditionally used for subsistence, cultural, and religious purposes (Article XII, Section 7). Subsistence use of marine and terrestrial resources has been an important component of Native Hawaiian culture for centuries and gathering is still practiced in the Hawaiian archipelago today (Krauss, 1993). Inclusion of subsistence guarantees in the state constitution restored some access to resources that was lost as capital interests took over control of land on the islands. Today Hawaii Volcanoes National Park (US Department of Interior National Park Service, 1999) allows collection of a wide range of natural products by Native Hawaiians. The park's office lists nearly thirty species, including fruits, barks, nuts, and roots, that may be collected for traditional use. These include plants that are used as food, medicine, dyes, and craft materials. Native Hawaiians from the community that lies within park boundaries have exclusive rights to engage in fishing and collection of seafood on the Park's coastline (National Archives and Records Administration, 2001).

Subsistence activities also provide livelihood resources for many families on the island of Molokai, home to the largest percentage of Native Hawaiian residents among the major islands (Matsuoka et al, 1998). In the late 1980s massive closures of Molokai's industries, particularly large-scale agribusiness, sent unemployment rates soaring. Subsistence fishing, hunting, gathering, and cultivation reportedly provided critical survival resources during those tough economic times. Nearly a decade later, a survey

of Molokai residents of all ethnicities found that almost 25% of respondents obtained half or more of their food from subsistence activities. For Native Hawaiian respondents, that figure reached 38%. The public health value of high-nutrition wild foods is extended by a moral economy that promotes sharing of harvested resources. The cultural value of subsistence resources is evidenced by the 72% of survey respondents who reported using them for special occasions such as birthdays, luaus, graduations, and holiday celebrations.

American Indian treaty rights

Federal treaties frequently preserved the rights of American Indians to hunt, fish, trap, and gather on reservations and on treaty-specified lands off reservation. US federal courts and the Supreme Court consistently have upheld these commitments and the volume of case law on hunting, fishing, trapping, and gathering is one measure of their importance. In a 1905 decision that continues to be foundational for treaty law, the US Supreme Court described access to wildlife as "not much less necessary to the existence of the Indians than the atmosphere they breathed" (*US vs Winans*, cited in Pevar, 1992, page 187). In his 1992 review of hunting, fishing, and gathering rights, Pevar cites nearly seventy federal court decisions in the two decades from 1970 to 1990. At any given time, several cases are pending; their results are closely followed by the Indian community and reported in its press.

The Native American Fish and Wildlife Society and its affiliate organizations were founded to safeguard the legal and ecological bases for practices that American Indians and Alaska Natives consider fundamental to their survival as peoples. In the contiguous forty-eight states, federally recognized tribes have the right to govern hunting, fishing, trapping, and gathering by both tribal and nontribal members (Pevar, 1992; West's, 1998) on the 17.3 million acres of forested land on reservations. Tribes determine eligibility to harvest on their lands and set seasons and harvest limits. They also institute programs for inventory, monitoring, restoration, and protection of culturally important species. Conversations with several Bureau of Indian Affairs Regional Foresters confirm that subsistence activities are important on tribal forest lands. Legal tests also have upheld the rights of tribes in the Great Lakes and Pacific Northwest regions to regulate the hunting, fishing, and gathering activities of their members on off-reservation lands where such rights were guaranteed by treaty. In the Pacific Northwest, this includes all "open and public lands" (largely national forests and state lands) in the traditional territories of federally recognized tribes (A Whistler, Regional Forester, Bureau of Indian Affairs, personal communication, 2002). In the Great Lakes region, these lands comprise an additional 35.5 million acres of land, on which subsistence activities can be assumed to take place (Bureau of Indian Affairs, 2002).

Other places, other peoples

As previously noted, subsistence has gone largely unexamined outside places and peoples with legally guaranteed rights. Notwithstanding the lack of research focused explicitly on the topic, we located a literature that provides glimpses of subsistence activities in the coterminous United States. This research is situated in folklife studies, economic anthropology, human geography, and natural resource sociology. It documents direct uses of natural resources to sustain bodies and diverse cultures throughout the lower forty-eight states.

Studies conducted over the past two decades make it clear that hunting, fishing, and gathering provide valued, and sometimes vital, resources for people with a variety of ethnic backgrounds. Direct consumption of fish and game provides protein for some in the largely Anglo-American populations of northern New England and Appalachia (Halperin, 1990; Horwitz, 1993; Muth et al, 2001), French Acadians in Louisiana

(Forsyth et al, 1998), and African Americans in the Mississippi Delta (Brown et al, 1998). Forest plants and fungi serve as pantry and medicine chest for European Americans and American Indians in the Lake States (Emery, 2001; 2002), Anglo-Americans in Appalachia (Emery et al, 2003, Hufford 2000), Latinos in the Southwest (Peña, 1999; Raish, 2000), and American Indians in the Pacific Northwest (Richards and Creasy, 1996).

Subsistence practitioners' voices and researchers' analyses bring into relief multiple facets of the ways these activities articulate with the formal economy. Hunting, fishing, gathering, and gardening are mobilized when wages are not sufficient to meet household needs (Brown et al, 1998; Forsyth et al, 1998; Halperin, 1990; Horwitz, 1993; Nelson and Smith, 1999). However, in their study of a central Vermont community, Nelson and Smith (1999) note that self-provisioning is most successful for households with at least one full-time wage earner. Other studies find that subsistence activities also have significance for participants that eludes exclusive emphasis on poverty and exploitation; subsistence practitioners often express pride in their ability to provide for themselves and the independence from wage labor that this provides (Emery et al, 2003; Halperin, 1990; Hufford, 1995). The social networks in which many of these activities are embedded constitute yet another form of livelihood resources outside the capitalist economy (Halperin, 1990; Hufford, 2000; Mason, 1990; More et al, 1994). The role of subsistence activities in cultural survival is intimated by the as-yet-unstudied importance of hunting to Hmong refugees who now live in the urban Midwest (Hildebrand, 1998).

Access to land and subsistence resources

Regulations governing both harvesting and the right of egress onto land affect the viability of subsistence practices. Most hunting and fishing regulations are set by individual states but apply across all landownerships where trespass laws do not render them moot or where they are not trumped by more restrictive federal measures. These regulations are tailored primarily for recreational and commercial uses (Glass et al, 1990a) and subsistence users rarely are considered in the formulation of harvesting regulations unless they are part of a legally recognized group. Thus, in addition to explicit closures of land, regulations such as season limits, bag limits, size limits, permit costs, equipment restrictions, and prohibitions on harvesting of individual species and plant parts can pose barriers to subsistence use of forests. In general, we have noticed a hierarchy of access to subsistence resources in which regulations are least restrictive for fish and somewhat more so for game. Much to our surprise, regulations governing access to plant resources seem to be the most restrictive.

Public lands constitute the most obvious potential sites for subsistence activities because of their generally open terms of access. However, rights to harvest vary considerably from one public land-management agency to another and lands under other types of ownership have long provided subsistence resources also. Among federal agencies, access is most restricted on National Park Service lands and least restricted on Bureau of Land Management and National Forest Service lands. Access to resources on state, county, and municipal lands are similarly varied but tend to follow state fish and game laws, with additional hunting restrictions imposed for public safety in more populated areas. In practice, public lands are large and there are few vigilant eyes. Local communities tend to regard themselves as the legitimate stewards and users of resources, especially where they are being used for nonmarket purposes. Like the Louisiana game warden who turns a blind eye to the local poor who hunt out of season (Forsyth and Marckese, 1993; Forsyth et al, 1998), public land managers often tacitly support these conventions. De facto commons are not confined to public lands. Traditionally, private lands have provided subsistence resources for nonowners in many locations. Industrial forest lands have been particularly important

in this regard, with owners and managers regarding local use of land as good community relations provided it did not interfere with profit-making activities (Emery, 1998).

The land-tenure regimes on which subsistence depends are contested and, as McCarthy asserts (2002), new rounds of investment, commodification, and environmental politics are reconfiguring access to subsistence resources with a general trend toward reduced opportunities to engage in these practices. Forest industry increasingly is turning to exclusive hunting and recreational leases to generate revenue, excluding those who cannot afford to pay the often-considerable fees. The development of a commercial market for mushrooms in the Pacific Northwest has led to the imposition of leasing and permitting systems that sometimes fail to recognize and provide for existing users. The abrupt closure of previously open municipal reservoirs and US Department of Defense and Department of Energy lands because of security concerns following September 11, 2001, demonstrates another vulnerability of access where it is not explicitly guaranteed. In the absence of legal protection, subsistence activities may be rendered illicit or eliminated altogether. Subsistence practitioners' resistance to closures of the commons on which they have relied can be as subtle as using local knowledge to avoid sanctions while continuing to harvest resources or as assertive as setting fire to disputed woodlands. The responses of state and capital may be as mild as small fees or as punitive as the use of nanotechnologies to track resources and the imposition of substantial jail times for individuals found to be in possession of them.

Interrupting the telos in US forest policy

The persistence of subsistence in the United States challenges developmentalist teleology with evidence that at the heart of the capitalist world system there exist people, places, and resources that are not fully incorporated into the project of rationalizing and commodifying resource-based livelihood needs. It is appropriately the role of political ecologists to ask why and how this could be. Research in Alaska and our review of literature outside the 50th state suggests several basic characteristics of contemporary subsistence activities. They encompass the use of natural resources to provide for material and cultural survival outside capitalist market relations. They are embedded in social relationships and rely upon access to land and resources. Although these activities have special cultural value to indigenous peoples, they are also important to individuals from a variety of ethnic backgrounds. Similarly, the scope of contemporary subsistence activities extends beyond the people and places that enjoy legal guarantees.

The Montréal Process opens up a space for the insertion of subsistence considerations into US forest policy. As the technical notes which serve as an epigraph here suggest, this will require an understanding of the nature and extent of subsistence practices that does not currently exist. Achieving the vision of devising forest management regimes to provide for subsistence practices on an ongoing basis will require an understanding of the local practices and politics of these forest uses and their articulation with larger scale processes. An agenda for developing this understanding will include:

- (1) documenting the material and cultural practices of contemporary subsistence,
- (2) examining local forms of common property regimes associated with subsistence practices,
- (3) documenting the role of state and capital in providing or restricting access to subsistence resources,
- (4) examining the articulation of subsistence practices with other economic forms.

Documenting and theorizing contemporary subsistence will have implications beyond the academy. When we presented our report at a meeting in Washington, DC, the colleague who had expressed such skepticism as we undertook the study voiced surprise that forest policymakers in the capital had been unaware of the existence of legal guarantees for subsistence rights. Given the lack of information on contemporary subsistence, combined with the orthodox conviction that it should have disappeared with advanced capitalism, it is not surprising that it has been absent from the domestic policy agenda. If subsistence now enters that arena, how it is conceptualized will condition what is envisioned as appropriate policy. If teleological notions of the role of forests in a unidirectional, universally desirable capitalist evolution prevail, subsistence will likely be seen as an expression of poverty, and traditional rural economic development programs will be the most logical response. The imposition of income tests for access to resources would be one logical extension of such an approach, as would efforts to promote further integration into the formal market economy both of practitioners and of resources. If the telos is interrupted, a broader range of possible policies appears. Viewing subsistence as a form of wealth and a legitimate economic space outside capitalist logic suggests the desirability of acknowledging and managing for common property resources, for example.

The persistence of subsistence in the United States offers a case in point for McCarthy's contention (2002) that there is no theoretical or empirical reason to exclude the First World from the subject matter of political ecology. Rather, it shows that, if there are differences between the resource-based livelihoods and environmental politics of the late capitalist nations and the Third World, in many cases these may be more differences of degree than of kind. A partial list of contested issues in the realpolitik of US subsistence reads like that of many Third World political ecology studies: the impact of seasons and bag limits on subsistence hunters, implications of certification programs for local communities, the closure of traditional commons through imposition of trespass laws and leasing programs, mobilization of national security claims, management of wildlife for commercial and recreational uses, and designation of species of ecological concern. Attention to subsistence in the United States offers political ecologists the opportunity to examine differences within a nation at the heart of the capitalist world system as well as between First and Third Worlds. It provides another vehicle to examine the politics of the environment at the local level, while relating this to larger scale processes. In what Fortmann refers to as "the long intellectual journey home" (1996, page 545), it is a grounded opportunity to explore spaces of human-environment relations outside the capitalist market, not just as vestigial curiosities but also as an ongoing, vital alternative, with implications for the development of both theory and praxis. With this study we have only begun to lay the groundwork. Outside of Alaska, almost no research has been done on contemporary subsistence practices in the United States. Rich with human-environment interactions and rife with environmental politics, here is an arena ripe for the engagement of political ecologists.

References

- Bauer P T, 2000 *From Subsistence to Exchange and Other Essays* (Princeton University Press, Princeton, NJ)
- Beckley T M, Hirsch B H, 1997, "Subsistence and non-industrial forest use in the Lower Liard Valley", Canadian Forest Service, Northern Forestry Centre, Ottawa
- Bennholdt-Thomsen V, Mies M, 1999 *The Subsistence Perspective: Beyond the Globalised Economy* (Zed Books, London)
- Berkes F, Hughes A, George P J, Preston R J, Cummins B D, Turner J, 1995, "The persistence of aboriginal land use: fish and wildlife harvest areas in the Hudson and James Bay Lowland, Ontario" *Arctic* 48 81-93

- Brown R B, Xu X Jr, Toth J F, 1998, "Lifestyle options and economic strategies: subsistence activities in the Mississippi Delta" *Rural Sociology* 63 599 – 623
- Bureau of Indian Affairs, 2002 *Catalog of Forest Acres* US Department of Interior, Bureau of Indian Affairs, Forest Resources Planning, Lakewood, CO
- Chayanov A V, 1986 *The Theory of Peasant Economy* (University of Wisconsin Press, Madison, WI)
- de Janvry A, 1981 *The Agrarian Question and Reformism in Latin America* (Johns Hopkins University Press, Baltimore, MD)
- Dick R E, 1996, "Subsistence economies: freedom from the marketplace" *Society and Natural Resources* 9 19 – 29
- Dickinson T D, 1995 *Common Wealth: Self-sufficiency and Work in American Communities, 1830 to 1993* (University Press of America, New York)
- Dolsak N, Ostrom E, 2003 *The Commons in the New Millennium: Challenges and Adaptations* (MIT Press, Cambridge, MA)
- Emery M R, 1998 *Invisible Livelihoods: Non-timber Forest Products in Michigan's Upper Peninsula* (UMI Dissertation Services, Ann Arbor, MI)
- Emery M R, 2001, "Non-timber forest products and livelihoods in Michigan's Upper Peninsula", in *Forest Communities in the Third Millennium: Linking Research, Business, and Policy Toward a Sustainable Non-timber Forest Product Sector* Eds I Davidson-Hunt, L C Duchesne, J C Zasada, USDA Forest Service, North Central Research Station, St Paul, MN, pp 23 – 30
- Emery M R, 2002, "Space outside the market: implications of NTFP certification for subsistence use", in *Tapping the Green Market: Certification and Management of NTFPs* Eds P Shanley, A Pierce, S Laird, A Guillen (Earthscan, London) pp 302 – 312
- Emery M R, Ginger C, Newman S, Giammusso M R B, 2003, "Special Forest Products in Context: Gatherers and Gathering in the Eastern United States", USDA Forest Service, Northeastern Research Station, Newtown Square, PA
- Emery M R, Pierce A, Schroeder R, 2004, "Criterion 6: Maintenance and enhancement of long-term multiple socio-economic benefits to meet the needs of societies. Indicator 47: Area and per cent of forests used for subsistence", in *Data Report: A Supplement to the National Report on Sustainable Forests—2003. FS-766A, May 2004 Analyses of the Indicators* coordinator D R Darr, USDA Forest Service, Washington, DC, <http://www.fs.fed.us/research/sustain/contents.htm>
- Fairfax S K, Fortmann L P, Hawkins A, Huntsinger L, Peluso N L, Wolf S A, 1999, "The federal forests are not what they seem: formal and informal claims to federal lands" *Ecology Law Quarterly* 25 630 – 646
- Forsyth C J, Marckese T A, 1993, "Folk outlaws: vocabularies of motives" *International Review of Modern Sociology* 23 17 – 31
- Forsyth C J, Gramling R, Wooddell G, 1998, "The game of poaching: folk crimes in Southwest Louisiana" *Society and Natural Resources* 11 25 – 28
- Fortmann L, 1996, "Bonanza! The unasked questions: domestic land tenure through international lenses" *Society and Natural Resources* 9 537 – 547
- Gaughan J P, Ferman L A, 1987, "Toward an understanding of the informal economy" *Annals of the American Academy of Political and Social Science* 493 (September) 15 – 25
- Geertz C, 1973 *The Interpretation of Cultures: Selected Essays* (Basic Books, New York)
- Gibson-Graham J K, 1996 *The End of Capitalism (As We Knew It)* (Blackwell, Cambridge)
- Glass R J, Muth R M, Flewelling R, 1990a, "Distinguishing recreation from subsistence in a modernizing economy", in *Social Science and Natural Resource Recreation Management* Ed. J Vining (Westview Press, Boulder, CO) pp 151 – 164
- Glass R J, Muth R M, Flewelling R, 1990b, "Subsistence as a component of the mixed economic base in a modernizing community", USDA Forest Service, Northeastern Forest Experiment Station, Radnor, PA
- Grenand P, Grenand F, 1996, "Living in abundance: the forest of the Wayampi (Amerindians from French Guiana)", in *Current Issues in Non-timber Forest Products Research* Eds M Ruiz Perez, J E M Arnold (Center for International Forestry Research, Jakarta) pp 177 – 196
- Halperin R, 1990 *The Livelihood of Kin: Making Ends Meet "The Kentucky Way"* (University of Texas Press, Austin, TX)
- Hart G, 1986 *Power, Labor, Livelihood: Processes of Change in Rural Java* (University of California Press, Berkeley, CA)
- Hildebrand J, 1998, "Coming home: hunting squirrels and tigers with the Hmong", in *Harper's Magazine* October, pp 72 – 80
- Horwitz T, 1993, "The working poor: minimum-wage jobs give many Americans only a miserable life" *The Wall Street Journal (Eastern Edition)* 12 November, pp 1A, 4A

- Hufford M, 1995, "Holding up the mountains: talk as historical discourse", Smithsonian Folklife Center, Library of Congress, Washington, DC
- Hufford M, 2000, "Tending the commons: folklife and landscape in Southern West Virginia", American Folklife Center, Library of Congress, Washington, DC
- Johnson D R, Hunn E, Russell P, Vande Kamp M, Searles E, 1998, "Subsistence uses of vegetal resources in and around Lake Clark National Park and Preserve", National Park Service, Seattle, WA
- Krauss B H, 1993 *Plants in Hawaiian Culture* (University of Hawaii Press, Honolulu, HI)
- McCarthy J, 2002, "First World political ecology: lessons from the Wise Use movement" *Environment and Planning A* 34 1281 – 1302
- McCay B J, Acheson J M, 1987 *The Question of the Commons: The Culture and Ecology of Communal Resources* (University of Arizona Press, Tucson, AZ)
- McGranahan G, 1991, "Fuelwood, subsistence foraging, and the decline of common property" *World Development* 19 1275 – 1287
- Mason D A, 1990, "Vermont's other economy: the economic and socio-cultural values of hunting, fishing, and trapping for rural households", School of Natural Resources, University of Vermont, Burlington, VT
- Matsuoka J K, McGregor D P, Minerbi L, 1998, "Molokai: a study of Hawaiian subsistence and community sustainability", in *Sustainable Community Development: Studies in Economic, Environmental, and Cultural Revitalization* Eds M D Hoff (Lewis, Boca Raton, FL) pp 25–45
- Montréal Process Technical Advisory Committee, 2000, "Criteria and indicators for the conservation and sustainable management of temperate and boreal forests", Technical Notes, Criteria 1–6, Montréal Process Liaison Office, Ottawa
- Montréal Process Working Group, 1998, "The Montréal Process", Montréal Process Liaison Office, Ottawa
- More T A, Glass R J, Zwick R R, 1994, "Fish and wildlife resources allocated through the invisible economy of rural New England", in *International Union of Game Biologists, XXI Congress "Forests and Wildlife ... Toward the 21st Century"*, Ed. I D, Thompson, Canadian Forest Service, Chalk River, Ontario, pp 175–178
- Muth R M, 1990, "Community stability as social structure: the role of subsistence uses of natural resources in Southeast Alaska", in *Community and Forestry: Continuities in the Sociology of Natural Resources* Eds R G Lee, D R Field, W R Burch Jr (Westview Press, Boulder, CO) pp 211–228
- Muth R M, Daigle J J, Zwick R R, Glass R J, 1996, "Trappers and trapping in advanced industrial society: economic and sociocultural values of furbearer utilization in the Northeastern United States" *Sociological Spectrum* 16 421 – 436
- Muth R M, Dick R E, Blanchard K A, 2001, "Subsistence use of wildlife and native peoples' wildlife issues", in *Human Dimensions of Wildlife Management in North America* Eds D J Decker, T L Brown, W F Siemer, The Wildlife Society, 5410 Grosvenor Lane, Bethesda, MD 20814-2197, pp 329–351
- National Archives and Records Administration, 2001, "Code of Federal Regulations, Title 36, Parts 1 to 199: Parks, Forests, and Public Property", National Archives and Records Administration, Washington, DC
- Nelson M K, Smith J, 1999 *Working Hard and Making Do: Surviving in Small Town America* (University of California Press, Berkeley, CA)
- Norris R, 2002, "Alaska subsistence: a national park service management history", National Park Service, Alaska Support Office, Anchorage, AK
- Peña D G, 1999, "Cultural landscapes and biodiversity: the ethnoecology of an Upper Río Grande watershed commons", in *Ethnoecology: Situated Knowledge/Located Lives* Ed. V D Nazarea (University of Arizona Press, Tucson, AZ) pp 107–132
- Pevar S L, 1992 *The Rights of Indians and Tribes: The Basic ACLU Guide to Indian and Tribal Rights* (Southern Illinois University Press, Carbondale, IL)
- Polanyi K, 1977 *The Livelihood of Man* Ed. H W Pearson (Academic Press, New York)
- Portes A, Castells M, Benton L A, 1989 *The Informal Economy: Studies in Advanced and Less Developed Countries* (Johns Hopkins University Press, Baltimore, MD)
- Raish C, 2000, "Environmentalism, the Forest Service, and the Hispano communities of Northern New Mexico" *Society and Natural Resources* 13 489 – 508
- Redclift N, 1985, "The contested domain: gender, accumulation and the labour process", in *Beyond Employment: Household, Gender and Subsistence* Eds N Redclift, E Mingione (Basil Blackwell, Oxford) pp 92–125

-
- Richards R T, Creasy M, 1996, "Ethnic diversity, resource values, and ecosystem management: matsutake mushroom harvesting in the Klamath bioregion" *Society and Natural Resources* 9 359–374
- Schroeder R, 2002, "Contemporary subsistence use of nontimber forest products in Alaska", in *Nontimber Forest Products in the United States* Eds E T Jones, R J McLain, J Weigand, (University Press of Kansas, Lawrence, KS) pp 300–326
- Shanley P, Luz L, 2003, "The impacts of forest degradation on medicinal plant use and implications for health care in Eastern Amazonia" *BioScience* 53 573–584
- Turner N J, Loewen D C, 1998, "The original 'free trade': exchange of botanical products and associated plant knowledge in northwestern North America" *Anthropologica* 40 49–70
- US Department of Interior National Park Service, 1999, "Hawaii Volcanoes National Park compendium", Hawaii Volcanoes National Park, Hilo, HI
- US Fish and Wildlife Service, 2002, "Regional Advisory Councils", US Fish and Wildlife Service, Washington, DC
- West's, 1999 *West's Encyclopedia of American Law* (West, St Paul, MN)
- Wolfe R, 1999, "Subsistence: frequently asked questions", Alaska Department of Fish and Game, Juneau, AK
- Wolfe R J, 2000, "Subsistence in Alaska: a year 2000 update", Division of Subsistence, Alaska Department of Fish and Game, Juneau, AK