

1998

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Recommended Citation

Gibson, Jane. "An Essay on Sustainable Use: Harnessing the Market for Conservation and Development." *Journal of Ecological Anthropology* 2, no. 1 (1998): 85-95.

Available at: <https://digitalcommons.usf.edu/jea/vol2/iss1/5>

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An Essay on Sustainable Use: Harnessing the Market for Conservation and Development¹

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Introduction

Exclusion of local communities from the ecosystems on which their livelihoods and lifeways depend, in the interest of ecosystem protection, always results in poverty and very often in ecosystem degradation. People cannot and should not be alienated from their traditional uses of natural resources. Rather, they should be encouraged to make sustainable use of these resources, and they should be authorized to manage their local ecosystems toward that end.

These statements concede a market-oriented development, but one characterized by local control over the ways and the extent to which community resource managers interact with markets. At the same time, the ambiguity inherent in the term "sustainable development" should be exploited such that local users possessing ecosystem knowledge can help define it. What must be sustained, at what levels, and for whose benefit? Therefore, contrary to arguments against "sustainable development," it is its imbriguity which contains both its conceptual and practical strength.

In a recently published article, Willers (1994) refers to the "chameleon" quality of the term "sustainable" as it is used opportunistically by those who would propagandize perpetual growth for profit. Likewise, my own observations in Florida include this cynical use of sustainable development rhetoric. Yet, where terms are negotiated between local populations and resource managers, other meanings and agendas can join the discourse to work for a different outcome. Indeed, research

has taught us that fragile environments and their human inhabitants can hope for long-term survival only to the extent to which local communities retain control over their resources and can develop economically (so as to purchase power and autonomy).

To make the case for local management of fragile ecosystems within which selected resources are to be exploited, commodified, and sold, I start with the history of development in Florida, with special attention devoted to the rural part of a north-central county where I carried out field research from 1988 to 1992. Florida is a particularly useful case study because it includes several relevant development "projects:" colonial "displacement" of indigenous peoples, a voluntary resettlement program known more commonly as a homestead law, one hundred years of relatively unmediated local natural resource management, plus fifty years of state management. Certainly, the particular historical conditions for each of these management regimes precludes any direct extrapolation to development in general, or to any specific project site. But the Florida case remains instructive for several reasons. First, the duration of local and then state management of, wetland and lacustrine sections of Orange Creek Basin, in particular, can still teach us something about the potentials of grand-scale social engineering carried out in the absence of a blue-print for the future.

Second, Florida's historical development is based on a continuum of tourism types from "ecotourism" to mass tourism. Early recruiters

¹ This paper is a modified version of one presented at the annual meeting of the Society for Applied Anthropology, March 29-April 2, 1995, Albuquerque, New Mexico.

to the state, many of whom were themselves land speculators, advertised Florida's natural resources (sun, soil, hunting and fishing), just as ecotourist shills do all over the world today. In its advanced state of tourist development, ecotourism remains important in parks and preserves, as well as in alligator management which combines sustainable use with conservation investment and education. Nonetheless, this is only part of a larger tourist industry which also attracts snow-birds and college students to beach front condominiums and million dollar theme parks. Thus, in many ways Florida can be seen as a paradigm of tourist-dependent modernization.

Third, the case study material presented demonstrates how local control over the extraction and commodification of natural resources can translate into a sustainable symbiotic relationship between cultural and biological diversity. It also demonstrates the costs of exclusion from use or control of those resources.

Florida's development, analogous to historical colonial and contemporary development schemes in Less Developed Countries (LDCs), teaches important lessons about large-scale, top-down capitalist development. Not the least of these lessons—indeed, it is perhaps the most important—is that such development can be very profitable for the select few who can afford the investments. The importance of this lesson comes from its ability to focus our attention on the locus of power where development benefits explain why the devastating consequences for those pushed out of the way seem of little concern to development beneficiaries.

A second critical lesson is that the social, economic and ecological crises created in the wake of modernization can be managed through a combination of conservation rhetoric, which vilifies those who depend on natural resources for their livelihoods and lifeways, and police authority to enforce their exclusion. These lessons are not, of course, unrelated. Advanced capitalism has not only channeled vast wealth and power into a few

hands, but has used these tools to transfer control over, and access to, natural ecosystems from "the people" (for whom the law says flora and fauna are to be held in trust) to the state and to moneyed constituencies of resourceful politicians.

To say that the social, economic and ecological costs of modernization are managed, however, does not mean that damage to people and ecosystems is avoided. Rather, this kind of management may work only for the short term, inasmuch as the politics of grand-scale modernization—dependent on the "exclusion principle" (Stocks 1995)—undermines local interest in protecting fragile ecosystems for the long term. Inevitably, as a substantial literature now demonstrates, poverty exacts its own price against fragile ecosystems. This fact alone speaks to the need for local economic development. The question then is not whether to promote economic development for those who live in or near fragile ecosystems, but how to effect the structural and ideological changes prerequisite to local control over the development process. The case study of Shellcracker Haven, Florida² offers relevant insights.

Over the course of four years during which I conducted field research in Shellcracker Haven, I concentrated on the relationship between this community's material, social and ideological development in the context of changing state interest and effectiveness in natural resource management. I found that the families of the town are historically rooted in an extraction-based economy, that emic views of their relationship to the local wetland ecosystem incorporated values which included, but went beyond, profitability, and that exclusion from management and economic use of wetland resources undermined local concern for wetland protection.

Modernizing Florida

Florida's development began with religious and military aggression against a large and diverse aboriginal population. The territorial government secured its success in these early exclusionary

² This is a pseudonym for a town in Florida's north-central interior where I conducted research between 1988 and 1991.

ventures with passage of the Armed Occupation Act of 1840, a homestead act designed to attract Euro-American families from North Carolina, South Carolina and Georgia to the piney woods frontier. Here, settlers would act as a buffer against the predictable retaliation of surviving Indians, not those driven west into Oklahoma, but those forced south into the swamps of the Everglades.

Shellcracker Haven was one of these buffer communities where yeoman farm families settled. They produced their subsistence with vegetables, a few cows, pigs, chickens and occasional fishing on Shellcracker Lake when time permitted. Meanwhile, the young government set about the business of further territorial control and market development by permitting and subsidizing widespread wetland drainage and railroad construction through the Internal Improvement Association. Speculators began buying and selling the land billed variously in flyers as Florida's surf, sun and soil where buyers could expect great hunting and fishing.

Thus, Florida's development 150 years ago anticipated today's ecotourism development frenzy. And, just as LDCs construct roads today to facilitate the migration of affluent eco-tourists to "pristine" hinterlands, the territorial government of Florida subsidized roads, canals, river improvements and railroad construction. These investments in infrastructure opened up the interior to settlement, commerce, and control. In 1851, the General Assembly created the Internal Improvement Board "to manage the swamp and overflowed lands," and 500,000 acres of public land transferred from federal to state ownership when Florida entered the Union (Tebeau 1971).

Under the Bourbon administrations³ of governors Drew and Bloxham, Florida's landscape changed dramatically. The Bourbons set the standard for government encouragement of and noninterference in development. Lands were sold cheap to developers among whom was Hamilton Disston. Disston bought 4 million acres of south Florida at \$.25/acre when the going rate for squatters already

on the land was \$1.25/acre. Much of south Florida was wetlands which Disston also contracted to drain by dredging canals in exchange for half of what he drained. In the end, he received over 1.65 million acres, drained permanently 50,000 acres, and "improved" forty miles of canals and rivers.

It was also under the Bourbons that, by 1900, Florida's railroads extended to some 1500 miles of tracks, including two parallel lines which cut north-south on either side of Shellcracker Lake, and one which ran east-west across its northern end. In addition, a spur line extended to the lake edge in Shellcracker Haven. It was no accident that Senator David Yulee, who also sat on the Internal Improvement Association board and owned stock in the railroad, owned an orange grove on the edge of Shellcracker Lake. The railroad shipped his oranges, and it made cash cropping for local farmers, plus commercial fishing, viable income-earning opportunities.

Cash cropping and commercial fishing created other employment opportunities in what quickly was becoming a regionally integrated market economy based on exploitation of local natural resources. Crates to ship vegetables were manufactured in the next railroad town to the south from locally available wood; women harvested, cleaned, sorted and packed Ford Hook lima beans, squash, strawberries and other kinds of produce into these crates. Women and children from the family-owned turpentine still operation, which employed their husbands, supported cash crop production with their labor. This cash in turn went to the company store and to other small businesses in the area. Men and boys also found work in local orange groves and on a celery farm nearby. Two other families opened stores in Shellcracker Haven to sell staples such as lard and flour.

A family established a mill on the lake to cut cypress for construction of the local institutional infrastructure, including businesses whose success depended on the circulation of goods, services and cash in the local economy. Milled cypress also was used to build a fish house at the end of the peer

³ Named for the family that ruled at different times in France, Spain, and in Naples.

next to the railroad's spur line. Here, men emptied the pockets of seines, pulled in hand- over-hand from Shellcracker Lake. Then they cleaned, iced and shipped panfish on the train, in locally crafted barrels, to "northern" markets such as Jacksonville.

The Depression came and went in Shellcracker Haven and hardly made a dent as households made the transition to a barter economy based on the long-standing tradition of interdependence and mutual support among kin groups. At least four generations of children had grown up with fishing poles and cast nets, watching their parents earn their living farming and fishing in the wetland basin. Men earned status and money from their work, and women, as they do all over the world, secured social relations with friends, neighbors and relatives as they also earned money and raised the next generation. Together, the families of Shellcracker Haven built the town: a school, a church and each other's homes, and in so doing, they built community. They married, gave birth, loved and fought and, in the end, always buried their families in the local cemetery. In short, by the turn of the century, the families of Shellcracker Haven were firmly rooted in their wetland basin home.

The transformation of the American economy after World War II changed all that. Labor became scarce and expensive after the turpentine still closed down, and crop prices declined with the increased production of large, year-round farm operations in the south. Most of Shellcracker Haven's small farm operators sold out to a large corporation which turned pine trees into paper products. Only one man kept his family's land by going to work for the company. Another survived by leasing company tracts on which he grazed his cattle. But, with these exceptions, only those families engaged in commercial fishing, dependent on family labor and an expanding market for fresh fish, came away intact.

Then the rising tide of post-war tourism took its toll on Shellcracker Haven. Growth in recreational fishing spurred the development of fish camps and vacation or retirement homes all around the perimeter of the lake, a process which

ultimately drove lake front property taxes so high that most local families were forced to sell. In addition, the sport fishing constituency became politically influential as its financial contributions to fish and game management increased. Yet, in the state capital at Tallahassee, the legislature seemed to dissolve the management agencies it created before management problems could be addressed. The growing conservation consciousness in the state, facilitated by awareness of the massive wetland drainage required by development, demanded a strong, competent and adequately funded management agency .

The Florida Game and Fresh Water Fish Commission

The legislature's capricious budgetary authority and numerous failed incarnations of resource management agencies only compounded problems of conflicting local laws and statewide enforcement impotence. The solution to the frustration which resulted came from the Florida Federation of Wildlife (FFW) which, by this time, had become active and vocal in its determination to eliminate commercial fishing from the state of Florida. This well-organized and well-financed recreational user group had the support of the Florida Chamber of Commerce (FCC) whose members also believed the state's most profitable future lay with continued tourism development, and that commercial fishing stood in the way of real economic growth in sport fishing and related industries. Commercial fishing, they argued, caused the decline in "sport fishing satisfaction" by removing bass, the favored sport fish for which Florida's lakes are famous, with their seines. Commercial fishermen denied these charges.

The management agency hired its first biologists then and determined to manage fish and wildlife on a scientific basis. They initiated a study to determine the relationship between commercial and recreational fishing. These nationally peer-reviewed studies showed that the relationship between sport and commercial fishing was a symbiotic one. Commercial fishermen removed carnivorous species, which compete with bass, as

well as aquatic weeds which clog water-cooled boat motors. The evidence also showed no significant bass by-catch in commercial seining. In short, the needs of all concerned could be met with managed seining and regulation of recreational fishing whose own growth better explained sport fisher perceptions that bass populations were declining.

The FFW membership rejected these findings in spite of earlier promises to abide by the results of the study. Instead, they cut a deal with management agency administrators. In exchange for an end to commercial fishing, the FFW and FCC would deliver their support for a public referendum on a Constitutional amendment to create an agency the legislature could not dissolve. The amendment would provide legal autonomy and fiscal security, both of which were necessary for uniform and consistent resource management. The Constitutional amendment passed, and the new Florida Game and Fresh Water Fish Commission (GFC) set about fulfilling its part of the bargain; they initiated the process of eliminating commercial fishing, the social and economic mainstay of an uncounted number of wetland-based communities including Shellcracker Haven.

The GFC effected the destruction of commercial fishing first by firing the chief fisheries biologist whose studies proved inconvenient to the recreational constituency's public misrepresentation of commercial fishers as environmental destroyers. Second, they banned seining on all but the state's two largest lakes. Third, they proscribed the sale of panfish. Yet a central problem of natural resource management remained: the inability to enforce the rules promulgated by the Commission.

The GFC thus began to transform its newly won fiscal security into development of an effective wildlife police force. Beginning in 1947, the GFC appropriated 72% of its budget to enforcement. In 1950, the figure rose to \$668,000; to \$1.3 million in 1952; to \$22.3 million in 1991. As a reflection of the high priority given the wildlife police, one fisheries biologist referred to them as "the heartbeat of the commission." Similarly, the agency's 1980 annual report described the Division of Law Enforcement as "the sentinel charged with

safeguarding this wildlife treasure from those who would selfishly abuse it."

The GFC began to train more wildlife police, buy more guns (semi-automatic weapons today), bullet-proof vests, cars, trucks, bigger and faster boats to sail across grassy swamps, and surveillance equipment, including airplanes, helicopters and communications systems. Now they had the ability to put teeth into the authority with which they could confiscate equipment used in the illegal taking of fish and wildlife.

The heightened risks of production under the new proscriptions immediately elevated the prices of panfish, so commercial fishermen who lacked economic alternatives took advantage of the more profitable, albeit riskier, market. Some continued to seine illegally, late at night, and in boats painted black. Others developed creative harvesting techniques such as "monkey-fishing," which involved a telephone and bare wires. These efforts, as the following description reveals, sorely tested the patience of the GFC's wildlife officers.

The techniques of these illegal operators along with social attitudes held by some of the local citizens make for an almost impossible enforcement situation. To throw a monkey machine overboard to avoid arrest by a nearby wildlife officer would cost the violator only approximately \$30.00 whereas he may often take as much as \$50.00 worth of catfish in one night's operation.

In more organized operations, the violators would transfer all of their machines into an exceptionally fast escape boat when approached by an officer. This flat bottom, light boat driven by two high horse-power kickers [motors] will out distance the pursuing officers and then return to reissue the machines when the officers depart. In other cases, the violators will work in pairs and when an officer approaches, they are pursued in a near lateral course. If the officer is able to overtake them, they throw the monkey machines in the adjacent boat. If the officer approaches the other boat, then it is thrown into the original boat. After a few flying transfers, then the machines are left in one boat and the sack, which previously contained the machines, is filled with a couple of bricks and thrown into the other boat. This boat in turn separates from his partner and if the officers manage to apprehend this operator, they find bricks instead of evidence.

These techniques in addition to almost com-

plete lack of convictions of the violators that were apprehended creates a demoralizing situation for the officers on duty in the area. For instance, since 1953 there have been thirteen monkey fishing cases made in Putnam County with only two convictions. There are approximately one hundred part- or full-time "monkey" operators in the area. (Luethy 1956)

Why, in light of the biological studies, did the GFC make the management decisions it did? The answer could not be found simply in sound biological principles, but rather in the relationship between money and power. Recreational users contributed 94% of the GFC's annual budget in 1947, a figure which dwarfed the contributions and drowned out the voices of the state's minority commercial fishermen as well as the voices of all but those legislators who represented seiners of the largest scale. Luethy (1956), who replaced his boss, the fired chief fisheries biologist, made this relationship explicit.

[T]he economic and aesthetic values of sport fishing are recognized and accepted in present day society. . . . Its values far outweigh those of the fresh water commercial fisheries. Recognition of this situation has resulted in aggressive and widespread opposition by sports fishing interests to any real or assumed interference by commercial operations. Whether or not this concept is justified is beside the point. . . . Commercial fisheries in the area⁴ contribute approximately one-third of fisheries revenue, whereas, sport fishing industries two-thirds.

By the time I began interviewing fisheries biologists in 1992, the relationship between the GFC and recreational users of Florida's fish and wildlife had grown so close that GFC biologists I spoke to no longer distinguished between recreational users and "the public" the agency exists to serve.

Ultimately, growth in the GFC's enforcement budget translated into risks which far outweighed perceived benefits of illegal commercial fishing in Shellcracker Haven. Fishing families reorganized their kin-based production system around cat-fishing with trotlines, the only legal

commercial technology and species left to them. Today, they refer to this period in their history as "the starvin' time" when no one could earn enough to meet basic needs. They began to hunt alligators more intensively during this period to help make ends meet with the hides they could sell. But here too they retained their vulnerable market position and made very little from the occasional and unscrupulous hide-buyers who passed through the town.

Then in 1967, alligators were placed on the Endangered Species List and again a wetland and lacustrine resource they exploited locally was effectively expropriated. Some engaged in "poaching," and in wasteful and destructive ways. One man told me how he hunted alligators at night, took them into the weeds to skin them, and abandoned the carcass, including the meat, to rot at the site. This same man explained, however, that he felt he had no choice because, as he put it, "I had young'uns to feed." Such is the inevitable impact of exclusion and resultant poverty on the non-human elements of the environment.

Alligator Hunting

The politicization of natural resource management is inescapable. The decision to eliminate commercial freshwater fishing was based on the relationship between politics and economics rather than on biological evidence and social-economic reality. Could future management decisions do otherwise? Retrospective evaluations of alligator hide sales during this period, as well as rebound data, suggest that GFC biologists erred in their determination that alligators should be added to the list of endangered species. Agency managers again based their decisions on the ideological construction of ecosystems which defined commercial extractors as parasites to be excluded in the interest of "conservation." And again, local wetland communities that had generations of training in the ecological dynamics of the basin, were taken out of the resource management loop. Their managerial removal of sport fish predators and exotic aquatic

⁴ Here he refers specifically to Lake George, the state's second-largest lake.

weeds have since cost taxpayers millions of dollars as the state has had to take over these tasks. The GFC also had to hire "nuisance hunters" to handle the predictable conflicts between Florida's growing human population and prolific alligators.

When the GFC initiated experimental alligator hunts in 1981, they recruited experienced trappers from Shellcracker Haven to educate the GFC biologists in the ways of alligators and hunters. For seven years, trappers taught program biologists everything they knew about alligator behavior under different conditions, ways to kill them, skinning and butchering methods, and how to preserve the raw hide. They also taught GFC managers how hunters could subvert GFC regulation of hunting and marketing.

Each participating household earned an average of \$2700 per year, money which went into shoes, boat repairs, trips to the dentist, and other necessities of which the community had been deprived for years. In addition to the income, trapping for the GFC also reestablished kin-based ties to the basin ecosystem along the same lines as those needed in earlier years for cooperative seining.

Although the data are anecdotal, it is significant that during this period, when the community ties to the lake and wetland received renewal and fortification from the benefits of experimental alligator hunting, a multinational corporation sought a permit from the county commission to build condominiums on Shellcracker Lake. Trappers from Shellcracker Haven organized and went to the county commission and convinced them that condominiums would hurt the alligator population because of damage to the wetland.

GFC resource managers celebrated when commissioners denied the permit, but resource managers who noted the important connection between community trappers, traditional ties to the wetland basin, program benefits, and the successful political activism could not override the demands of the agency's recreational constituency. When the experiments were completed, the proposed Alligator Management Program abandoned the residency requirement for program participation. Rather, the ability to participate in the public hunt element of

the program depended on the luck of the draw in a state lottery in which traditional trappers made up a tiny percentage of the large applicant pool of inexperienced recreational hunters.

The number of applications in the pool for the years 1988-1991 were, respectively, 5855; 20,163; 10,122; and 15,311. From these pools, the numbers of permits available were 238; 229; 189; and 188 respectively. Of the 1990 participants, for which a survey was carried out, only 2 of 139 respondents relied on commercial fishing or trapping for even half of their annual household income. Over 83% said they derived no income from hunting and fishing.

Once again, the state excluded local communities from the resources on which they depended. This time, exclusion was easier because the number of people now living in extraction-dependent communities were even smaller in relative terms, and the enforcement branch of the agency had been fully equipped, highly trained, and authorized to enforce all the laws of the state. Very few dare poach alligators any more, and public knowledge of these activities is the result of these few having been caught. Except for a tiny pool of subsistence fishers and a few part-time frog-giggers and bait-seiners, exclusion of extraction-dependent wetland communities is complete in Orange Creek Basin. The lake has effectively been transferred to recreational users who visit seasonally, and to the businesses that serve them.

Costs of Exclusion

The earlier history of Shellcracker Haven shows that social and economic detachment from the wetland basin-induced poverty and desperation as families continued to extract resources illegally to support themselves. The attempt by a large corporation to build condominiums on Shellcracker Lake during the experimental alligator hunts also shows how a locally vested interest in a natural resource can be transformed into political activism on behalf of a fragile wetland ecosystem. In recent years, Shellcracker Lake, suffering from twenty years of drought, dropped so low as to precipitate an economic crisis among tourist-dependent businesses.

Rental boats sat in the mud of drying marinas, and lake-side cabins remained unoccupied. Hydrilla, an exotic aquatic weed, exploded into bloom all over the lake and clogged the few boat motors on the water. Business at lake-edge fish camps, bait shops, stores and restaurants dropped off precipitously.

The state responded with Sonar, an \$880-per-gallon herbicide, to kill the aquatic weeds commercial fishermen once removed routinely with their seines. Near the shore, hydrilla rotted after the sprayings and sent an unpleasant stench into lakefront homes. Then came the county tax appraiser to the towns around the lake to triple the appraised value of lake-front properties. "For Sale" signs went up everywhere for the overpriced homes and businesses no one wanted on the edge of what increasingly resembled a mudhole. Lake-front homeowners and business owners organized to push for a tax reassessment, to mobilize state agencies to help them through the economic crisis, and to move the proper authorities—though it was never clear who they were—to "fix" the lake.

From around the lake, a coalition of businesses and homeowners emerged, brought together around their concern for their financial investments. Yet these vested interests could not compensate for their naiveté concerning long-term ecosystem health. Some wanted to stop spraying the lake with herbicides and instead stock it with hydrilla-eating carp, a solution plant biologists assured them would transform the fishing lake into a barren skiing lake. Others wanted to increase the spraying, a solution which would cost a great deal of money and would not accelerate the rate at which hydrilla was already dying. Some wanted to raise and renovate the low-water spillway constructed when a sinkhole drained one of the basin's lakes in the 1950s. Biologists pointed out that the rate of evaporation was more significant in falling water levels than the water leaving through the dam. Others wanted someone in charge to dredge fish camp boat ramps and the creek which connected the lakes.

The Coalition to Save Our Lakes called meetings and invited county commissioners out

to see the problem. Resource managers also called a meeting to which all were invited. Here biologists explained not only that the proposed solutions would do more harm than good but that the drought-induced drop in lake levels was a natural and necessary part of the lake's ecological cycle. To the ears of wetland newcomers, many of whom were losing money, such reassurances offered little comfort. They went to the county commission to ask for help only to be told that the commissioners had no authority over the low water spillway and could not determine who did, and that they had no authority over spraying, dredging or the introduction of carp. To reduce the heat they were feeling, however, the commission organized the Orange Creek Basin Task Force to study the matter.

Only long-term residents agreed with what the biologists said because they had seen the lake fall and rise before, but this agreement showed up only in my fieldnotes. In Shellcracker Haven, where lake-edge ownership had long ago gone to recreational users, where seining was prohibited, where alligator hunting now depended on the luck of the draw in a state lottery, and where trucks and boat trailers meant locals could fish on other lakes anyway, only three men attended two of the many meetings with resource management personnel to discuss solutions to the economic and ecological crisis. Their experience had taught them that, beyond the point at which managers ceased to gain something, those who would make decisions concerning the lake really had little interest in what lake residents had to say.

Meanwhile, the Orange Creek Basin Task Force met a few times and verbally slugged it out. As task forces go, they were probably no worse than any other. They could not make it rain; they could not affect the low water dam because no one had authority over it; they could not influence decisions made about herbicides; they could neither finance nor get permission to stock the lakes with carp; and they were told by an engineer from the Water Management District that another study would have to precede any decision regarding dredging. At their last meeting, the task force agreed not to make any decisions except not to meet again for a

year.

"Ecocide" is a term that describes the deliberate destruction of the environment. Late one night, a determined and unidentified interest group carried iron rods ("rebar"), professionally welded metal plates, and bags of cement to the low water dam that a few had held responsible for the lake's low levels. They filled the notch in the dam because there was nothing else to do to vent their frustration. The county commission called them outlaws, and the local newspaper called them villains and vigilantes who showed contempt for the commission's attempt to mediate the situation. Locally, and in Shellcracker Haven, the mystery engineers were known as heroes and letters to the editor in the newspaper countered "the official view."

The dam "repair" meant nothing for the lake one way or the other. The drought had already reduced water levels well below the notch where the muck had dried hard enough to stand on. Still, as an assertion of its authority, the County Commission determined to locate the culprits and unplug the dam. They could not, however, undo the damage because nothing of the bureaucratic complexity which prevented the dam's earlier modification had changed. They would still need permission from a still undetermined authority, and the culprits were never caught.

Conclusion

Shellcracker Haven is one of a growing number of case studies which come to similar conclusions about the relationship between people, poverty and ecosystem health (see Susan Stonich 1993). Studies also demonstrate the benefits of collective management of common property resources, a direct and powerful rebuttal to Hardin's mistaken Tragedy of the Commons (Berkes 1985; Posey 1989; Hitchcock 1990; McCabe 1992; Stanley 1993). What distinguishes many of the socio-ecological systems which have been studied, however, is not shelter from the market, but rather, local control over extraction and the distribution of benefits which accrue from market participation.

Sustainable use as a conservation and de-

velopment strategy is hotly debated. In addition to ethical objections to the "use" of animal species, those who oppose sustainable use believe that the profit orientation of markets will ultimately render any use unsustainable. Evidence abounds, they say, that consumer society has gone mad and is destroying its own subsistence base. Capitalist ideologies which promote self-interested, market-oriented rationality overtly fuel economic growth based on unrestrained natural resource extraction (Redclift 1987). Landfills fill up, and new ones are opened. If our species survives long enough, we are without doubt creating unprecedented treasures upon which archeologists, if no one else, can be sustained into eternity.

It is this model for development which Trainer (1990) describes when he advocates market detachment in development strategies. But this model for development does not apply equally well everywhere. Capitalism is a malleable economic system, one which local communities such as Shellcracker Haven adjust and transform to suit their own needs. Yet consumer society, a culture wholly dependent on an ideological commitment to scarcity, begins with alienation of producers from products, of people from land and other means of production. This detachment, like the notion of scarcity itself (Sahlins 1972), is neither natural nor inevitable nor, as yet, universal. Nor must local decision-making regarding the relationship between production, distribution and community development be subordinated to an ideology of individual self-interested capitalism.

Rather than detaching communities from fragile ecosystems and supplanting locally informed traditional resource management with distanced state-level regimes, a long-range vision should direct management policies to secure the tie between people and their traditions. Resource managers, developers, and policy makers can do this by promoting collaboration between ecologists and local communities on resource management and economic development, not by wishing the market away as Trainer and others would have us do. The alternative is external control over resource extraction, production and the distribu-

tion of benefits by those with little knowledge of local ecosystem dynamics, and with no traditional incentives to preserve and protect long-term and short-term profitability. Thus, the lesson from Florida's historical development helps us frame the fundamental issue underpinning the relationships between conservation of biological diversity, local cultural ecology and economic development: if development is to be made sustainable, local interest in and control over the development process must first be sustained.

Local participation and benefits are the minimum criteria for the survival of any social ecological system. And local control on late twentieth century Earth requires money with which to purchase voice, autonomy and power. Tragically, the monetization of all human activity may relegate those less profitable societies to museums where what they could have taught us about sustainable use will have been lost. Perhaps, it is a fitting irony that we will have to pay to see what is left of them. Yet the vision of community development outside and apart from the market economy is a mirage, a serpent-free Eden imagined by a romantic anthropology. Would it not be even more tragic to lose all cultural diversity because, in our zeal to protect and shield our culture gardens from the corrupting influence of the snake, we won the argument that denied diverse societies the means by which to defend themselves?

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