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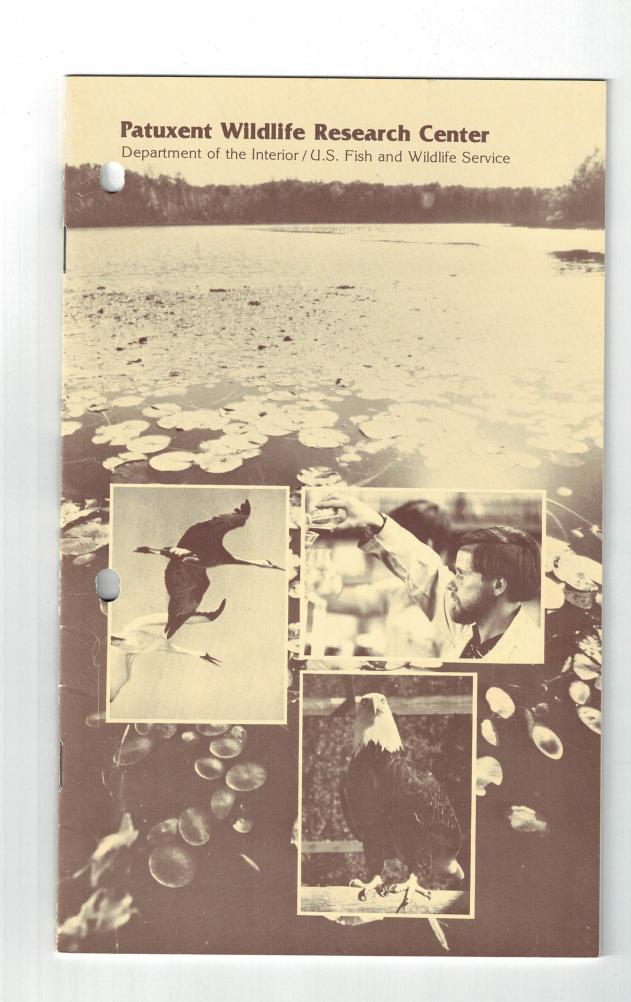
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• A potential close-to-home wildlife habitat visit, the Patuxent Wildlife Research Center consists of 4,700 acres in Prince Georges and Anne Arundel Counties, Maryland. It includes three Research Natural Areas representing the three major habitat types of the Upper Coastal Plain: Bottomland Forest, Terrace Woodland, and Upland Forest. Patuxent was the first major wildlife research station in the U.S. (See attached brochure.)





he Patuxent Wildlife Research Center was established in 1936 as America's first national wildlife experiment station. And over the years, the Center's mission has remained unchanged—to help protect and conserve the Nation's wildlife and natural environment through research on critical environmental problems and issues.

Today, research at the Center and at its field stations throughout the United States focuses on problems of three Fish and Wildlife Service Programs: Environmental Contaminant Evaluation, Endangered Species, and Migratory Birds. The lands of the Center constitute an outdoor ecological laboratory where intensive studies have been going on since 1945.

The Center is located near Laurel, Maryland, midway between Washington and Baltimore. Most of the land it now occupies was originally part of the 10,000-acre estate acquired in 1658 by Major Richard Snowden, a Welsh immigrant. The land was cleared and cultivated, and over time, divided into smaller holdings. Eventually the soil was depleted. During the 1930's, much of the area was classed as submarginal farmland and taken over by the Resettlement Administration.

In 1936, President Roosevelt transferred 2,670 acres to the Bureau of Biological Survey, now the U.S. Fish and Wildlife Service. Snowden Hall, one of the old manor houses, was modified and reoccupied, and colonial-style laboratories were built. Research began with ecological studies of the flora and fauna of the area and with studies of the effects of the food resource and nutrition on wildlife populations.

The Center now occupies 4,700 acres in the Patuxent River valley. Its boundaries include upland forests of oak and pine, terrace woodlands, bottomland hardwood forests, brushy fields, and grassy meadows. Perhaps the finest scientific nature preserve near any metropolitan area, it supports a rich variety of wildlife. Portions of the Center set aside for experimental research now provide one of the few places in the United States where investigators have the space to raise and maintain the colonies of wild birds and other animals needed for large-scale controlled studies and the propagation and study of endangered species.

ON THE COVER—Patuxent's wetlands are part of the ecological diversity which makes it an ideal nature preserve, as well as a research center with activities ranging from the study of environmental contaminants to recovery of the endangered whooping crane.

Rich in history, the Center conducts its modern-day research in such stately buildings as Snowden Hall (left), C. Hart Merriam Laboratory (right inset) and in the outdoor laboratory the grounds provide (left inset).



Patuxent researchers have evaluated environmental contaminants for three decades—since wildlife showed sudden, sharp declines due to DDT.



Environmental Contaminant Evaluation

Research and experimental facilities occupy 19 buildings which are equipped to provide the capability for advanced studies in the laboratory sciences. The buildings also house a research library and offices for research and administrative

Research to measure and predict the impact of environmental contaminants on wildlife began at the Center in 1945 with studies of DDT. The chemical had not yet been released for public use, and it was long before the nationwide concern over the environment.

From the beginning, the research was an integrated effort that focused on environmental problems and real exposure levels. Field research posed the questions and defined the problems; experimental studies measured effects under controlled conditions and established scientific proof. The team effort included scientists of many disciplines: chemists, physiologists, behaviorists, ecologists, and biometricians. As an array of new man-made cevaluate the wildlife effects of many new compounds used extensively in public programs and for farm and garden pest control. Serious problems were soon evident. The long-lasting compounds were spreading through the environment and accumulating in the ty. But more subtle, as yet undetected effects were occurring.

By the 1960's, populations of peregrine falcons, ospreys, brown pelicans, and eagles had declined alarmingly. Birds in the field failed to produce enough young to maintain their numbers. It was discovered that thin shells and cracked eggs were correlated with residues of DDE, a breakdown product of DDT, in birds and eggs. But such correlations, although strong evidence,





DDT research and other experiments have been conducted with barn owls, among other susceptible species; one of the Center's gas chromatographs analyzes animal tissues for pesticides and other residues.

could not be held as proof. Convincing cause-and-effect evidence was provided by Patuxent experimental studies with mallard ducks. All the problems that had been seen in the field were produced in birds fed low doses of DDE, while the control-birds (those of the same age and kind, but fed untreated feed) produced normal eggs and healthy ducklings.

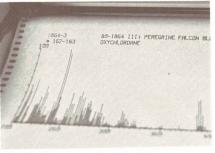
This key experiment was subsequently repeated and verified at Patuxent with kestrels, owls, and black ducks, and by scientists elsewhere with mallards. The chain of evidence was completed in the 1970's when field studies of pelicans and other species showed that populations increased as DDE residues in eggs declined, following reduced use and the ultimate ban of DDT.

Concern for the unintended adverse effects of pesticides has increased in recent years and much effort has been made by both government and industry to develop chemicals and integrated pest control systems that will minimize environmental damage. Patuxent scientists have contributed to this effort through field and experimental studies of newer compounds to help identify those that will have the fewest harmful effects.

A newer focus of the Center's research has been industrial chemicals such as lead, mercury, cadmium and petroleum which reach the environment as a result of mining smelting, energy development and other industrial processes. In one multigeneration experiment with mallards, scientists found that low levels of methyl mercury (similar to exposures in the wild) significantly impaired reproduction. In another experiment, investigators discovered that five microliters (30–40 microliters make up a single drop) of oil deposited on the shells of mallard duck eggs resulted in 98 percent embryo mortality. Results were verified in both field and laboratory studies of eiders and gulls, and in studies which showed that incubating hens could carry harmful amounts of oil on their feathers and damage their eggs.







With a Patuxent scientist at the controls, a mass spectrometer produces a print-out showing contaminant levels in a peregrine falcon's blood.

As many as 18 species of non-endangered birds are studied in Patuxent laboratories (and many more in the field). They include raptors such as barn owls, screech owls, and sparrow hawks. Starlings, red-winged blackbirds, and cowbirds substitute for the scarcer kinds of songbirds. Waterfowl include mallards, black ducks, canvasbacks, redheads, and hooded mergansers. Studies of a colony of black-crowned night herons help to understand the effects of contaminants on wading birds. Eastern bobwhite quail represent the galliform group, which includes pheasants, grouse and turkey.

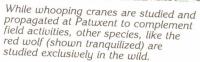
Some investigations seek to find out how different combinations and levels of contaminants affect reproduction. With large numbers of birds available, it is possible to simulate actual exposures in the wild—feeding birds varying levels of contaminants over long periods of time. Other experiments determine what dosages may cause death. Still others gauge how long a contaminant remains in a bird's body and at what rate the substance is metabolized and excreted. Another range of tests, using specially designed equipment, precisely measures the effects of a contaminant on a bird's central nervous system and learning patterns.

Much of Patuxent's research requires painstaking, complex chemical analysis of residues in the tissues of birds and other animals. The Center's analytical laboratory is one of the most modern and best equipped in the nation. Using sophisticated instruments such as atomic absorption spectrophotometers, gas chromatographs and mass spectrometers, chemists analyze samples for pesticides, heavy metals and other chemicals. Analyses include samples as diverse as the tissues of black-crowned night herons from New Jersey, Canada geese from Oregon, roseate spoonbill eggs from Texas, alligator eggs from Florida, and earthworms from Pennsylvania. Bald eagles found dead anywhere in the United States are sent to the laboratory for chemical analysis.

As the threats from environmental contaminants have evolved and multiplied, the job of the Center has become more complex. The goals of the program, however, remain the same: to help protect wildlife populations and habitats by identifying harmful environmental contaminants and recommending procedures that will alleviate the problems.







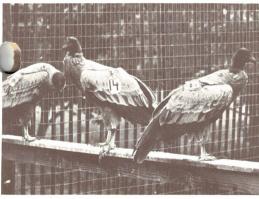


Endangered Wildlife Research

Tucked away in the woodlands and fields of Patuxent behind locked gates and electrified fences are some of the world's rarest wildlife—species such as whooping cranes, Mississippi sandhill cranes, and Aleutian Canada geese. Scientists are studying and propagating these species in order to better understand their biological requirements for survival.

The program, begun at the Center in 1965 as an outgrowth of efforts to rescue the whooping crane, has two primary approaches for enhancing the likelihood of survival of threatened and endangered wildlife. The first is ecological study of species in the field. Biologists are located at field stations from Puerto Rico through the contiguous United States to Hawaii. The second is research on the physiology, reproduction, behavior, nutrition, and veterinary aspects of animals threatened with extinction. These studies are conducted by scientists located at the Center and provide support to the field ecological studies. Captive propagation has an additional role as insurance against natural disaster that could wipe out existing wild populations.

Patuxent scientists stress that captive propagation is not a cure-all, but rather a useful—sometimes critical—supplement to management techniques and protective regulations. The major projects undertaken at the Center usually involve nearly extinct species—those that have dwindled to a handful, are restricted to a narrow range, and reproduce slowly. Thus, efforts to restore species such as the whooper, the Mississippi sandhill crane, the Puerto Rican parrot, and the California condor are complex and will probably continue for years.







ters and released for tracking to learn more about condor ecology, which will also aid attempts to restore the California condor.

To meet this challenge, new knowledge and innovative techniques have been developed. For example, egg production among endangered birds has been dramatically increased by removing eggs soon after they are laid. The birds then lay additional eggs. Whooping cranes in the wild, for example, typically lay two eggs each year, whereas whoopers in captivity have been induced to lay as many as 11! Also, California condors generally lay one egg every 2 years in the wild, but, through various techniques for enhancing production, captive Andean condors, at least, can produce two eggs each year, and masked bobwhites may lay 50 or 75 eggs in a season.

Other successful management techniques have been evolved. The normal breeding season of whooping cranes and Aleutian Canada geese has been lengthened by using special floodlights to simulate the longer daylight hours in far northern nesting grounds. New methods of artificial insemination have been devised to improve the fertility of whoopers and Mississippi sandhill cranes. In addition, a cryogenic semen bank (semen stored at -196° C) is being developed for various species of birds. Patuxent provides scientifically balanced diets, veterinary supervision, strict sanitation, roomy pens with ample cover, and an undisturbed environment—all needed to make these innovative approaches successful.

In developing husbandry and breeding methods, the scientists also rely on surrogates—common species that are closely related to their endangered relatives. Greater and Florida sandhill cranes are surrogates for the whoopers and Mississippi sandhill cranes, Andean condors (themselves endangered) for California condors, and eastern bobwhite quail for masked bobwhites. By using surrogates during development testing, unnecessary risks to the endangered species are avoided.





Patuxent researchers use artificial insemination to increase whooper reproduction in captivity (left), and transplant fertile eggs to sandhill crane nests in Idaho (above).

The ultimate goal of the program is to restore the numbers of presently endangered species in the wild. This difficult task requires truly innovative techniques. For example, a new flock of whooping cranes is being established at Grays Lake National Wildlife Refuge in Idaho by placing captive-produced whooper eggs in the nests of greater sandhill cranes. The sandhills act as foster parents for the newley-hatched whoopers. Young whooping cranes raised by sandhills at Patuxent—young which retain their wild instincts—also are being transplanted to the Idaho site.

The process is painstakingly slow, but there have been heartening successes: The Patuxent whooping crane colony numbers around 24 birds, and a new flock, in addition to the single established flock which migrates from Canada to Aransas National Wildlife Refuge in Texas, is gaining a foothold in Idaho. The young whoopers are learning a new migratory route from their foster sandhill crane parents, flying from Idaho to Bosque del Apache National Wildlife Refuge in New Mexico.

Over 60 Aleutian Canada geese at the Center are producing stock for release in their former habitat in the Aleutian Islands off Alaska. And masked bobwhites, which can be produced in the thousands each year, are gradually becoming reestablished in their old prairie range in Arizona. With the combination of habitat protection and propagation, Patuxent biologists in Puerto Rico have nearly doubled the Puerto Rican parrot population, which reached a low point of some 23 birds in 1975. Such successes are hard won, but the reward is the survival of species that otherwise would surely disappear forever.

The whooper chicks that hatch in Idaho (right) are raised by surrogate sandhill cranes and learn their migration route from the sandhills (inset), a vital step in establishing a second wild flock.





Canvasback ducks of the Chesapeake Bay may benefit from banding studies designed to show habitat preference by age and sex.

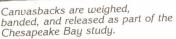
Migratory Bird Research

Research on migratory birds combines complex statistical analysis and traditional field work to generate information needed for the management and conservation of migratory species. Research on migratory birds at Patuxent plays several roles—devising methods of assessing the status of various species; investigating reasons for declines in particular bird populations; and developing data to aid in solving specific management problems.

Techniques of surveying game birds, for example, are far better perfected than those for censusing non-game species. So, biologists designed an annual breeding bird survey in which skilled and knowledgeable volunteers record calls of non-game species along some 1,700 carefully plotted road routes throughout the country. In addition, scientists seek ways to overcome such difficulties as accounting for birds that seldom call, or that live in roadless, inaccessible areas. Once the survey is thoroughly perfected and evaluated, it may become an important management tool in determining the distribution and upward or downward trends of non-game species.

If a species is dwindling in numbers, the research scientists determine what factors are involved and what measures might be taken to halt and reverse the decline. When it was discovered that the number of canvasback ducks was decreasing, the biologists focused on those birds wintering on the Chesapeake Bay. Each winter hundreds of canvasbacks are banded, weighed, and then released. By recapturing the banded birds and measuring changes in their condition, the biologists hope to gauge survival rates and obtain other important data. With this information, they can learn whether the population decrease is widespread or local, and whether deteriorating environmental conditions on the Bay might be responsible.







Much of the research is carried out in the laboratory rather than in the field. Biological statisticians analyze existing information such as bird banding records, much like economists who study data from the Bureau of Labor Statistics. Using bird banding and recovery reports and harvest survey results, for example, the scientists developed sophisticated computer models showing that annual hunting regulations and harvests have not reduced overall survival rates of mallards, the most important North American waterfowl species.

Often migratory bird researchers are called on to investigate management problems. For example, concerns have been voiced that hunting mourning doves during September would endanger the survival of newly-hatched young. Accordingly, Patuxent's scientists designed an extensive study, in cooperation with some 30 State conservation departments, to determine the nesting success of mourning doves in areas where hunting was and was not permitted during the month of September. Results to date reveal no important difference in overall nesting success.

Finally, the researchers are trying to learn more about the habitat requirements of migratory birds. But instead of focusing on individual species, scientists now are looking at ecosystems and studying birds in different habitats. In a hardwood forest, for example, some species such as woodcock, are associated with brush and young trees. Other birds live in mature areas of the forest. Some are ground feeders, and still others inhabit the forest canopy. The complex task is to learn how various species interact with their habitats so managers can ensure that requirements of all birds are met.





Not all wildlife species need wilderness. Indeed, Patuxent's urban wildlife program, a part of the Fish and Wildlife Service's Migratory Bird Program, is showing that wildlife can thrive in cities and suburbs—given proper land use planning and building design.

Urban wildlife research has used the "new town" of Columbia, Maryland, located between Baltimore and Washington, and other nearby urban areas, as a laboratory. A new bird counting technique, which surveys 100-yard square plots in a wide range of locations, has shown that populations are much denser in small, heavily landscaped lots than in larger, more open lawn areas. As apartments and houses rose in former farmland, some species increased and others declined. Field species such as meadowlarks, quail, and mourning doves became scarce, while cardinals, chipping sparrows, and other species increased.

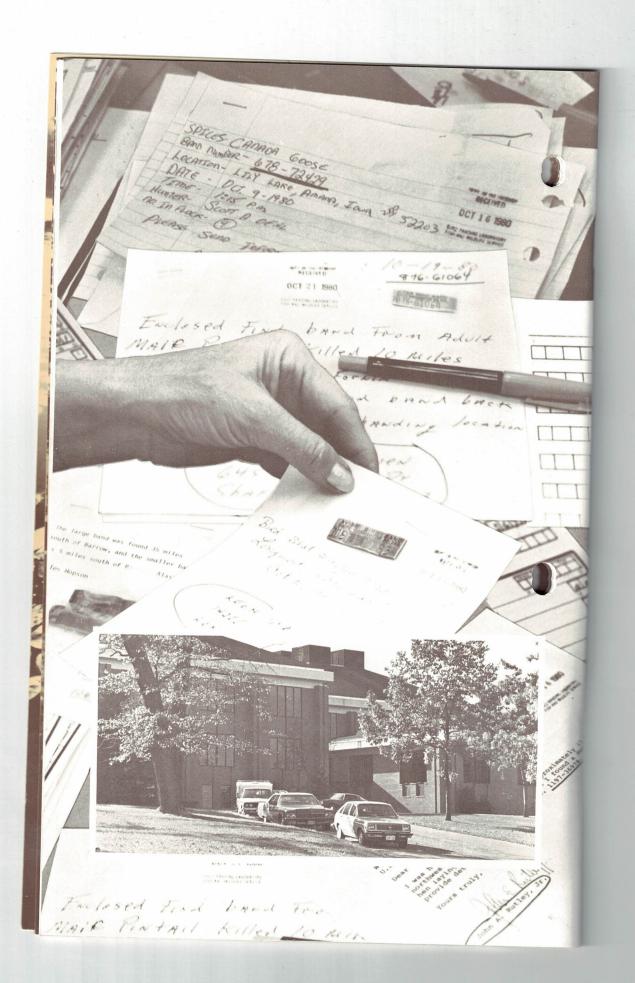
Nuisance birds such as starlings and pigeons also are very much at home in urban settings. Yet these birds were not randomly scattered, but were concentrated in certain neighborhoods. Patuxent staff discovered that building design features in these areas attracted the birds—features such as boxed eaves and widely louvered vents that left spaces for nesting. Other similar neighborhoods where construction was better and certain design features were absent were free of nuisance species.

Several plots adjacent to housing that had been left in their natural state and were covered with underbrush and small trees were rich in wildlife. Studies are underway to learn how to develop such natural areas which would provide food and cover to birds and also be attractive to the people living nearby.

Results of these studies all point to the conclusion that wildlife and new development can coexist to provide a needed dimension to urban living.

Facing page. Biologists give advice to developers in order to enhance humaninhabited areas for wildlife. For example, mowed fields provide little habitat (top), but when allowed to grow into meadows (bottom) are likely to attract varied wildlife.





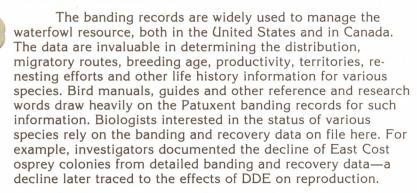




Specialists enter band report information into the lab's computer system which has some 39 million records on file

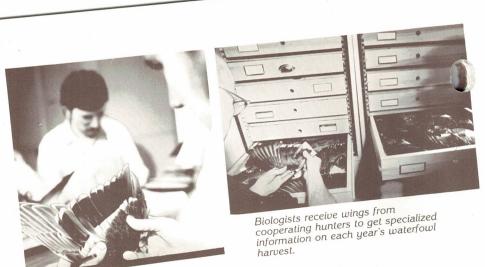
Branch of Surveys Office of Migratory Bird Management

Ornithological societies began accumulating bird banding records as long ago as 1902. Since then, more than 39 million birds have been banded. Most of the files containing these records, together with the records of some two million band recoveries, are now housed at the Center's modern Gabrielson Laboratory. This unique store of information is administered by the Office of Migratory Bird Management's Patuxent-based Branch of Surveys in cooperation with the Canadian Wildlife Service.



Each year approximately one million new banding reports flow into the Center from 2,000 officially certified master banders and approximately 2,000 sub-permittees. Each band number entry includes the bird's species, age, sex, and when and where it was banded. After the national bird banding records were turned over to the Bureau of Biological Survey in 1920, entries were put on file cards. Since the early 1960's, all

Of more than two million bands placed on birds annually, reports of 70,000 are submitted by researchers, hunters, and private citizens (left) to the Gabrielson Laboratory (inset), providing information for managing waterfowl and other bird species.



the information has been fed into computers, where it is readily available. Some 70,000 band recoveries are reported annually, and the location of each is pinpointed by using large scale maps and the location of each is pinpointed by using large scale maps for reference. The proportion of bands recovered varies widely to reference. Recoveries of banded waterfowl may amount to between species. Recoveries of banded but for seabirds 10 to 20 percent of the total number of banded but for seabirds or songbirds fewer than one band in 100 may be reported.

The Branch of Surveys also develops annual estimates of the waterfowl hunting harvest throughout the United States (including Alaska). To prepare these estimates, a record of the number of Migratory Bird Hunting and Conservation Stamps sold at each of 16,000 post offices throughout the country is obtained at each of 16,000 post offices throughout the country is obtained through the cooperation of the Postal Service. A questionnaire is through the cooperation of the hunters who purchased their then sent to a random sample of hunters who purchased their "Duck Stamps" at these post offices. Approximately 70,000 "Duck Stamps" at these questionnaires. From these data, hunters responded to these questionnaires. From these data, biologists determine the percentage of stamp buyers who intended to hunt, the percentage who did hunt, their average seasonal ed to hunt, the percentage who did hunt, their average number of bag of ducks, geese, and coots, as well as the average number of

Finally, another group of cooperating hunters receives packets of envelopes with requests for one wing from every duck shot. Approximately 70,000 wings are received annually, and from these wings, biologists estimate the species, age, and sex composition of the previous year's waterfowl harvest and the geographic and chronological distribution of that harvest.

These data are used primarily as background information during the setting of hunting regulations, but many findings are also supplied to research biologists, wildlife managers, and others who need detailed information on the annual harvest of waterfowl.

Photographs



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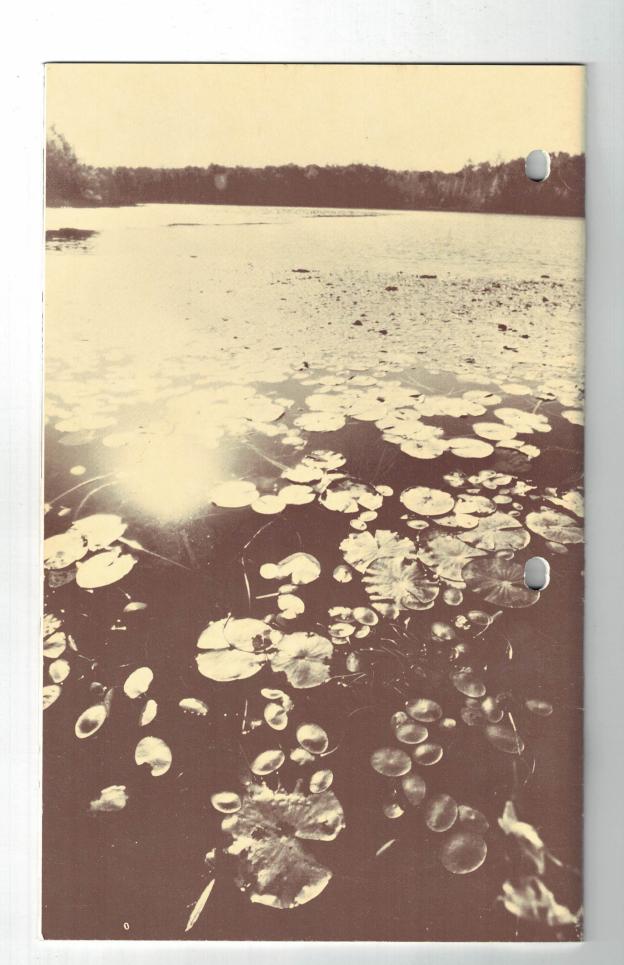




Department of the Interior U.S. Fish and Wildlife Service



As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.



• The Fish and Wildlife Service participates in extensive work with the U.S. Customs Service to confiscate illegally imported endangered species products. In a visit to an appropriate port facility, the President could address the illegal importation; visual displays of confiscated products are available. This ties to other Administration initiatives to halt illegal drug traffic into the U.S. and to improve port facilities. The Fish and Wildlife Service has inspectors stationed in New York City, Miami, New Orleans, San Francisco, Los Angeles, Seattle, Honolulu, Dallas/Fort Worth, and Chicago.

The Reagan Administration's environmental policy is premised on the fact that only a strong economy can support a clean and improving environment. Hungry people, people without homes and jobs to support their families cannot afford to be environmentalists.

America has been blessed with an abundance of human and natural resources. We have used those resources wisely to become a strong, prosperous Nation. Therefore, we became a Nation of environmentalists.

The decades of the 50s and 60s were years of unprecedented American productivity and economic growth. America prospered. People prospered.

This productivity paved the way for a new era of environmental "awakening," the decade of the 70s. It was during this period that most of our major environmental laws were passed:

The National Environmental Policy Act

The Clean Air Act

The Clean Water Act

The Noise Control Act

The Resource Conservation and Recovery Act

The Toxic Substances Control Act

The Federal Insecticide, Fungicide and Rodenticide Act

The Safe Drinking Water Act.

Clearly, Congress provided ample statutory authority to ensure a clean and improving environment.

During this same period, however, the American economy began to decline. When President Reagan took office in 1981, the American economy was suffering. Inflation had been at a double-digit level for two years; the prime rate was over 20 percent; federal spending was growing at a record rate of 17 percent, and taxes were spiraling upward.

Economic recovery was the focus of the Reagan campaign, and economic recovery was the top national priority. The American people and the Reagan Administration recognized that the Nation must be able to draw strength from its resource base in order to improve the economy and to maintain a high quality environment.

Balancing the need for economic strength and stability with environmental protection meant that this Administration had to dare to ask questions, dare to question past resource policies, dare to search for better ways to serve as stewards of our resources so that we could be both a fiscally strong Nation and a physically beautiful Nation.

Natural resource policies of the past focused on locking up vast natural resource areas to save the planet <u>from</u> mankind. Today, we have a different philosophy, aimed at managing resources <u>for</u> mankind. This is a philosophy based on respect for both man and nature.

This Administration's environmental policy is founded on that respect and on the concept of stewardship -- taking care of what we have.

Caring for the past -- not only for the historical sites and physical remnants of yesterday's America, but also caring for the precepts and principles upon which our Nation was founded.

Caring for the present -- taking care of what we have, rather than reaching out for more.

Caring for the future -- so that our children and grandchildren will have the food, water, energy, and mineral resources as well as the clean air, clean water, and treasured parks and wildlife needed for economic prosperity and environmental quality.

Stewardship means effective protection of those resources that should be protected and efficient use of those resources which, according to statute, should be made available for economic development.

The Federal Government manages one-third of the Nation's lands and over 1 billion acres of the Outer Continental Shelf - 3 to 27 miles offshore. Efficient management of these vast resources requires tough decisions on what to set aside and what to develop. The primary resource actions of this Administration in our first two years demonstrate that the tough decisions are being made and implemented, resulting in an improved economy and a healthy environment.

Stewardship in the National Parks.

When President Reagan took office, the national parks -America's natural resource gems -- had deteriorated. Health and
safety hazards threatened the 291+ million visitors each year. Past
federal resource policies called for continued land acquisition for
the National Park System. As more and more dollars went for
escalating land prices, fewer and fewer dollars were available to
protect the existing resource base and maintain the integrity of the
parks already in the federal estate.

This Administration determined that our stewardship responsibilities required us to take care of those parks already in the federal estate. Rather than reaching out for more and more land that could not be adequately protected, we dedicated ourselves to protecting the natural resource base and improving the physical facilities in the parks. The result is a 5-year, \$1 billion program to restore and improve the national parks.

Our stewardship philosophy also recognizes that balancing the need for more jobs for Americans and continued economic development with the need to set aside and protect outstanding resources requires a commitment to finding new and better ways to conserve natural resources. We've adopted a new land protection policy that emphasizes alternatives to full-fee acquisition. This policy not only saves American taxpayers' dollars, but also improves relationships between federal land managers and their neighbors and protects more park resources in a shorter time-frame.

Stewardship of the Coastal Barriers and Wetlands.

We have also looked for economically efficient ways to discourage development on environmentally critical lands and to encourage State and private efforts to protect these resources. For example, our Atlantic and Gulf Coast barriers, which provide natural protection for inland areas and significant wildlife habitat, had become prime targets for development, threatening those natural benefits and beauty. And the Federal Government was, in large measure, responsible for much of that development by subsidizing federal flood insurance. It makes little sense for the Federal Government to recognize and seek to protect such natural areas while, at the same time, to encourage development with federal tax dollars. The Coastal Barriers Resources Act of 1982, which this Administration actively supported, ended subsidized flood insurance for the coastal barriers.

We have recently extended this economically and environmentally efficient concept to protect the Nation's critical wetlands.

Wetlands are among the most productive lands on earth. They provide breeding and wintering grounds for our Nation's migratory bird

populations, serve as critical nurseries for fish and shellfish, and support countless other plants and animals. Yet, approximately half of the 215 million wetland acres that once existed in the United States have disappeared, and we continue to drain, dike, and fill wetlands at the rate of 458,000 acres annually. Since the 1930's, the Federal Government has had underway a program to inventory and acquire valuable wetland habitat. The escalating cost of such acreage has made acquisition difficult and, in some cases, economically impossible. At the same time, the Federal Government through numerous programs for construction loans, grants and the like, has made taxpayers' dollars available to help subsidize the destruction of wetlands.

Bringing common sense stewardship to our wetlands, this Administration has proposed new legislation that would prohibit certain uses of federal tax dollars to subsidize drainage and development of critical wetland habitat.

Stewardship of the Nation's Wilderness.

Congress established the national wilderness program in 1964. We now have about 80 million acres of designated wilderness in America and well over 120 million additional acres under management as potential wilderness. That's over 200 million acres — the equivalent of two States the size of California. In all, the Federal Government owns one—third of the land area of the United States, and, at present, one—third of the federal estate is either designated wilderness or being managed to protect wilderness values.

Wilderness is essential -- essential for wildlife, essential to protect unique scenic areas, essential to the ecosystems which support human life and all life on Earth, essential to provide

sanctuaries for those who have the desire and ability, time and means to adventure into areas where man is only a visitor. There are limits, however, to how much of its land and resources a Nation can lock away. We have dared to ask the question — How much is enough? We have continued to add to the wilderness system those areas which deserve such protection. At the same time, we are encouraging Congress to release back to multiple use those areas which have been studied and found not to posses wilderness qualities.

Stewardship of Endangered Wildlife.

The Endangered Species Act calls upon the Federal Government to identify and list threatened and endangered species and then to provide for the recovery of those species so that we can protect our ecosystems and preserve our wildlife heritage for this generation and the next. Past policies have focused on <u>listing</u> threatened species. Listing is an administrative process that yields limited results.

This Administration has focused on taking care of our wildlife and has emphasized that portion of our statutory responsibilities that provides for recovery of endangered wildlife. In the past year alone, we have reviewed or approved more than 4 times the number of recovery plans for endangered species than the last Administration worked on in its last year in office. Active recovery of the species has been our theme, and our record of wildlife stewardship is sound.

Stewardship of the Public Lands.

Earlier I spoke about the sound statutory base for environmental protection that Congess has provided and about the need for our Nation to be economically strong in order to be environmentally secure. Building a strong economy and working to improve the

environment are two goals which often engender conflict and criticism. Let's look at those natural resource development programs that are so necessary for a stong economy and strong national defense.

In addition to our treasured national parks and wildlife refuges, the critical coastal barriers and wetland habitats, the Federal Government controls 290 million acres of public lands. The term of art is "public lands," but we should refer to these areas as the "public's lands." By statute, these lands are to be managed for the people, for multiple uses. Multiple uses include rangeland for stock grazing, energy development, mineral exploration, farming, and conservation. These public lands and the Outer Continental Shelf, which also belongs to the American people, must be managed for the benefit of all American people.

For example, the Outer Continental Shelf Lands Act amendments of 1978 require "expedited exploration and development of the OCS in order to achieve national economic and energy policy goals, assure national security, reduce dependence on foreign sources, and maintain a favorable balance of payments in world trade." Before this Administration took office, we were the only Nation in the world whose offshore energy production had declined. Only 4 percent of our OCS had been made available for oil and gas exploration and only 2 percent had been leased.

Yes, this Administration changed those policies of the past. We are implementing an aggressive 5-year OCS oil and gas leasing program. Are we, in the process, destroying America's coastal environment? Let's look at the record. The OCS environmental safety record is excellent. The National Academy of Sciences tells us that

OCS activity accounts for only .05 percent of the pollution in the world's oceans. Tankers bringing needed oil from foreign sources are the second highest source of world ocean pollution, accounting for 20 percent of the pollution. So, if you're for the environment, the domestic OCS program will help us not only reduce our dependence on foreign sources for crude oil, but also will help in our battle to protect the world's oceans. This is sound resource stewardship.

Other resource development policies of this Administration have also engendered environmental criticism. Yes, we have leased 150 percent more acres onshore for oil and gas than were leased in 1980; we have accelerated our search for geothermal steam resources; we have almost doubled the number of acres leased for coal development over the number leased during the prior Administration. These programs are essential for a strong economy and a strong national defense. And, in all instances, energy leasing has been carried out on the public's lands which, by law, are to be made available for such use, and this leasing has been carried out with more stringent environmental safeguards than ever before in the history of our country. We are taking the necessary precautions to ensure both a fiscally strong and physically beautiful America.

Stewardship is a Shared Responsibility.

This Administration believes that resource stewardship is not just a federal responsibility. All Americans share in the responsibilities of stewardship, just as we all share in the benefits of a sound economy, a secure Nation, and a clean and improving environment.

We believe that, given an opportunity, Americans who value our natural resource heritage will demonstrate a real commitment to protecting those resources.

We have unleashed the power and creativity of the private sector to assist us in our environmental protection efforts. Volunteers in the national parks provide valuable operation and maintenance services -- at no cost to the taxpayers. Many of our parks have identified equipment, facility, and supply needs. With private sector dollars, we are producing gift catalogs for the national parks, detailing such needs and encouraging donations to improve the parks -- again, at no cost to the taxpayers. To help protect valuable resource acreage when federal dollars for acquisition are limited, private citizens and corporations are donating land and dedicating critical resource areas to conservation. Such donations are adding to our park, wildlife refuge, and wetland habitat estate. Private citizens are committing themselves to restoration and rehabilitation of our historic landmarks; last year alone the private sector invested \$1.1 billion in historic preservation projects to take care of those remnants of America's past.

Our theme is stewardship.

Stewardship -- taking care of a natural resource heritage that has made this Nation great.

Stewardship -- managing our natural resources for the benefit of all Americans.

Stewardship -- facing up to the difficult questions and choices, and finding answers that will allow us to have a strong economy and to continue being a Nation of environmentalists.

ENVIRONMENTAL ACCOMPLISHMENTS

National Park Service (NPS)

- 1. Secretary Watt directed the National Park Service to refocus its management activities and bring existing parks up to acceptable standards, in response to a General Accounting Office report citing \$1.6 billion in safety and health hazards for park visitors. Congress approved \$161 million for park health, safety, maintenance, and construction projects for fiscal year 1982, compared to \$87 million requested by the previous Administration. Secretary Watt obtained \$167.5 million for the Park Restoration and Improvement Program.
- 2. Preservation of historic American buildings has been boosted significantly by a 25 percent tax credit for historical rehabilitation provided in the new Economic Recovery Tax Act, a provision recommended and supported by Secretary Watt. Applications for certification of rehabilitation work have expanded from 931 in 1980 to 2,000 projects in 1982 with a total private investment for 1982 of approximately \$902 million. The new investment tax credits became available for projects January 1, 1982.
- 3. Secretary Watt announced the creation of the Golden Access Passport which will allow people who are physically disabled or blind to obtain free entry to National Parks, monuments, historic sites, and recreation areas. They will also receive 50 percent discounts on fees for recreational activities such as camping and boat launching.
- 4. Secretary Watt has repeatedly pledged that National Parks will be protected from mineral exploration and development, and that he such activity will be permitted on any federal lands except as provided by law, with careful environmental protection.
- 5. At Secretary Watt's direction, the National Park Service has entered into contracts with concessioners at Yellowstone and Denali (Mount McKinley, Alaska) National Parks, requiring the concessioners to contribute a significant share of their earnings to permanent improvements for visitors. The improvements will be made under plans developed by the Park Service and will belong to the government.
- 6. Secretary Watt added two National Parks--Olympic National Park in Washington and Mammoth Cave National Park in Kentucky--to the World Preserve.
- 7. Secretary Watt signed a Memorandum of Understanding with the State of Alaska on August 30, 1982, to execute an exchange that would add approximately 14,000 acres of land to Wrangell-St. Elias National Park and Preserve in the Chitina Valley.
 - In 1981, Kurupa Lake on the North Slope of the Brooks Range in northern Alaska was added to Gates of the Arctic National Park under a similar land exchange.

- 8. Secretary Watt pledged protection of the Cape Hatteras Lighthouse from erosion by waves.
- 9. Secretary Watt created a new policy for use of the federal portion of the Land and Water Conservation Fund. This policy advocates the use of alternatives to direct federal purchase of private lands and cooperation with land owners and other state, local and private groups in order to protect those values most critical to the purposes for which an area has been established. Resultant benefits of the new policy are an increase in the protection of essential values and a decrease in the need for appropriated land acquisition funds.
- 10. The Department of the Interior requested assurances from Virginia's Governor and highway officials that noise from the planned Dulles Toll Road will not disturb performances at Wolf Trap Farm Park for the Performing Arts, a part of the National Park System.
- 11. Secretary Watt has designated 14 properties as National Historic Landmarks. They are: The Old Stone Gate of the Chicago Union Stockyards; the John Jay House in Katonah, New York; the Old Waterworks in Bethlehem, Pennsylvania; the Folsom Powerhouse in Folsom, California; the Sloss Blast Furnaces in Birmingham, Alabama; the Meadow Garden-George Walton House, Augusta, Georgia; the Edison Institute, Dearborn, Michigan; the Peavy-Haglin Experimental Concrete Grain Elevator, Minneapolis, Minnesota; the Thorstein Veblen Farmstead, Nerstrand, Minnesota; the Mutual Musicians Association Building, Kansas City, Missouri; the Langstroth Cottage, Oxford, Ohio; the Stan Hywet Hall-Frank A. Seiberling House, Akron, Ohio; the Bear Butte, Sturgis, South Dakota; and the Holly Knoll-Robert R. Moton House, Capahosic, Virginia.
- 12. Secretary Watt secured preservation of important archaeological relics—possibly the oldest evidence of permanent structures in North America—found on privately owned land in the right-of-way of the Windy Gap water project near Grandy, Colorado, by raising over \$90,000 from county and private sources to fund a scientific investigation.
- 13. Secretary Watt has designated the Diamond Craters, a 16,656-acre tract on public lands near Burns, Oregon, as an Outstanding Natural Area, to preserve its unique geologic features and ecosystems.
- 14. Secretary Watt recommended to the President eight additions to the National Wild and Scenic Rivers System. The additions, totalling some 245 miles of rivers, are: the Elk, Conejos, Los Pinos and Piedra Rivers, Colorado; the Clarks Fork of the Yellowstone River and the Snake River, Wyoming; the Vercle River, Arizona; and the Au Sable River, Michigan.
- 15. At the direction of Secretary Watt, the National Park Service published a Nationwide Rivers Inventory which identifies over 1,500 river segments encompassing approximately 62,000 miles of rivers which may qualify for the National Wild and Scenic Rivers System.
- 16. Secretary Watt designated seven areas as National Natural Landmarks. They are: Mt. Diablo State Park, a 13,400-acre site located 31 miles east of Berkeley, California; Cathedral Pines, a 40-acre site located near Cornwall in the Berkshire Hills region of northwestern Connecticut; Rhododendron

Natural Area, a 15-acre portion of the 294-acre Rhododendron State Park located south of Keene in southwestern New Hampshire; Mathers Natural Area, a 241-acre site located 41 miles east of Roswell in southeastern New Mexico; Mexalero Sands South Dune, a 3,208-acre site also located 41 miles east of Roswell; West End Cays, an enlargement to a previously designated natural landmark of the same name which consists of a group of cays off the west coast of St. Thomas Island in the U.S. Virgin Islands; a location to be determined in central Texas which exemplifies the few remaining Edwards Plateau limestone bluff plant communities in the Great Plains natural region.

- 17. Secretary Watt designated 191 National Recreations Trails (NRT), bringing the total number of NRTs in the National Trails system to 715, comprising 7,182 miles. It has also been recommended that Congress designate the Florida Fruit Trail as a National Scenic Trail.
- 18. The National Park Service offered \$5.5 million in Urban Park and Recreation Recovery (UPARR) program supplemental grants for use by 32 cities and counties. The primary purpose of these grants is to help local recreation programs to achieve self-sufficiency by improving management techniques to increase efficiency of facility operations, develop alternative funding, expand volunteer support, and coordinate public and private resources at the local level.
- 19. Secretary Watt approved a \$2,809,500 grant under the National Parks and Recreation Act to the State of New Jersey for the purchase of 7,000 acres of land in the Pinelands National Reserve.
- 20. Secretary Watt denied permission to the State of Georgia for the state to widen U.S. 27 to four lanes where it passes through the Chickamauga and Chattanooga National Military Park in order to preserve and protect the park's natural qualities.
- 21. Secretary Watt initiated a program funded at \$423,000 during fiscal year 1982 for curbing pollution in 23 National Parks. Program accomplishments included studying water and wastewater treatment systems, installing meter equipment to increase efficiency, and modifying systems to protect public health and eliminate hazardous waste material.
- 22. Cahokia Mounds State Historic Site in Illinois has been chosen by the World Heritage Committee for addition to the World Heritage List. Along with Cahokia Mounds, two other nominations have been submitted: Great Smoky Mountains National Park in North Carolina-Tennessee, and the San Juan National Historic Site in Puerto Rico.
- 23. Secretary Watt designated six properties as National Historic Landmarks. They are: Louisiana State Capitol, Baton Rouge; Shreveport Waterworks Pumping Station; Fort Hancock and Sandy Hook Proving Ground Historic District, Sandy Hook, New Jersey; Potomac Canal Historic District, Great Falls Park, Virginia; and the American Legation, Tangier, Morocco.
- 24. Restoration work on the Statue of Liberty will begin in late 1983 so that the task will be completed by July 1986 in time for the one-hundredth birthday of the statue. Ellis Island will also undergo renovation. The NPS hopes to complete this \$200 million project with virtually no federal financing. The

Statue of Liberty-Ellis Island Centennial Commission is coordinating efforts to raise funds among many groups and individuals in this public-private initiative.

- 25. A federal coordinating committee was established to encourage federal agency conformance with the provisions and policies of the Comprehensive Management Plan (CMP) for the Pinelands National Reserve in southern New Jersey. The Pinelands are managed by a partnership of federal, state, and local units of government through the Pinelands Commission.
- 26. The NPS sponsored a research program under the auspices of the Interagency Task Force on Acid Precipitation to assess potential effects of acid rain on historic structures and monuments and to recommend protective, appropriate strategies.

Fish and Wildlife Service (FWS)

- 1. Secretary Watt asked the Migratory Bird Conservation Commission to focus attention on continued funding for preserving wetland habitat for ducks, geese, and other migratory birds.
- 2. Secretary Watt established a special task force known as POWDR (Protect Our Wetland and Duck Resources), made up of state, private, and corporation officials, to lead an effort to encourage owners to donate their wetlands to private groups or state or federal agencies that will conserve them as permanent wildlife habitat.
- 3. Secretary Watt purchased 7,282 acres of wildlife habitat through the Land and Water Conservation Fund. These acquisitions include 2,309 acres of habitat at San Bernadino National Wildlife Refuge, Arizona, for the endangered Yaqui topminnow; 577 acres of roosting habitat for the highly endangered California condor; and 24 acres for the American crocodile at Crocodile Lake National Wildlife Refuge, Florida. Additions were made to a number of other National Wildlife Refuges, including Alaska Maritime, Alaska; Bogue Chitto on the Mississippi-Louisiana border; Bon Secour on Alabama's Gulf Coast; Great Dismal Swamp in Virginia; Great White Heron in the Florida Keys; Hart Mountain in Oregon; Rio Grande Valley in Texas; San Francisco Bay in California; and Treustom Pond in Rhode Island.

Secretary Watt purchased approximately 80,000 acres of wetland habitat for migratory birds. These acquisitions were funded largely by the sale of Migratory Bird Hunting and Conservation Stamps.

- 4. Secretary Watt has proposed that 188 areas along the Atlantic and Gulf Coasts be designated as undeveloped coastal barriers. If there are no substantive or overriding reasons for change, the 188 areas will be made final in late November of 1982 after a 90-day public review period. Designation of these lands will prevent landowners in the identified areas from purchasing new federally subsidized flood insurance after October 1, 1983. This action will transfer some of the high risk of development in these hazardous areas from the American taxpayer to the private sector.
- 5. Secretary Watt worked closely with Congress to draft legislation to extend the Endangered Species Act and improve its administration.

- 6. Secretary Watt gave his full support to a "recovery plan" enlisting both public and private resources to save the endangered California condor from extinction.
- 7. Secretary Watt completed recovery plans for 20 endangered or threatened species, increasing by 45 percent the number of plans completed since the beginning of the Endangered Species program. In addition, the number of plans which have been approved or are under review has increased by more than 225 percent.
- 8. Under an emergency rule, the Fish and Wildlife Service listed two Nevada fish--the Ash Meadow amargosa pupfish and the Ash Meadow speckled dace--as endangered species. The emergency listing, invoked only once before by the Department, was necessary to protect the habitat of the fish from destruction due to private land development activities.
- 9. Secretary Watt directed that greater protection be given to the endangered humpback whales in their summering ground in Glacier Bay, Alaska.
 - He also successfully recommended to the President the appointment of noted conservationist Tom Garrett to the post of U.S. Deputy Commissioner to the International Whaling Commission.
- 10. Secretary Watt supported amendments to the Lacey Act increasing penalties for illegal trafficking in fish and wildlife to a maximum \$20,000 fine or five years imprisonment per violation. The amendments were enacted in November 1981.
- 11. FWS successfully prosecuted 93 subjects who have been fined a total of \$140,000 as a result of the 1981 reptile "sting" operation to halt illegal trafficking in wildlife products. The government has not lost a single case in the undercover investigation of a multi-million-dollar black market in thousands of protected reptiles.
- 12. Federal and state wildlife law enforcement officials concluded an undercover investigation which revealed black market activities involving chinook and coho salmon and steelhead trout from the Klamath River in California where spawning runs are critically low.
- 13. Secretary Watt has approved apportionment of \$107 million in federal aid to the 50 States, Puerto Rico, Guam, American Samoa, the Virgin Islands, and the Northern Marianas for sport fish and wildlife restoration and hunter safety programs.
- 14. Secretary Watt brought the State of Michigan and Michigan Indian Tribes to the negotiating table in May 1981 to settle disputed fishing rights and to protect the Great Lakes fishery resource. In May 1982, the Secretary proposed a comprehensive settlement plan which is designed to: (1) protect the fishery resource; (2) protect Michigan's sport-fishing; (3) protect Indian treaty rights. The plan, which was favorably received by the state and the tribes, is the centerpiece of current negotiations.
- 15. Secretary Watt rejected a proposal to open two additional miles of beach within the Chincoteague National Wildlife Refuge to off-road vehicles.

- 16. Secretary Watt has proposed a budget for fiscal year 1983 for the National Fish Hatchery System which will provide a 28 percent increase in funding for operation and maintenance—one of the largest increases in the history of the program—for hatcheries remaining in the system.
- 17. In fiscal year 1982, Secretary Watt approved the purchase of 445 private inholdings from willing sellers of 72,450 acres in 42 areas in 26 states. In 1981, we approved purchase of 14 private inholdings of 947 acres in 3 areas in 3 states.
- 18. In fiscal year 1982, Secretary Watt apportioned nearly \$147 million in federal aid funds to the 50 states for fish and wildlife restoration and improvement projects, and hunter safety education programs, compared to \$114 million in fiscal year 1981. Three states—Kansas, Colorado, and Wyoming—began operating their grant programs with less federal overview under long-range comprehensive resource management plans.
- 19. FWS completed and distributed a National Waterfowl Management Plan that sets goals and objectives for cooperative state-federal actions to conserve healthy waterfowl populations.
- 20. FWS completed studies to determine the role of contaminants in the decline of Chesapeake Bay populations of striped bass; also completed a two-year study of the economic importance of striped bass to the recreational and commercial fisheries of the North Atlantic that will aid in restoration efforts by the states.
- 21. FWS intends to create a California Islands Wildlife Sanctuary comprising several thousand rocks, pinnacles and other small islands strung along 1,000 or more miles of the Pacific Coast. The islands, already federally owned, total about 1,000 acres in size, and are important to a wide variety of birds and mammals.
 - Interior's proposal, subject to environmental assessment studies and public review, is to create the sanctuary through a new withdrawal order that specifically protects the wildlife values from other potentially harmful uses.
- 22. Four condors have been captured under the California Condor Recovery Plan of the U.S. Fish and Wildlife Service. Two of the birds have been radiotagged and one has been placed in the L.A. Zoo for breeding. The Service removed a nestling to the San Diego Zoo for rearing and breeding purposes.
- 23. The DuPont Company presented the U.S. Fish and Wildlife Service with a 3-year, \$150,000 grant to expand bald eagle captive-breeding efforts at the Patuxent Wildlife Research Center, Maryland.
- 24. Initiated by the U.S. Fish and Wildlife Service, Accelerated Refuge Maintenance and Management (ARMM) is a major restoration effort for the National Refuge System. Deteriorating facilities have created a \$45 million

backlog in maintenance and rehabilitation of roads, public-use facilities, and wildlife habitat. ARMM will provide for more effective management of wildlife populations and will allow for better services to the visiting public.

Bureau of Land Management (BLM)

1. Secretary Watt approved the Bureau of Land Management's comprehensive multi-use plan for the California Desert Conservation Area (CDCA) and a charter for BLM's new California Desert District Multiple-Use Advisory Council.

The CDCA plan provides for the use and protection of 12 million acres of public lands administered by BLM within the 25-million-acre California Desert Conservation Area, which includes about one-fourth of the state. It permits development where appropriate, while at the same time, protects unique public values. The uses and values include mining, energy minerals, livestock grazing, biological, cultural, educational, recreational, scenic and scientific resources.

- 2. Secretary Watt has initiated major policy improvements in rangeland management to bring about cost savings, to allow for more involvement by the rangeland user and to increase production of forage in high-potential areas. The changes will benefit the total rangeland system by providing planned, long-term management of the habitat for all grazing animals, as well as other wildlife, and watershed protection.
- 3. Secretary Watt also expanded the Nation's Wilderness System through a three-party exchange--Bureau of Land Management, U.S. Forest Service, and city of Albuquerque, New Mexico--resulting in an addition of 7,025 acres to the Cibola National Forest, of which 6,257 acres will be added to the proposed Sandia Mountain Wilderness Addition.
- 4. BLM completed wilderness studies for 35 percent of the 928 Bureau of Land Management wilderness study areas. In 1981 and 1982, studies were completed on approximately 2.3 million acres. Under the accelerated wilderness study schedule initiated by Secretary Watt, 86 percent of the acreage will have been studied by October 1984. The total acreage in BLM wilderness study areas is 24 million.
- 5. Final regulations on coal management, exploration and mining operations were announced on July 30, 1982, by Secretary Watt. The final rules streamline the process for offering publicly owned coal lands for lease while maintaining strict environmental controls. The rules are designed to reduce confusion for coal operators as well as giving the Interior Department additional latitude in implementing the program.

Under the new regulations state Governors will have a more significant role in establishing Interior's coal leasing levels. Governors will recommend

directly to the Secretary the leasing levels they believe to be in the best interests of their states. The regulations also provide that the Secretary, when setting the final coal leasing levels, will consult with Governors of the states involved and at the time will discuss and resolve any differences.

- 6. Wilderness studies have been completed for 29 percent of BLM wilderness study areas. Under the accelerated study schedule, about 90 percent will be concluded by October 1984.
- 7. Secretary Watt recommended to the President three additions to the National Wilderness Preservation System. The additions are: the Spruce Creek addition to the Hunter-Fryingpan Wilderness, Colorado; the Paddy Creek area, Missouri; and the Aravaipa Canyon Primitive Area, Arizona.
- 8. BLM has designated 97 separate areas in 6 states as Areas of Critical Environmental Concern. The state breakdown is:

California	77
Idaho	3
New Mexico	1
Oregon	3
Utah	3
Wyoming	10

- 9. Two National Recreation Trails were designated to protect and to enhance their recreation values. The areas are Mineral Ridge in Idaho and Coalinga Mineral Springs in California.
- 10. Seven new research natural areas were designated by Secretary Watt. They are: North Carolina Range Preserve, Brewer Spruce Expansion in Oregon, Beatty Creek in Oregon, Silver Creek in Oregon, Myrtle Island in Oregon, Woodcock Bog in Oregon, and Mathers in New Mexico.
- 11. Secretary Watt rejected the applications of four mineral companies for preference right leases to mine phosphate in 52,000 acres of the Osceola National Forest in Florida.

The Secretary refused the applications due to recent environmental studies which show that there exists no current technology to ensure a reasonable liklihood of the successful reclamation of the mined areas. The U.S. Forest Service, which manages the land surface, has stipulated that lessees in the Osceola must restore the capability to the lands mined to fulfill the primary purpose for which the lands were acquired or are being administered.

Bureau of Reclamation and Other Water Projects

- Secretary Watt discontinued a study begun in 1977 of the feasibility of increasing hydroelectric peaking power at Glen Canyon Dam on the Colorado River. The Secretary said rapid changes in the level of the river could damage the environment within Grand Canyon National Park, downstream from the dam, and impair river boat and raft trips enjoyed by thousands last year.
- 2. Secretary Watt voiced strong opposition to the Council on Environmental Quality concerning the Dickey-Lincoln School Lakes Project in Maine, because of adverse impacts on recreation, wildlife habitat and other environment-related values. Noting his opposition, Congress deauthorized the Dickey Dam portion of the project since it posed the greatest environmental threat. The Army Corps of Engineers is currently examining the Lincoln School Lakes proposal as a "run of the river" power generating plant.
- 3. Secretary Watt endorsed an alternative to Orme Dam as a key Central Arizona Project feature, pending the outcome of environmental studies. The Watt alternative would avert major flooding of the Fort McDowell Indian Reservation and other environmental disruptions.
- 4. The California Department of Water Resources and the Bureau of Reclamation signed a Coordinating Operating Agreement to protect water quality in the Sacramento-San Joaquin Delta.
- 5. A cooperative effort was started with the State of Washington to study methods of restoring anadromous fish (such as salmon) to the Columbia and Yakima River systems.
- 6. The Bureau of Reclamation coordinated releases of water from Palisades Dam (Idaho) to safeguard goose nesting areas along the Snake River. It also organized releases from Island Park Dam (Idaho) to protect trumpeter swan habitat along Henry's Fork.
- 7. Certain transformers and capacitors operating at Grand Coulee Dam contained PCB chemicals in the cooling fluids. Reclamation removed the faulty equipment and installed new equipment which utilizes air-coolers or mineral oil coolants containing no PCB.
- 8. The Bureau of Reclamation provided habitat for the bald eagle at the Altus Reservoir in Texas, at the Mountain Park Reservoir in Oklahoma, and at Lake Meredith also in Texas.

Office of Surface Mining

1. The Office of Surface Mining launched a joint Federal-State program to crack down on wildcat coal operations in eastern Kentucky and Tennessee.