Seabirds of Hawaii

Natural History and Conservation

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To Mom and Dad

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18 CONSERVATION DILEMMAS

The chief economist for one of the largest banks in Hawaii stood at the podium in an exclusive club in downtown Honolulu. A group of corporate attorneys had assembled for lunch to learn something about Hawaii's business climate. The economist began his address with the observation that Hawaii's economy is strikingly similar to most developing economies in the third world. It is built primarily on three pillars: tropical agriculture, military activities, and tourism. Of course, he added, unlike many developing nations, Hawaii does not have a corrupt government. His audience roared with laughter.

Residents of Hawaii are accustomed to reading newspaper accounts of corrupt practices: the U.S. Customs Service has seized $40,000 of undeclared jewelry from a former governor and close friend of Ferdinand Marcos; the uncovering of massive traffic-ticket fixing in the sheriff's office in Honolulu has implicated the present governor and the chief justice of the Hawaii Supreme Court; a federal audit of the Western Pacific Fisheries Management Council has found extensive financial irregularities. George Cooper and Gavan Daws's *Land and Power in Hawaii* documents the fact that public officials, including legislators, cabinet officers, judges, and labor leaders, have profited enormously from the development of Hawaii's land. Some of these people have rezoned property for their own financial benefit or that of their families and friends. The Bishop Estate, a perpetual educational trust and the largest private landowner in Hawaii, does not view the preservation of Hawaii's unique natural history as part of its public trust. Its five trustees award themselves annually almost $1 million *each* for nebulous services that include mustering a quorum of three to conduct official business once a week.

Hawaii's most lucrative crop is reputed to be *pakalolo* (marijuana), which is

thought to yield more than pineapple and sugar cane combined and by some estimates earns between $3 billion and $10 billion a year. *Pakalolo* growers' crops encroach on conservation lands specifically designated as wildlife preserves, and innocent hikers sometimes encounter deadly booby traps, armed guards, or pit bulls trained to attack "intruders."

Even if Hawaii had an exemplary government, the elements of late-twentieth-century life which have destroyed much of the native Hawaiian ecosystems would continue to do so. Hawaii may always have the lion's share of America's endangered species. Charles Darwin observed long ago that island ecosystems are particularly sensitive to disturbance by alien species. Creatures that evolve in island environments usually experience less competition and predation than those that evolve in comparable continental habitats, and as a result introduced species are often competitively superior to insular ones. The success of introduced species on oceanic islands can be attributed in part to their ability to withstand disturbance by humans. Tropical seabirds and other Hawaiian wildlife evolved in the absence of terrestrial predators, and most cannot withstand the ravages of feral pigs, dogs, mongooses, and rats.

It is impossible to preserve every natural habitat in Hawaii, and, given its desirability as a place to live and visit, pressures on the land will increase. Hotels and resorts will be built whether or not fledgling shearwaters and petrels are drawn to their lights. The success or failure of human enterprise in Hawaii's seas will depend on economics, not on incidental harm to seabirds or other wildlife. In some sense, the problems seem to be intractable. Conservation problems that George C. Munro identified fifty years ago are similar to those of today.

The Role of Governments

Although federal legislation is needed to extend the authority of the Migratory Bird Treaty Act and the Endangered Species Act throughout the exclusive economic zone, current federal and state statutes generally provide ample statutory protection for Hawaii's wildlife. Most regulations are also satisfactory, but as the State of Hawaii has yet to codify its administrative rules, even attorneys have difficulty locating current environmental regulations. Most governmental conservation problems in Hawaii emanate from inadequate funding, poor implementation of policies, or weak enforcement of statutes. Americans are twice as likely to enjoy wildlife with binoculars or cameras as they are with rifles or fishing rods, and this comparison is further skewed in Hawaii, where each year the state hosts six tourists for each resident. Yet national studies indicate that $9 of every $10 spent on wildlife conservation in the United States primarily benefits animals that can be hunted or fished; nongame species such as seabirds and endangered species are left to shift for themselves in an era of tightening budgets.

Hawaii's legislature stated laudable goals to protect and preserve the wildlife of Hawaii in its state plan, but they are drowned in a nonprioritized laundry list of other economic and social goals. The legislature has repeatedly refused to allow voluntary checkoffs on state income tax returns to fund nongame wildlife programs. It has repeatedly declined to require the Department of Land and Natural Resources to provide detailed audits of state wildlife programs to determine whether federal matching funds have been properly spent, despite considerable evidence of mismanagement or misappropriation. The Wildlife Management Institute, a national organization of professional wildlife managers, would gladly lend its expertise to the task of evaluating and improving Hawaii's wildlife programs, as it has done for forty other states. The state refuses to issue an invitation. The wildlife programs of the Department of Land and Natural Resources are poorly funded and understaffed. Morale is so low that its best wildlife biologists and managers suffer through only a few years of the stifling bureaucracy created by the state's aparatchiks before transferring to other positions, usually outside state government. The state's financial support for professional expertise is so low that the American Fishery Society ranks Hawaii last among the fifty states in respect to the salaries it pays its fishery biologists. State fishery biologists fare better in such landlocked states as Oklahoma, New Mexico, and North Dakota than in Hawaii.

Federal funding of wildlife programs, while superior to the state's, remains inadequate. Federal support is essential to Hawaii. The state has over one-quarter of this nation's endangered species, and it is simply impossible for Hawaii's one million residents to shoulder such a disproportionate burden of a national problem. Congress enacted the Fish and Wildlife Conservation Act in 1980 as a matching-grant program for nongame conservation but has yet to fund it, rendering its passage a hollow gesture.[1] The U.S. Fish and Wildlife Service in Hawaii has never acquired a vessel to study and manage seabirds at sea or even to enforce its own regulations at its Northwestern Hawaiian Islands wildlife refuge. The agency has never established a wildlife cooperative research unit at the University of Hawaii to provide long-term technical support to both the state and federal governments, and its research division's work in Hawaii has declined precipitously since the early 1980s.

A major problem for the state government is that its efforts to manage its natural resources are dwarfed by the politics of land and power in the Department of Land and Natural Resources. The state government systematically excludes individuals with professional qualifications in natural resource management from high-level decision making. Biologists and managers employed by the Department of Land and Natural Resources exert some influence on policies promulgated by the board, but their technical expertise is questionable and their influence minimal. After almost three decades of statehood, no governor has appointed a single wildlife manager, biologist, fishery manager, or

[1] 16 U.S.C. §§ 2901–12 (1988).

forester to the six-member Board of Land and Natural Resources. Functioning as an executive board, it is charged with the management and administration of public lands and wildlife resources and makes virtually all significant decisions concerning the use of conservation land. It establishes the policies and priorities of the Department of Land and Natural Resources. The nine-member Land Use Commission has never included a person with expertise in natural resource management, although its implemention of the statewide zoning statute and its decisions concerning the boundaries of conservation districts would seem to require such individuals. The Land Use Commission and the Board of Land and Natural Resources are like a board of agriculture with no agronomist or a board of education that lacks a single member with professional qualifications in education.

Realtors, developers, security guards, and the International Longshoremen's and Warehousemen's Union have been well represented on both the Board of Land and Natural Resources and the Land Use Commission. When individuals with skills and expertise in natural resource management are systematically excluded, poor or uninformed decisions are assured. The role of the International Longshoremen's and Warehousemen's Union is especially peculiar; Democratic governors during the past two decades have ensured that the voice of this powerful labor union is heard when natural resource decisions are to be made. Members of equivalent state boards in ten states are nominated by citizen groups. Michigan's commissioners who oversee its Department of Natural Resources are required by statute to have professional qualifications in some aspect of natural resource management. Hawaii's legislators and officials, however, seem to believe that the Department of Land and Natural Resources and the Land Use Commission should be directed by generalists rather than experts. Although none has ever expressly said so, governors may intentionally exclude individuals with knowledge of natural resource management from consideration for appointment. It seems inescapable that the agenda has been to minimize professional management, thereby maximizing political influence over natural resource decision making.

The Agencies

State and federal agencies have enormous influence over the implementation of wildlife laws. Formally through regulation and informally in day-to-day decisions they establish policies in the large interstices among black-letter statutes. Lawsuits that challenge agency decisions always face an uphill battle because courts tend to defer to the agencies in the areas of their presumed expertise. Unfortunately, senior officials in many agencies advance in their organizations more by virtue of political connections than through knowledge and skill.

The U.S. Fish and Wildlife Service is administered largely by individuals who are oriented to the service's historical programs, which focus on the consump-

tive uses of wildlife. The inordinate influence that hunting and fishing organizations exert over its policies and budget priorities stems largely from the fact that senior officials usually have been selected for their backgrounds in the management of game rather than of the ecosystem. Individuals whose careers have focused on waterfowl production rather than the preservation of endangered species naturally view hunters and fishermen as their primary clientele. Advancement to senior levels in the U.S. Fish and Wildlife Service tends to use good-ol'-boy procedures that reinforce a bias toward achieving full bags for hunters to the exclusion of other wildlife programs. Within the agency it is common knowledge that many "open" positions listed in the green sheet, the internal employment newsletter, have been described in such a way as to fit the qualifications and experience of preselected individuals. An inevitable result of such a system is that the problems of Hawaii's seabirds and endangered species are foreign to senior U.S. Fish and Wildlife Service officials in Washington and in the Portland regional office. These people tend to lack both the experience and the inclination to work on such problems.

The employees of the U.S. Fish and Wildlife Service and the Department of Land and Natural Resources are an inbred lot. The agencies should cast wider nets when they recruit senior administrators, most of whom attain their positions by rising through the ranks of the agency without obtaining the benefits of the cross-fertilization that occurs when a career encompasses a variety of organizations. This problem is exacerbated in the Department of Land and Natural Resources by its small size and the limited opportunities it offers for professional growth. Many senior managers of the U.S. Fish and Wildlife Service and the Department of Land and Natural Resources are not members of any of the societies in the fields in which they should be professionals: ecology, wildlife management, mammalogy, ornithology, botany. Few possess significant scientific credentials or have names that would be recognized by biologists in these fields. Senior U.S. Fish and Wildlife Service administrators in Washington can seem to be indistinguishable from their counterparts in agencies that deal with veterans' affairs, government procurement, or social security benefits.

Top-drawer managers with extensive experience as both scientists and administrators exist and, if recruited, would gladly assume responsible positions with the U.S. Fish and Wildlife Service or the Department of Land and Natural Resources. Deans of colleges with strong programs in natural resource management, executives in private conservation organizations, senior congressional staff, and officials of other state and federal natural resource agencies are systematically excluded from senior management positions. Unlike other federal scientific and technocratic agencies, the U.S. Fish and Wildlife Service rarely if ever recruits top management from outside the agency. The Department of Land and Natural Resources is so hamstrung by state civil service procedures that senior positions are offered to individuals with minimal qualifications merely because they are already state employees. Neither agency advertises employment opportunities in *Science*, the weekly magazine of the American

Association for the Advancement of Science, which is universally used as a job vacancy bulletin board by scientific and technical organizations, including state and federal natural resource agancies. If all positions ranked GS-14 and higher in the U.S. Fish and Wildlife Service and all positions of bureau chief and higher in the Department of Land and Natural Resources were widely advertised and a third were filled by well-qualified individuals from outside the agency, the increase in professionalism and improvement in programs could be immediate and dramatic.

Paradoxically, neither the Department of Land and Natural Resources nor the U.S. Fish and Wildlife Service seems to appreciate the need for scientists. The state wildlife plan gives a low priority to research and the Department of Land and Natural Resources looks to the University of Hawaii, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service for technical skills and support. The sound, statistically defensible biological information demanded by scientists is too often resented by managers, who prefer instead quick-and-dirty "research" to solve immediate problems. Whether solutions based on such studies are efficacious is seldom asked. U.S. Fish and Wildlife Service biologists have difficulty in traveling to important conferences and symposia, whereas agency funds routinely enable senior bureaucrats to travel to distant meetings on matters that could be handled with a ten-minute conference call. Biologists in the Department of Land and Natural Resources are virtually barred from attending scientific meetings outside of Hawaii, with the result that their ability to remain abreast of professional developments is severely hampered.

Why do natural resource agencies seem to have so little appreciation for research applications and scientific solutions to their problems? One reason may be the increasing politicization of natural resource decisions. Objective scientific facts can be insurmountable barriers to political maneuvering and off-the-record arrangements. Another may be that scientists tend to owe greater allegiance to science and the "search for truth" than to an employer. Development of new techniques and methods of wildlife management are being deemphasized at a time when they are needed to mitigate the multiple onslaughts against Hawaiian wildlife and its habitats. Many ecosystem management problems will yield to technical solutions. When agencies avoid developing new technologies, developers, conservationists, and natural resource managers are left to fight the same old environmental battles that might be avoided altogether.

Techniques could be developed to manipulate a seabird colony so that it could be relocated when a breeding site must give way to another use. Genetic engineers are working on a blue-green algae that kills mosquito larvae, which could provide a means to control mosquitos and increase lowland habitat for birds that have been ravaged by avian malaria. The eradication of rats from even small islands has proved to be a formidable task, and some populations have developed resistance to anticoagulant rodenticides. The largest island from

which rats have been eradicated is Otata, a 22-hectare island in the Noises group, New Zealand. The islets offshore north Oahu are excellent laboratories for improvement of techniques to remove introduced predators. All too soon we may need those methods on Laysan or Lisianski. Wildlife techniques developed in Hawaii could be used in the developing economies of Asia, Latin America, and Africa, where tropical nations desperately need technical assistance to manage their natural resources.

Private Organizations

A century and a half ago the French writer Alexis de Tocqueville marveled at the grass-roots organizations that sprang forth in the United States to solve problems. Such groups continue to proliferate today. Private conservation organizations can solve public problems creatively, avoiding the rigidity and delays of governmental agencies. They can be especially effective when they actively oversee, advise, and cooperate with natural resource agencies. Hawaii would be an excellent location in which to experiment with the privatization of parks and wildlife refuges. Conservation organizations could directly manage state and federal lands under suitable long-term leases. Successes at Manana Island or Kawainui Marsh could revolutionize the management of public lands.

A fundamental problem for wildlife conservation in Hawaii has been the relative ineffectiveness of Hawaii's plethora of private conservation organizations, which for decades were poorly organized and relied almost exclusively on volunteer efforts. Cooper and Daws summarize the situation since statehood:

> In general conservationist terms, there were throughout the Democratic years a number of Honolulu-based respectable middle-class groups which conscientiously expressed anti-development opinions at public hearings, but which by themselves had no clearly large-scale influence: the Conservation Council, the Audubon Society, the Outdoor Circle, and so on.

The remnants of Hawaii's natural history are national and international resources, and their protection deserves and requires paid professionals, including natural resource administrators, biologists, and fund raisers dedicated to planning and implementing long-term conservation strategies.

The establishment of the Hawaii office of The Nature Conservancy in the early 1980s represented the first recognition by a national conservation organization of the problems and challenges that Hawaii faces. The Nature Conservancy has been enormously successful in motivating community leaders in both private and public sectors to promote land acquisition and to enhance appropriations for the state's natural area reserves program. Its heritage program has established a biological data base to help answer questions on natural resources. Despite its obvious successes, The Nature Conservancy has institutional limitations. Its ability to work with large corporations could be seriously

undermined if it became embroiled in public controversies. Consequently, The Nature Conservancy cannot effectively oversee recalcitrant government agencies or such landowners as the Bishop Estate.

Nineteen-eighty-eight was a watershed year for the establishment of private conservation organizations in Hawaii. The Trust for Public Land closed its first transaction in Hawaii, successfully brokering the acquisition of seabird colonies at Crater Hill and Mokolea Point by the Kilauea Point National Wildlife Refuge. Grants from the MacArthur Foundation enabled the National Audubon Society, the Natural Resources Defense Council, and the Sierra Club Legal Defense Fund to open offices in Honolulu. The entrée of sophisticated national environmental organizations is an extremely encouraging development that over time should dramatically improve the conservation landscape.

Environmental organizations in Hawaii tend to be constituted largely of individuals who have moved to the islands from elsewhere. It seems inescapable that conservation values are poorly developed in individuals born and raised in Hawaii, with the exception of those who have spent a significant portion of their lives elsewhere. While education is ultimately the remedy for this situation, the task encompasses far more than improving lessons for schoolchildren. The challenge of educating adults is exacerbated by adult illiteracy rates in the rural islands (all islands except Oahu), which exceed one-third. Among fishermen and farmers, the people most likely to encounter wildlife in their daily routines, functional illiteracy approaches one-half. Motivating illiterates to protect Hawaii's natural history is an especially difficult task. All too often such people retain psychological baggage from a plantation society that disappeared decades ago, and resent conservationists as intrusive mainlanders. The islands' demographics, however, are changing rapidly: by 1980 almost half of Hawaii's residents had been born beyond the state's boundaries. Many of the millions of people who visit Hawaii each year are interested in its environmental problems and are potential allies on conservation issues if they can be informed and motivated. Hawaiian conservation organizations may find that nationwide fund-raising efforts for Hawaiian projects are especially successful.

If private organizations are to influence government effectively, they must be able to bring citizens' suits to enforce federal and state statutes. The state courts of Hawaii have countered the reluctance of state agencies to enforce their own laws by providing broad standing to organizations and individuals to challenge state environmental policies and actions. Many federal environmental statutes specifically provide for a private right of action, allowing concerned organizations and individuals to bring suits to enforce compliance. Lawsuits are expensive, especially in state courts, which cannot order the state or a corporation to pay a successful litigant's attorneys' fees and costs. Private organizations that bring such suits usually lack the resources to pay attorneys' fees and must rely on pro bono publico representation. Such federal statutes as the Endangered Species Act, by contrast, allow an environmental organization to recoup its

attorneys' fees. As a consequence, attorneys who file a suit concerning a violation of an endangered species act always prefer to sue in federal rather than state court.

The Challenge

Most large, conspicuous seabird colonies in Hawaii have been acquired by governmental agencies or private conservation organizations. The protection of breeding areas for species whose nest sites or habitats are less conspicuous has been largely accidental. Although it is stylish to believe that all is well once habitat has been acquired, such assumptions are rarely justified, especially in Hawaii. Many areas need active, even intensive management to prevent habitat destruction, which can be irreversible. Funds to manage and improve management techniques are crucial.

The challenge in Hawaii is to base environmental decisions that affect wildlife on good scientific information. The Board of Land and Natural Resources and the public are often ignorant of the facts on which such decisions should be based. Too often battles have been fought on the basis more of emotion than of information, with the resulting decisions based on brute strength. A National Research Council report on prediction of environmental effects found that too many arguments about development projects are based on prejudice rather than knowledge.

> There are a lot of people on both sides of the arguments who find it convenient not to know what actually happens when a project goes ahead. That way they can go into the next environmental battle with their positions unchanged.

Ecological science and its practical applications would benefit if projects were treated as experiments. Careful monitoring is essential if we are to understand the effects of a project, test predictions made in an environmental impact statement, measure changes in baseline conditions, and detect cumulative effects. Government resources are increasingly limited, and effective conservation efforts require private organizations to assume greater roles in raising funds, developing techniques, assembling information, and presenting it to decision makers.

Ultimately decisions concerning the management of Hawaiian wildlife are political. Many conservationists espouse egalitarian views and seemingly believe that all species should be protected equally, but such an approach spreads conservation resources thin and can bring poor results. The public does not believe that all species are equal. Individuals have different value systems and draw their own lines, but in the continuum of life forms from mammals, birds, and fish through plants, insects, flatworms, fungi, amoebas, bacteria, viruses, and polypeptides virtually everyone would choose to protect some natural

forms to the exclusion of others. The public would have no difficulty in choosing to preserve Bengal tigers rather than pupfish if such a choice were necessary. It may not seem "fair," but a Gallup poll would undoubtedly find more people willing to spend money to save a Laysan albatross colony than a sooty storm-petrel colony. Increased public education would help many people to make such decisions, but time, energy, and dollars are finite and not all battles can be fought, let alone won.