

## ECOLOGY, CONSERVATION, AND NORTH AMERICAN INDIANS

by Shepard Krech III

In the late twentieth-century it was commonly assumed that the lives of indigenous people were traditionally more rooted in nature than the lives of people who spread from Europe across the globe. Native Americans were seen, therefore, as closer to nature in an ideological and emotional sense. Indeed, it was believed that the Indians were always a kind of “natural” people, the original ecologists and conservationists and no doubt also the first environmentalists.

But this received wisdom remained mostly unexamined until the 1990s, when it was profoundly unsettled by analyses of the historical relationship between humans and their environments, as well as by accounts of more contemporary man-land relationships. The goal here is to explore some of this more recent work pertaining to North American Indians, who serve as the archetypal Ecological Indigenous People, rivaled today only by South American tropical forest Indians.

### The Ecological Indian

The image of indigenous people as the original ecologists, conservationists, and environmentalists—in North America, the Ecological Indian—is an ideal type, merely the latest in a 500-year history of imagery of indigenous people of the western hemisphere. From the moment they encountered indigenous people in the western hemisphere, Europeans classified them in order to make them sensible. They made the exotic understandable by using familiar categories, and in the process reduced men and women to stereotypes, to caricatures, noble or ignoble, benign or malignant, rational or irrational, human or cannibal.

For centuries two polar images of Indians in the New World, one noble and the other ignoble, have clashed. They are surely familiar. The Noble Indian (the Ecological Indian is an example) lived an innocent life in a golden world of nature. He was peaceful and care-free, eloquent, dignified and wise, sympathetic and intelligent. The Ignoble Indian was portrayed as bestial, savage, violent, and unintelligent (Berkhofer 1978).

Ever since Columbus wrote that he had found the Islands of the Blessed and its natural inhabitants, Europeans have crafted noble images of aboriginal people. Columbus readers were not surprised—at least not those who held to the existence of mythic places originating in pagan or Christian thought, such as the Islands of the Blessed, Arcadia, the Garden of Eden, or the Golden Age. Collectively these places expressed ideas of earthly paradise, eternal spring, or innocent life removed in space or time. These images remained potent for centuries after Columbus, especially in France, where writers coupled a critique or even a condemnation, of their own society to the contrasting image of indigenous nobility. As one historian remarked, many used the New World as a stick with which to beat the Old (Krech 1999:18).

In nineteenth-century America, this image of nobility developed further in James Fenimore Cooper's Leatherstocking books—*Last of the Mohicans* is the best known because of the film—where all manner of Indians can be found. The most famous are dignified, faultless, wise, graceful, sympathetic, and intelligent. Through Ernest Thompson Seton, the charismatic founder of the Boy Scout movement and first chief scout in America, Cooper's influence lasted beyond his time. A riveting speaker and fluid writer, Seton tried to reproduce in American youth the skills and nobility in the best of Cooper's Indians. He swayed millions in the early twentieth-century with a message emphasizing Indian skill in nature or woodcraft, which was very much in tune with the practicalities of that era's progressive conservation movement. Seton also reflected the influence of his contemporary Charles Eastman or Ohiyesa, a Sioux Indian author of best selling works, who was also active in scouting circles and on the lecture circuit.

The image of Indians as skilled in nature endured through the late 1960s and early 1970s. This period witnessed the first celebration of Earth Day; the rediscovery by environmentalists of key texts by Black Elk and Chief Seattle, although Seattle's speech had over time gone through much re-invention; and the emergence of the full-blown image of the Ecological Indian.

The Ecological Indian is the original ecologist, conservationist, and environmentalist, who possessed an intuitive, natural attitude toward the living world. His most famous representation was Keep America

Beautiful's 1971 rendering of Iron Eyes Cody, a self-ascribed Cherokee actor (he was later revealed to be of Sicilian descent), in an anti-litter advertisement. Iron Eyes was pictured with a tear tumbling down his cheek, an American Indian weeping because pollution is "a crying shame." Quickly dubbed the "Crying Indian," Iron Eyes riveted viewers with his direct gaze and soon became one of the most effective and far-reaching advertisements of all time.

The Crying Indian stands not alone but against, against the Non-Ecological White man. Weeping for history, the Crying Indian shed tears for America shattered by European settlers and their successors; for animals hunted to extinction by people of European descent; for trashed, even burning, rivers; littered and scarred landscapes; oil-slicked and tarred seas; and other environmental horrors. As an American Indian, he was free from blame, but non-Indians in his gaze were not. From that time forward, the Iron Eyes image became iconic, and American Indians as ecologists, conservationists, and environmentalists became widespread symbols for environmental attitudes and the conservation cause.

### Indians as Ecologists and Conservationists

But is the fit between image and behavior a good one in North America? This question takes on added importance today in the throes of global climate change, predicted extinctions, and other environmental disasters. In recent years a great deal of research has shed light on global human-environment relations, past and present, and the antiquity of man's role in environmental change in North America and elsewhere should no longer be in doubt.

### Fire

For example, human-induced fire is at least as old as our species, *Homo sapiens*, and might have evolved even earlier as one of the earliest hominid tools. Because fire transforms ecosystems, landscapes or culturally modified environments, one can argue, it is as ancient as humankind. North America was not a pristine, primeval land imagined in canvas or text when Europeans arrived, rather it was a continent (as an early-seventeenth-century Dutch mariner off the East Coast remarked) "smelt before it is seen."

In many areas, Indians torched the land. They burned to improve subsistence, to create favorable ecological niches, to drive animals from one place to another, to increase production of crops or berries and other gathered foods, to set the stage for new plant growth that would attract herbivores and, in turn, carnivores in another season.

They knew what would happen to the land and to plants and animals as a result of their burns. It was not simply that Indians possessed a formidable depth of knowledge about their environment, or that they distinguished by name literally hundreds of species of plants and animals. Rather, their use of fire revealed keen awareness of the systemic interrelationships that are at the core of the conception of an ecosystem. Indians possessed their own theories of animal behavior and made ecosystems cultural in ways that did not necessarily appear in a western conservation biologist's ecosystem. They were ecologists, but they did not always burn with ecological consequences in mind. Some used fire as an offensive or defensive weapon, driving enemies before them or covering their escape. Many lit fires to signal each other, communicating a variety of desires and plans. Others who lived in forests set them ablaze to ease travel. Many of these fires, as well as others, raged beyond control, deeply scorching the land beyond short-term utility, killing animals, and burning natural growth until extinguished by rain or halted by rivers.

Determining the precise causes and consequences of fires known archaeologically is daunting. In North America, humans caused some fires, and natural forces like lightning sparked others. Certain ecosystems are fire-succession ecosystems, in the maintenance of which human agency played a role. When Europeans gazed upon North America for the first time and many imagined an untouched Edenic wilderness, they actually were looking upon a cultural, human-modified landscape, many parts produced and maintained by fire. For instance, ponderosa pine forest requires periodic fire to eliminate competing understory, else it will launch into succession. The western scrub community known as chaparral is also fire-induced and will endure as a robust ecological community only if managed by fire (which many Indians did, to the benefit of useful plants in this community and the animals attracted to them). In the Southeast, longleaf pine forests require regular fires to remove competing

plants and destructive fungus. These pines are fire-adapted. In the absence of fire, they fail to reproduce or survive, and the forest changes to one dominated by other pines and deciduous trees. Finally, the eastern sections of the vast plains and prairies—where moisture allowed natural succession by oaks, aspens, and willows—were maintained and quite possibly induced by human fires.

### **Animal Extinctions**

Man has been implicated in animal extinctions long before the highly publicized ones of today. One famous episode occurred at the end of the era known as the Pleistocene in North America, where the decimation of many species followed closely on the heels of the arrival of many hunting-gathering Paleoindians some 13,000-14,000 years ago. At least 35 mammalian genera disappeared, many in the millennium beginning 11,000 years ago. Many of these animals were large in size—the so called megafauna, like tusked mammoths and mastodons, slow-moving giant ground sloths, a kind of giant armadillo, one ton armored glyptodonts, single-hump camels, 300-pound beavers, hyena-like dire wolves, short-faced bears, scimitar-toothed and great saber-toothed cats, and others. Animals familiar and unfamiliar, widespread and local, and large and small vanished.

Debate is sharp over the reasons for these extinctions. One opinion cites climate change that can be linked to six other extinction episodes in the last ten million years in North America. At the end of the Pleistocene, temperatures warmed markedly and winters became colder and summers hotter. Entire habitats changed overnight. Grasses, plants, and invertebrate and vertebrate organisms flourished or died. Were the consequences dire for key herbivores with the potential to transform the environment, and, therefore, for species linked to them? Currently there are more questions than answers about the consequences of climatic and vegetational changes on specific species or about the precise mechanisms involved in the impact of climate on particular species.

Another explanation for extinction points to the Paleoindians. Unlike earlier extinctions in North America, men and women with a distinctive hunting technology and definite taste for species now extinct were present during the Pleistocene extinctions. Despite the paucity of evidence, the impact of early hunters cannot entirely

be ruled out. Perhaps climate change left some species susceptible to a Paleoindian *coup de grace*. One way to think about what happened in North America is to consider Madagascar, where, in the wake of human arrival some 1500 years ago during a long dry spell in a fluctuating climate, the extinction of birds, tortoises, hippos, lemurs, and other animals took place. This confluence of effects, one can argue, doomed more species than humans, desiccation, or vegetation changes alone could have destroyed.

It makes sense to regard preindustrial humans as efficient predators capable, under the right conditions, of depleting animal resources. For example, the people who colonized the Pacific from 1600 B.C. to A.D 1000 induced widespread environmental change and exterminated thousands of species of birds through fire, irrigation projects, the transformation of forests into farms and grasslands, and mudflats into fishponds, as well as the introduction of new animals. By the time Europeans arrived on these islands, over one-half of endemic species were extinct in Hawaii alone, and elsewhere birds and other animals almost completely disappeared. Even on large New Zealand, Polynesian colonizers deforested vast sections of the land and hunted many species of moas—ostrich-like flightless birds—to extinction before turning their attention to the small birds, shellfish, fish, and seals that remained.



*Assiniboine man on horseback driving buffalo into a corral. Smithsonian Dibner Lib.: U.S. Military Academy, West Point Coll., N.Y.: 568.*

***Food Production, Population Size and Density, and Village Life***

From 8500 B.C. to 2500 B.C., a potent combination emerged independently in at least five different parts of the world, including Eastern North America: permanent villages occupied by more people living more densely than before, with economies based on domesticated plants and animals. This way of life, anchored in food production, spread to other parts of the globe and resulted in population densities from 10 to 100 times greater than in most foraging societies. According to some scholars, this crowding left people susceptible to diseases originating in domesticated animals and unsanitary conditions (Armelagos et al. 2004). Demography was not the only important determinant in this changing relationship between humans and the land (acquisitive intentions, resource abundance, impact of technology, and precise environmental understandings played important roles), but it was nevertheless significant. Everywhere, this new way of life contained potential for significant environmental change—in villages and especially in the most densely settled areas where urbanism emerged.

In North America, there were probably no more than 4-7 million people on the eve of European arrival (equal to the population of Colorado or Virginia in the year 2000). One can argue that no matter what people's beliefs or attitudes might have been, there were too few American Indians, too thinly spread out, to have made much of a lasting difference on lands and resources. Yet pressures could be sensed in regions like the Southwest and along the Mississippi. Here densely settled societies emerged, flourished, and (from the eleventh through the fourteenth centuries) disappeared for as yet unclear reasons. Perhaps these societies declined as a demand for wood for fuel, construction, and other purposes overtaxed the forests. Or did people fail to foresee the long-term consequences of delivering, through irrigation canals, saline waters to salt-sensitive crops planted in salty fields where the water table was high. Elsewhere in the world, canal siltation, water logging, and salinization doomed urban life despite shifting to salt-resistant grain; people denuded forests to satisfy the demand for wood, especially for domestic consumption; and domesticated animals grazed and browsed their way to defoliation and erosion. Productive strategies often left people vulnerable to unexpected events, like adverse climate change.

***Reincarnation, Ethnoecology, Commodification***

Whenever objects, or goods, have value in relation to other goods, they become subject to new pressures with sometimes unforeseen consequences. The most pervasive commodification is associated with the rise of capitalism in seventeenth-century Western Europe, and the global spread of Europeans affected the environmental history of all continents. In North America, Europeans arrived armed with microbes and unleashed horrific epidemic diseases, which killed many indigenous people and, in the short run, lessened pressures on ecosystems. But Europeans also turned up with an unrelenting and expansive commodification, a demand for marketable goods and primary producers, which, with increasingly capital-intensive industrial designs, ultimately proved profoundly transformative. Indigenous people responded to European appetites for goods by becoming primary suppliers of pelts and skins in exchange for a range of desired, highly valued consumer goods. The most famous commodities from the sixteenth through nineteenth centuries were white-tail deerskins and beaver pelts, willingly supplied by indigenous people to the point of the extermination of local populations of these animals; and buffalo skins, robes, and meat, supplied mainly by non-indigenous market hunters.

Might North American Indians simply have abandoned an early conservation ethic as they began to participate in Western systems of trade and commodification? If twentieth-century hunting people, who made choices maximizing their efficiency and rarely practiced restraint in harvest, provide any guide, the Indians probably acted similarly. Moreover, Indians held to certain understandings that fit awkwardly at best, or not at all, with assumptions underlying western conservation. For example, some Plains Indians made sure that animals wandering away from the base of cliffs that served as buffalo jumps did not escape. Why, if they had more than they were going to use—which they often did, given the abundant evidence of waste—would they bother to track down dazed animals wandering off? One reason apparently was the belief that as animate beings, buffaloes that escaped would warn others of the existence of the jump, which no longer would be effective. Furthermore, some Indians believed that buffaloes that had not returned as expected from their annual migration remained on the lake-bottom prairies to which they



*Kiowa events from 1840-1842 as depicted in pictographs on a "winter count." Left, man covered with spots, representing the smallpox epidemic of the summer of 1840, which spread throughout the Southern Plains. Smithsonian NAA: ms. 2531, neg. 92-111444.*

had gone. They would soon appear in certain cave mouths providing access between the lake-bottom and above-ground prairies. With such theories of animal behavior in a native ethology and indigenous ecology, why expect American Indians to hold to western-style conservation practice or ecological thought?

Another conceptual impasse occurred with the belief in reincarnation. Indigenous people thought that the hunt should properly be governed by culturally defined respect for animals that, rightly approached and treated in thought and deed, gave themselves up for sustenance and use. In this way, many reasoned further, animals would be reborn to be killed another day. For example, Cherokees believed that a deer hunted with respect would return again to be killed at least three and perhaps as many as six additional times. Crees imagined that if they took care not to think or speak ill of beavers, and if they respectfully placed beaver bones gently in water and followed other rules of etiquette, then beavers would willingly continue to make themselves available to be killed in potentially infinite series of reincarnations. Other Native people believed in reincarnation, including Northwest Coast Gitksan, who held that all that is required to renew salmon is to return their bones to the water. Arctic Inupiat and Inuit believed that the size of their kill and the availability of prey were unrelated and that the supply of seals, belugas, caribou, muskoxen, and other animals was unlimited. And the Yupit also under-

stood bird and mammal populations to be infinitely renewable and unaffected directly by human predation.

It is very difficult to reconcile such beliefs or the behavior based on them with western-style conservation. It is not that respect gets in the way but that its content needs to become compatible with certain tenets of conservation biology. Indeed, at different times and places, one can see a new "rationality" coming to bear. For example, in the eighteenth- and nineteenth-century eastern Subarctic, Crees started to leave beavers in lodges to breed, and in twentieth-century Alaska, Yupit hunters signed onto a co-management plan for geese that presumed a relationship between their kill and the goose population. As long as reincarnation remained central to the American Indian belief systems, it loomed as an obstacle to sustainable hunting practices.

### Conclusions

The antiquity of environmental change should not be in dispute even with the difference in scale between ancient environmental changes, which for the most part were local or regional, and contemporary ones, which possess global potential. One conclusion specifically concerning the relationship between North American Indians and their environments stems from demography, as explained earlier: in the fifteenth-century and before, there were too few people too thinly spread out to have made a lasting difference on land and resources, lasting, that is, compared to environmental change in the twentieth century.

Another conclusion is based in culture: while ecological or systemic thought was in evidence, conservation as it came to be understood in the West was foreign and even senseless for people who believed in reincarnating prey, and, moreover, difficult to put into practice given certain ethnoecological assumptions. The story is far more complicated than simple stereotypes (the Ecological Indian) would suggest.

In recent years, the image of the Ecological Indian is alive in public culture, yet non-Indian people are quick to react when American Indians behave at odds with this image. Environmentalists approve of Indians who protect bird nesting sites, offer sanctuary to buffaloes leaving Yellowstone, refuse transport of radioactive materials across their lands, remove logging roads, or reject overtures for waste sites. These same environmen-

talists clash furiously with other Indian groups who wish to store toxic or radioactive waste, advocate construction of dams, clear-cut temperate rain forests, or waste what they kill. Some of the tensest encounters result when native people act on their perceived rights, such as the right to kill animals that may be symbolically important to all, or when the cases are especially high profile such as the controversy surrounding oil drilling in protected areas.

These political and cultural clashes might be avoided if the image of the Ecological Indian were understood as the latest in a five-hundred year lineage of noble images in the Western imagination. Indians should not be held to standards that, with rare exceptions, neither they nor others have met. Unshackled by received wisdom, environmentalists and conservationists, whether they are Indian or not, can more effectively address their goals of environmental protection and care by drawing on traditional environmental knowledge, western conservation biology, and the environmental advocacy of indigenous and non-indigenous people.

Yet often American Indians cannot afford positions staked out by environmentalists (or are not interested in them). For many in Indian Country, economic concerns trump green issues. Many Native people want jobs and disposable income. Many are interested in casinos, which provide the ultimate payoff. They do not want to sacrifice their Indian identity or sense of belonging to place. They do want power over the exploitation of natural resources within their territories, or over the use of their own environment, but there is no forecasting whether these positions will lead them toward behavior consistent with the ideology of respect for the natural world.

Prediction is difficult because of the differences in Indian Country, at almost every level, over industrial development. Not uncommon is a pro-economic development tribal leadership opposed by tribal members who consider the land's sacredness to be its most important quality or who take up environmentalist positions consistent with the image of the Ecological Indian. The most important cases today are those in which Native people press for mega-projects with profound transformational capacities: nuclear waste disposal sites, hydroelectric power, natural gas pipelines, and a liquefied natural gas (LNG) terminal. Each has its own story. The most re-

cent to emerge involves the Passamaquoddy of Sipayik (Pleasant Point) in Maine and is unfolding as I write. In the summer of 2004, the tribal leadership narrowly voted in favor of a LNG terminal, as did the tribe in a referendum, over the objections of tribal members who considered it neither traditional nor environmentally appropriate. The fate of this and other projects is undecided and at the mercy of political and global economic forces like the price of natural gas. Where they will end up is anyone's guess.

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