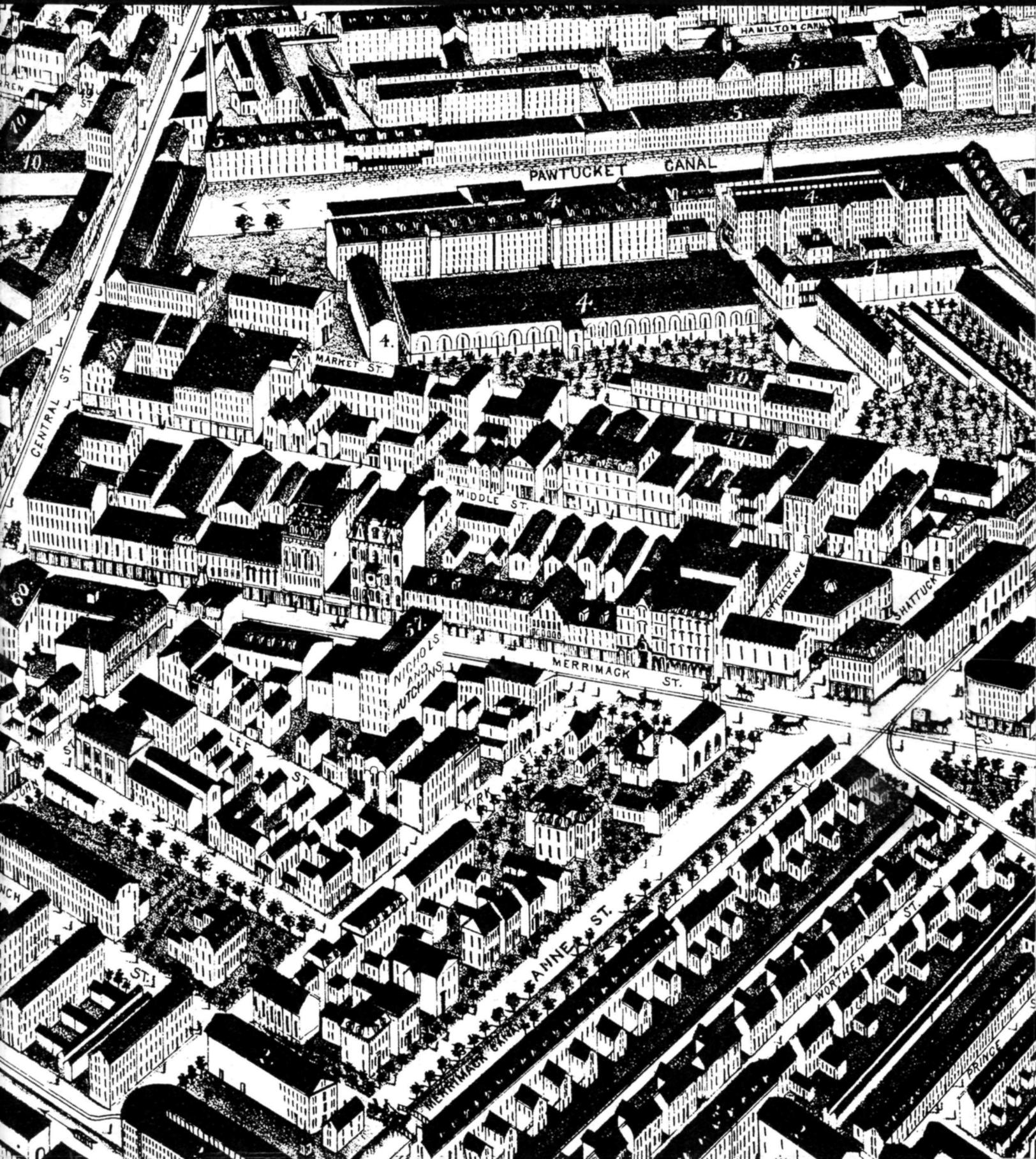


National Parks & Conservation Magazine

The Environmental Journal January 1980



Landfall at UNCLOS

AT LONG LAST, after a rough voyage, which has lasted already more than a dozen years, the United Nations Conference on the Law of the Sea (UNCLOS) may be drawing closer to success.

First proposed to the United Nations General Assembly by Ambassador Arvid Pardo in 1967, furthered by proposals of the United States in the summer of 1970, endorsed officially by the General Assembly in December 1970, the sessions have involved about 150 nations in complex negotiations on issues of great importance to world peace and prosperity, and for the global environment.

ALONE AMONG conservation organizations in the United States (or elsewhere, for that matter) the National Parks and Conservation Association endorsed this project in August 1970 and has participated in the work actively for nearly a decade.

The precipitating issues included unilateral extensions of territorial seas from 3 miles to 12 or even 200. Navigation, both commercial and military, coastal and through straits, was threatened. Vital food resources in the ocean fisheries were being appropriated. Pollution was spreading globally. And unrestrained competition was beginning among the nations for the mineral resources of the deep seabed.

Participating at first as a member of the Advisory Committee to the Secretary of State and later as a member of the official U.S. Delegation, I focused as time went on upon protection for the living resources, including fisheries and the cetaceans, on oceanic pollution, and on the enforcement of international standards and regulations in these matters by the binding dispute-settlement process. A very small group of American conservationists have been carrying the main burden. We have been reasonably successful.

CONSERVATIONISTS around the world should now solidify their ranks in support of the texts which emerged in New York on marine mammals (Article 65) and the Legal, Technical, and Environmental Commission (Article 165) for inclusion in the next revision of the Negotiating Text in 1980.

Our most important success in 1979 was the revision of Article 65 on marine mammals. For several years the Negotiating Texts have given *sovereign rights* for the exploitation of the living resources of the 200-mile economic zone, including fisheries and marine mammals, to the coastal states. They have also established standards, however, to ensure that these resources were not endangered by over-exploitation. The first sentence of Article 65, however, wiped out this protection for marine mammals by giving coastal states unrestricted authority to regulate their exploitation without standards.

The first obligation we had as conservationists was to eliminate this ripper clause and get the coastal states back into the same restraints in respect to marine mammals as they were in respect to fisheries. For a long time it was difficult to mobilize the necessary consensus among conservationists concerned with whales and other cetaceans; their intention was mistakenly focused on other issues. But last summer we were at long last successful in the sense that a revised text will be placed before the New York session next March without objection; it is given a good chance of formal approval if discussions are not plunged into chaos by irrelevant interventions.

THE SAME ARTICLE contains a second sentence looking toward the cooperation of states with a view to protection and management of marine mammals. It was hoped by some that this provision would be strengthened in such manner as to require the participation of states in a single international organization for the protection of cetaceans. This was never a viable hope, and diplomatic experience has shown it to be unattainable.

The text developed last summer is an improvement over the previous text in this second sentence; it is not perfect, but the revised article will be adopted as a whole or not at all. Conservationists, particularly the defenders of the whales, should accept the new version and work for its approval as it is, lest they endanger the new first sentence which eliminates the ripper clause.

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COVERS "A Bird's Eye View of Lowell, Mass.," 1876, detail. *Rivers and canals furnished the water power that for a century made Lowell a major industrial center. Now the city is being revitalized by means of an innovative new national historical park commemorating the social and economic changes brought about by the Industrial Revolution. (See page 4.)*

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by LEWIS T. KARABATSOS

The city that helped launch our Industrial Revolution is starting a new life as an unprecedented kind of national historical park

LOWELL WAS conceived on a November day in 1821 as a small group of men strolled along the bank of the Merrimack River in the community of East Chelmsford, Massachusetts. They were discussing, not the scenic beauties of the site, but the potential power of the river and its Pawtucket Falls. They had made the thirty-mile trip north from Boston in search of a reliable source of water power for a new industrial enterprise. Their trip led to a decision that was destined to transform American life.

Some of the men who visited Chelmsford had been partners in the Boston Manufacturing Company, which in 1815 had launched an extremely successful industrial experiment of the Charles River in Waltham, Massachusetts. Using Francis Cabot Lowell's improvements on the English power loom and his ideas of corporate paternalism, the Waltham experiment established the nation's first fully integrated cotton mill, combining

within one building all the processes necessary to transform raw cotton into cloth. Not only was the enterprise financially successful, it also proved Francis Lowell's theory that the proper conditions—good salaries, supervised company housing, acceptable social environment—would attract the necessary labor to an industrial center.

After Lowell's death in 1817 his partners, now known as the "Boston Associates," expanded the business until the sluggish Charles River could no longer provide the power necessary to meet the increasing demand for printed calico cloth. Thus began the search for a new source of power that ended in East Chelmsford.

The location was ideal for their purposes. With its natural land drop of thirty feet beginning at the falls, and its situation at the confluence of the Merrimack and Concord rivers, the site would provide both abundant water power and cheap river transport.

The rapid success of the new textile industry transformed the once-agricultural village. By 1826 it had attracted enough people—approximately 2,000—to become the town of Lowell, appropriately named after the initiator of the Waltham experiment. In 1836 Lowell was incorporated as a city, with a population of almost 20,000. By 1850, it was one of the largest cities in Massachusetts.

Combining the utopian social concepts and the acute business instincts of Boston merchant Lowell, the so-called "Lowell System" introduced radical new practices—corporate organization and management, mass production processes, paternalistic labor and social policies, and the employment of women in the mills—that were to attract worldwide interest and make Lowell a model for all the New England mill towns that followed.

After Lowell, life in the United States would never be the same. From then on, men and women

would leave their farms and families in ever-increasing numbers to work in cities like Lowell; to submit their lives to the tyranny of time tables and factory bells; to become essential but interchangeable parts in the mighty new machine of industrial progress.

THE BASIS OF Lowell's revolutionary technology was the so-called power canal, which harnessed the power inherent in the 30-foot drop in elevation at East Chelmsford. Water from the Merrimack River was channeled into a series of canals that maintained the water level at the height of the river above Pawtucket Falls. Water from the power canals was then fed through the textile mills, generating enough power in the process to drive the machines. By 1848 Lowell boasted a highly sophisticated system of eight power canals, totaling 5.5 miles in length and powering ten major mill complexes.

Each of Lowell's mill complexes

housed a complete production process in a single building—typically of red brick, five stories high, with a double-pitched slate roof. Smaller buildings nearby provided storage and housing for processes too dangerous for the main mill building. Each floor of the main building was occupied by a different cotton-manufacturing process, from cleaning, spinning, and weaving, to printing and dyeing. Wage scales were determined by the level of skill necessary for each individual process. Wherever possible, machines replaced hand labor, thus greatly increasing productivity and lowering costs.

IN THESE EARLY developmental years Lowell's corporations took advantage of a hitherto untapped source of labor—young single women from surrounding New England farms. For most of them, the new industrial center offered the first opportunity to leave the farm and experience the benefits of city life. Sending recruiters

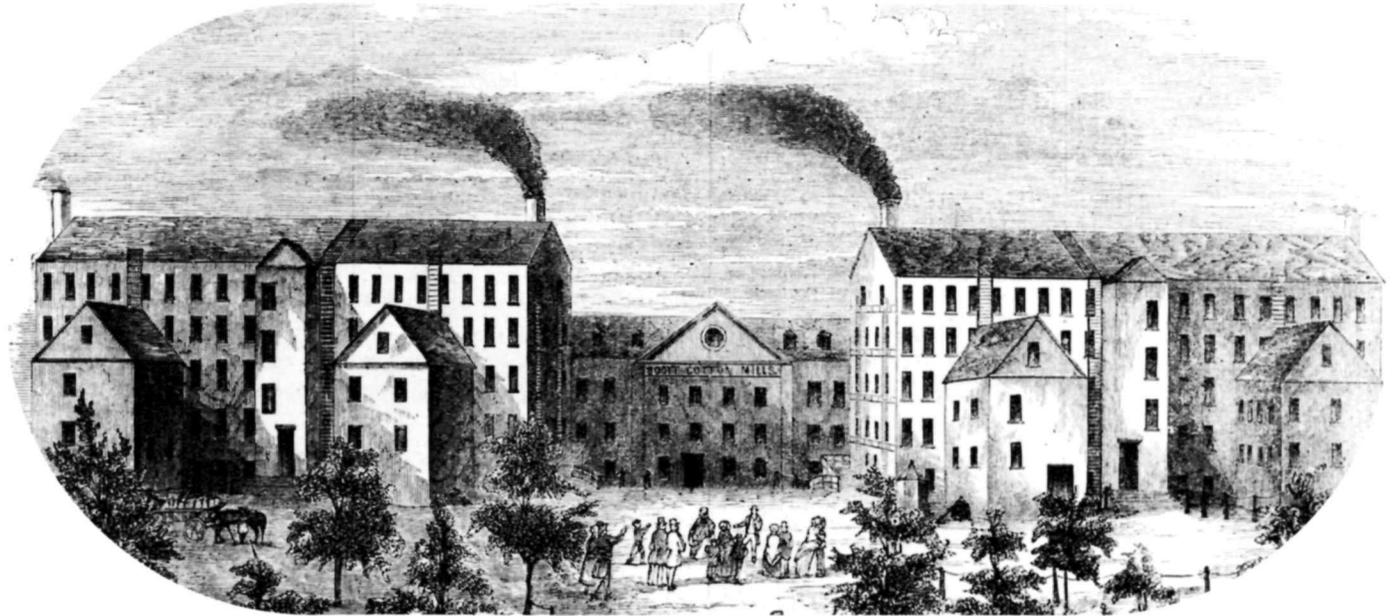
into the countryside, the textile companies readily filled their mills with eager, energetic "female operatives," some seeking personal independence, others money for dowries or family expenses.

To reassure parents who often were reluctant to allow their daughters to leave home without proper supervision, the companies instituted regulations designed to protect the physical well-being and moral character of the women while they lived and worked in Lowell. These rules included mandatory church attendance, ten o'clock evening curfews, and warnings against "improper conduct." In addition, the "nuns of Lowell"—so called by French economist Michel Chevalier to whom their sober bonnets suggested nuns' veils—lived in company-owned boarding houses, supervised by house matrons, usually sharing a room with one to seven other women.

Their days were dominated by



The Company will not employ any one who is habitually absent from public worship on the Sabbath, or whose habits are not regular and correct.



the relentless clanging of the factory bells and the thunder of the looms. Awakened by a bell at 5 a.m., "factory girls" worked until 7 p.m. six days a week, averaging twelve to fifteen hours a day. Bells announced the beginning and end of the work day, the opening and closing of the mill gates, the moment to commence and stop work, the start and finish of the midday dinner break.

Except for the half-hour dinner break, the deafening roar of the looms never ceased, for on no account could the women leave their machines without permission and without someone to take their places. An untended machine could mean a broken thread or a like catastrophe that could cause expensive delays in production.

Depending on what their jobs were at the mill, the women earned from \$2.25 to \$4.00 per week, out of which they paid about \$1.25 weekly for board and lodging.

Leisure time, limited to be sure,

was directed to reading, visiting, evening classes, and lecture series at which such luminaries as Ralph Waldo Emerson and John Greenleaf Whittier spoke. Out of these social and cultural "Improvement Circles," grew the *Lowell Offering*, a publication written and edited by Lowell's "factory girls." A collection of poetry, prose, and Lowell-related articles, the magazine became internationally famous, drawing the attention of such nineteenth century notables as Charles Dickens.

Dickens visited Lowell during his first trip to the United States in 1842. For him, and for hundreds of other European travelers of the period, a stop at Lowell was a must. Accustomed to the fearful squalor and human degradation that had blighted European cities in the wake of the Industrial Revolution, they flocked to see this clean, orderly, new American city that was also the nation's largest producer of cotton cloth. At Lowell writers, economists, and

social reformers like Dickens, Chevalier, and Harriet Martineau found proof—for a time—that a society could be industrialized without being brutalized.

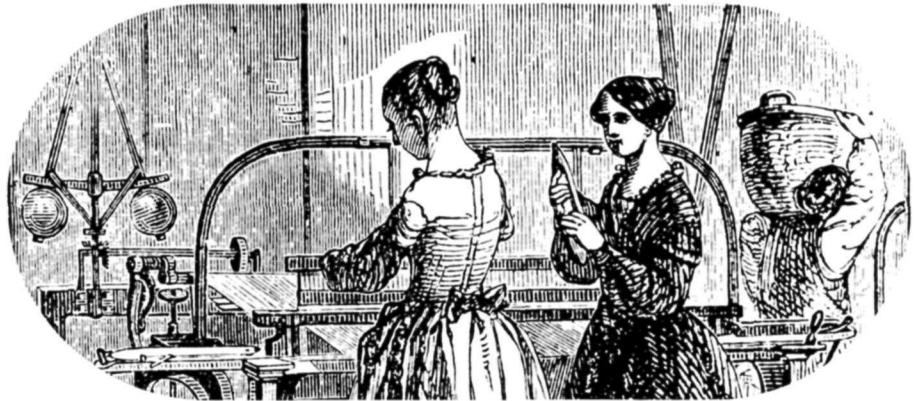
Within a decade of Lowell's founding, however, the corporations' attempt at a paternalistic system had begun to deteriorate. The women's growing dissatisfaction with low wages and long working hours made the 1830s and 1840s a time of "turn outs" or strikes, agitation, and efforts to organize the workers. Although none of these early attempts to change conditions in the mills was successful, the seeds of discontent had been planted; eventually they led to the end of the Yankee "mill girl" as the main source of labor for Lowell's mills.

LABOR TROUBLES were just one aspect of the change in Lowell's work force. As New England's women became disenchanting with their working conditions, their places were gradually



B E L L S .

Morning Bells.	Dinner Bells.
First Bell,.....4.30 A. M.	Ring Out,.....12.00 M.
Second Bell,.....5.30 A. M.	Ring in,.....12.35 P. M.
Third Bell,.....6.30 A. M.	
Evening Bells.	
Ring Out,.....6.30 P. M.....Except on Saturday Evenings.	
SATURDAY EVENING BELL, 5 P. M.	



being filled by newly arrived European immigrants. As early as the 1830s Lowell's successful textile industry had begun to attract both skilled textile workers from Great Britain and unskilled laborers from Ireland, heralding a shift from "Yankee town" to "immigrant city." By the close of the 1840s fresh waves of Irish immigrants arrived after the potato famine of the 1840s in Ireland. Because their desperate need for work stifled any discussion of wage scales, the immigrants could be hired for less than the women had received—a lucrative development for the textile corporations.

Later, after the Civil War, agricultural problems in Canada forced many French-Canadians to move south to the United States and to Lowell, in search of employment. Other nationalities followed in the 1890s, as Portuguese, Polish, Greek, and Jewish immigrants poured into the city. Separated by language, customs, and beliefs, each group developed its

own self-sufficient community. By the turn of the century it was clear that Lowell had become a "City of Nations," but this rich cultural diversity sometimes led to mistrust and hostility among the ethnic communities.

Thus, although labor unrest continued, rivalries between ethnic groups stemming largely from competition for jobs tended to divide the workers and retard unionization. In addition, management met any attempts at union organization or labor agitation by "locking out," or by replacing disaffected workers with the newest immigrants. In 1903, for example, the corporations broke a strike by Irish and French-Canadian workers by replacing them with recent Greek immigrants. A few years later an attempt by the International Workers of the World (I.W.W.) to organize Lowell's labor force after the bloody Lawrence, Massachusetts, strike of 1912 came to naught. For once solidly behind a city-wide strike for more

pay and better working conditions, Lowell's workers won all their demands without resorting to the violence that had wracked Lawrence.

LOWELL PROSPERED for a century, reaching its peak during the first World War. Then decline set in. The mills' conservative management, century-old plants, and antiquated machinery were no match for the more advanced steam-powered technology and low taxes of the newly industrialized southern states. One by one, Lowell's textile companies either moved south, sold out to other businesses, or shut down completely, leaving the city to economic decay. By 1940, only three of the original companies remained; and the last of these had disappeared forever by 1966, when the boarding houses of the Merrimack Company—Lowell's first and largest mill—were razed. The city had become an industrial void.

Lowell reached the peak of its prosperity at the time of the first World War. By then European immigrants like the Greek coffee house patrons photographed below in 1914, and Appleton Mill worker Della Braga, posed in front of her spinning machine at right, had replaced the Yankee "factory girls" of the nineteenth century. Large numbers of women still worked in the mills, however, as is obvious from the photograph at far right of Appleton Mill weavers of 1913. Proof that life in Lowell was not all work are the cyclists photographed at center, below. By the turn of the century this new craze had supplanted the sedate walks of an earlier day as a leisure time activity.



NOW LOWELL IS coming to life again, under the aegis of newly created Lowell National Historical Park. Established in 1978, the park will commemorate for the first time in the National Park System the significance of the Industrial Revolution in shaping the urban industrial society in which we live today.

Fortunately, much of the nineteenth century industrial city remains intact—including the entire power canal system, seven of the ten original mill complexes, some of the early boarding houses, businesses, and churches, as well as ethnic neighborhoods reflecting the influx of immigrants from mid-century on. A great deal of it will be encompassed by the park, either as part of a broad, overall preservation zone or a smaller historic core area.

Using canal trips, river walks, restored buildings, interpretive exhibits, and the resources of the Lowell Museum housed in the city's last operating shuttle-loom

mill building, the park will portray the lives of ordinary working people in a period of revolutionary economic and social change.

Fittingly enough, the city that was once synonymous with industrial innovation is being revitalized by an innovation in park planning. For along with the new park, an exciting, new, three-level cooperative venture in national park management has been launched. In an arrangement that has no precedent in the National Park System, it involves federal, state, and local agencies in planning, development, and historic preservation for the new park.

To ensure that adaptations of historic structures, as well as any new development, will be compatible with Lowell's nineteenth century architecture, the Secretary of the Interior has established the Lowell Historic Preservation Commission. Consisting of federal, state, and local representatives, the commission will offer guidelines for builders and renovators.



Working with the commission in an arrangement unique to Lowell, the Park Service will assist in restoring and maintaining some historic sites, and will advise on the appropriate reuse and restoration of still others.

The Park Service itself will develop and operate key interpretive sites in downtown Lowell, including the Lowell Manufacturing Company, which will become the park's visitor center; the Old City Hall, which will be used to inter-

pret some of the political and social trends of the period; a representative mill agent's house; a canal gatehouse, where the technology of the power canals can be demonstrated; and the still-operating Wannalancit Textile Company, where visitors can experience a mill in action. A canal barge trip and a walk along the river are already a part of the Park Service's guided tour of historic Lowell.

For its part, the state of Massa-

chusetts is expected to focus on the theme of hydropower. By means of Lowell Heritage State Park, now being developed, the state will be responsible for preservation and recreational planning for the canals and river banks.

Local agencies and business interests will concentrate on attracting private investors to develop compatible uses for the empty mills and other buildings in the historic area. To foster community awareness of and involvement in the city's revival, Massachusetts Senator Paul Tsongas—who played a vital role in the establishment of the park—and Lowell's Mayor Joseph Tully have recently launched the "Lowell Plan." The plan is designed to arouse local interest in the projected 1981 Lowell Festival as well as to generate new private development projects to be completed in time for the festival.

June 1979 marked the end of Lowell's first year as a national park—a park made possible by the efforts of concerned individuals

and all levels of government. Everyone involved in Lowell's rebirth is optimistic that this truly national historic resource can now look forward to a long and successful new life as Lowell National Historical Park. ■

A native of Lowell, Lewis Karabatsos has an abiding interest in the city's history. All four of his grandparents immigrated to Lowell from Greece shortly after the turn of the century and three of them worked in its mills. After serving two years as Director of the Lowell Museum, Karabatsos is now associated with the Wannalancit Textile Company, helping to work out details of the mill's role in the new park. He is also president of the Lowell Historical Society.



All illustrations are courtesy of the Lowell Historical Society except the Greek coffee house photo, which is used by courtesy of Mr. & Mrs. C. Koumoutseas of Lowell.

by DELPHINE HALEY

After an eleven-year struggle,
the future looks brighter
for an endangered species

“Nursemaids” are saving the Puerto Rican parrot



LUQUILLO FOREST, BY HELEN SNYDER



FEMALE PUERTO RICAN PARROT AT NEST CAVITY, BY HELEN SNYDER

Intensive efforts by a succession of scientists seem to have found the right combination of techniques to save the endangered Puerto Rican parrot from extinction—at least for the time being. These efforts included an aviary and incubator in their living room; hourly feeding of newborn parrots; and slogging through rugged jungle before dawn over muddy, root-choked trails to observe parrots all day until after the sun set.

IN LATE AFTERNOON tourists at the Visitor's Center of Puerto Rico's Caribbean National Forest sometimes see a small flock of birds winging across the treetops. More often they hear their bugle-like flight calls in the distance. The birds don't attract much attention otherwise; they seem to be merely small green parrots, scarcely visible against the forest canopy except for a shimmer of brilliant blue from their outspread wings. Visitors don't usually realize that this small flock represents a large percentage of one of the rarest and most endangered species of bird in the world—the Puerto Rican parrot. With a population as low as thirteen in the wild in 1975, the parrot is now making a tenuous comeback after eleven years of intensive management.

THE PUERTO RICAN parrot (*Amazona vittata*) was once widespread throughout Puerto Rico and three nearby islands—Culebra, Mona, and Vieques. With the cutting and burning of the original forests for charcoal, honey, and human space around the turn of the century, the parrot's nesting trees were destroyed. As the forest disappeared, the parrot's habitat was reduced until by 1940 it lived only in the mountainous area called Luquillo in eastern Puerto Rico. Within this

tangled tropical woodland—officially called the Caribbean National Forest, a bird sanctuary, and the only tropical rain forest among U.S. Forest Service lands—the parrot fed on fruits of the sierra palm and the tabonuco and nested in the cavities of the giant palo Colorado tree.

Yet even in this refuge the parrot still did not thrive. (Scientists have speculated that Luquillo Forest is a last resort rather than an optimal habitat for this species.) A study conducted by the Commonwealth in 1953–55 established the population at about two hundred—a mere remnant of the thousands of parrots that were said to exist in the 1930s. Between 1955 and 1966, the population mysteriously plummeted to seventy, and two years later, to an alarming twenty-four.

In 1968, largely in response to the efforts of Frank Wadsworth, director of the U.S. Forest Service Institute of Tropical Forestry and long-time champion of the parrot, the U.S. Forest Service—in cooperation with the Endangered Species Program of the U.S. Department of Interior, the World Wildlife Fund, and the Commonwealth of Puerto Rico—began intensive research and management to head off the parrot's extinction.

More than habitat loss had contributed to the parrot's decline over the years. Hurricanes in 1928

and 1932 destroyed many good nesting trees in Luquillo, leaving behind trees with cavities either too shallow, too deep, or too damp for egg and chick survival. Local people took nestlings for pets or to sell, and hunters shot adult birds illegally during the 1960s. Also during this time—when about seven-eighths of the parrots disappeared—the forest was disturbed by an Atomic Energy Commission test to determine effects of radiation on a rain forest and by military maneuvers in which helicopter-borne troops crisscrossed the main parrot breeding area during breeding season.

Predators—rats, parasitic flies, and a dense concentration of red-tailed hawks—also took their toll. Honeybees competed for nest cavities. Most destructive, though, was predation by the pearly-eyed thrasher, an aggressive bird that takes both parrot eggs and chicks. A relative newcomer to the forest, the thrasher increased during the 1950s. Compounding its negative impact, it also competed for nest cavities.

Observing and caring for parrots became a way of life for three biologists—Cameron Kepler, Noel Snyder, and James Wiley—who have served at Luquillo over the past eleven years. And it has not been easy. Luquillo's 44 square miles are rugged—etched by streams, gullies, and canyons and



NEST SITE OF PUERTO RICAN PARROT, BY HELEN SNYDER

drenched by two hundred inches of rain a year. Trails are choked by roots, vines, and mud.

Carrying a day's supply of food and water, researchers hike into the forest before sunrise during parrot breeding season; they do not leave until after sunset in order not to disturb the parrots. Throughout the day, they keep a constant watch on the nests from blinds nearby. Lookout platforms atop the trees at 30- to 60-foot levels enable the more agile observers to locate new nests and to count the small flocks as they traverse the forest canopy at dawn and dusk.

At the beginning of the project in 1968, it took Cam Kepler six weeks to locate the first parrots. Although the foot-high parrots have a bright red forehead and a conspicuous white eye ring and show brilliant blue secondary feathers when their wings are spread, their emerald color camouflages them well among the forest foliage. Often the birds were located by their loud calls.

Kepler observed that immature and adult parrots of both sexes look alike and that the parrots are seen in pairs or small family flocks, rarely alone, in the wild. Prior to egg laying in February the adults select a nesting cavity, often one that faces south for protection from wind and rain. An average of three eggs are laid, and about 26 days later, the young parrots hatch. They are nearly naked, with eyes closed and limbs feeble. Only the beak is well formed and instantly open for feeding. If all goes well, the chicks fledge in about two months. They try to remain near their parents for the rest of the year; in the next season, they are actively displaced. The youngsters then stay around the fringes of breeding areas until, at

three or four years, they establish territories of their own.

The first year's work revealed that only one nest out of five was fledging young. The rest were failing because of a lack of suitable nest sites, and because of predation by the pearly-eyed thrasher. With this low success rate, and only fifteen parrots in the wild in 1971, a captive breeding program became necessary. This program was started under direction of Noel Snyder, who succeeded Kepler in 1972. An aviary, situated at first in the Snyders' living room, was stocked with five chicks taken either as eggs or as chicks from the wild.

WITH THE captive program underway, Snyder continued with rescue measures for the few parrots in the wild. Lookout platforms were built in the trees. Numbers and locations of nests were mapped.

Eventually all eggs were removed from the nests and incubated in the aviary, and plaster of paris "eggs" were placed under expectant parrots. After the aviary-hatched chicks had passed the vulnerable stages of thrasher predation, they were returned to the nests. (Substitute eggs in the nests often were found pitted by the pecks of thrashers.) As further protection, guards were posted in blinds at each nest site to shoot any predators or nest usurpers that appeared to threaten the parrot nest. (Twenty-six thrashers were shot at one site alone in 1973.)

Decaying nests were repaired whenever possible or supplemented by emergency manmade housing—cavitylike structures mounted on nesting trees. At one point wire was strung across nest entrances to discourage red-tailed hawks from entering the nests and

taking chicks. After trying different designs, the manmade "nests" were constructed with a crook at the bottom to hide the eggs from predators and with a door for checking dryness or removing eggs if necessary.

Study of the parrot also became research on the thrasher. Discovering that the thrasher preferred shallower nests than the parrot, the biologists began to deepen the parrot nesting cavities. They also learned that the thrashers, with a usual diet of insects and lizards, were apparently taking parrot eggs and chicks only as a side-effect to seeking nests. When researchers placed nesting boxes for thrashers near each parrot nest, resident thrashers tended to defend their territory from others of their species bent either on evicting or killing the parrots nearby. This innovation, plus the deepened parrot nests, has alleviated thrasher predation; and eggs are no longer removed to the aviary.

JIM WILEY collaborated with Snyder during this tenure and took over leadership of the project in 1976 when there were twenty-two parrots in the wild and nine in captivity. He is now seeing the first results of years of rescue efforts. The chicks saved by protective measures are now reaching breeding age. At the end of the 1979 season there were fifteen parrots in captivity, including one breeding pair, and twenty-six in the wild, including six newborns, four breeding pairs, and four additional pairs apparently looking over nest sites, for a total population of forty-one. This figure is a substantial increase over the all-time low of twenty-three parrots in 1975 (13 in the wild, 10 in captivity).

The establishment of captive

breeding pairs has been a problem, due mainly to difficulty in telling the sexes apart. In 1977 what chromosome tests determined was the first breeding pair turned out to be two females, who each produced infertile eggs. More accurate tests using hormone analysis have recently established the captive population as four males and eight females, with sexes of three young still undetermined.

Further problems in captivity have also developed. In 1978 the first mated pair laid four eggs. Three developed to hatching stage, but the chicks mysteriously lacked the vigor to survive. Nonetheless, the first captive-bred chick was produced in the aviary in 1979.

Nine Hispaniolan parrots introduced to the aviary in 1978 have proven to be a great help as "nursemaids." They incubated Puerto Rican parrot eggs, reared Puerto Rican parrot chicks, and produced their own chicks. Hispaniolan chicks were placed under captive Puerto Rican parrots to give the endangered birds experience in taking care of young, and also under wild parrots to keep nonproductive nests active until such time as the Puerto Rican parrots might take over again. The Hispaniolans were also used as models in "double clutching"—whereby the first eggs are removed to encourage production of another clutch. Although the first such experiment with a captive Puerto Rican parrot did yield a second clutch, it was infertile. Nonetheless, the research team believes that this will be an important technique for maximizing brood production in the near future.

ALTHOUGH its habits and life cycle are now known and its survival problems are reduced,

the Puerto Rican parrot still hovers near the edge of extinction. Wiley considers the bird's future with caution: "It's going to take many years before we really have it made," he says. "Our major goal is to establish a favorable breeding population in the wild, so that if the birds continue to have trouble with predators or parasites, we won't have to continue nursing them along."

In the future—perhaps at forty breeding pairs—the parrots could be reintroduced to a former habitat such as the 5,800-acre Rio Abajo State Forest in northwest Puerto Rico, a less humid area unattractive for future development and large enough to accommodate the birds. This forest is Commonwealth land, though. Any parrot reintroduction would require the cooperation of Puerto Rico's Department of Natural Resources, a poorly funded agency that so far has been both uninterested and ineffective in protecting the country's "nonresource-oriented" wildlife.

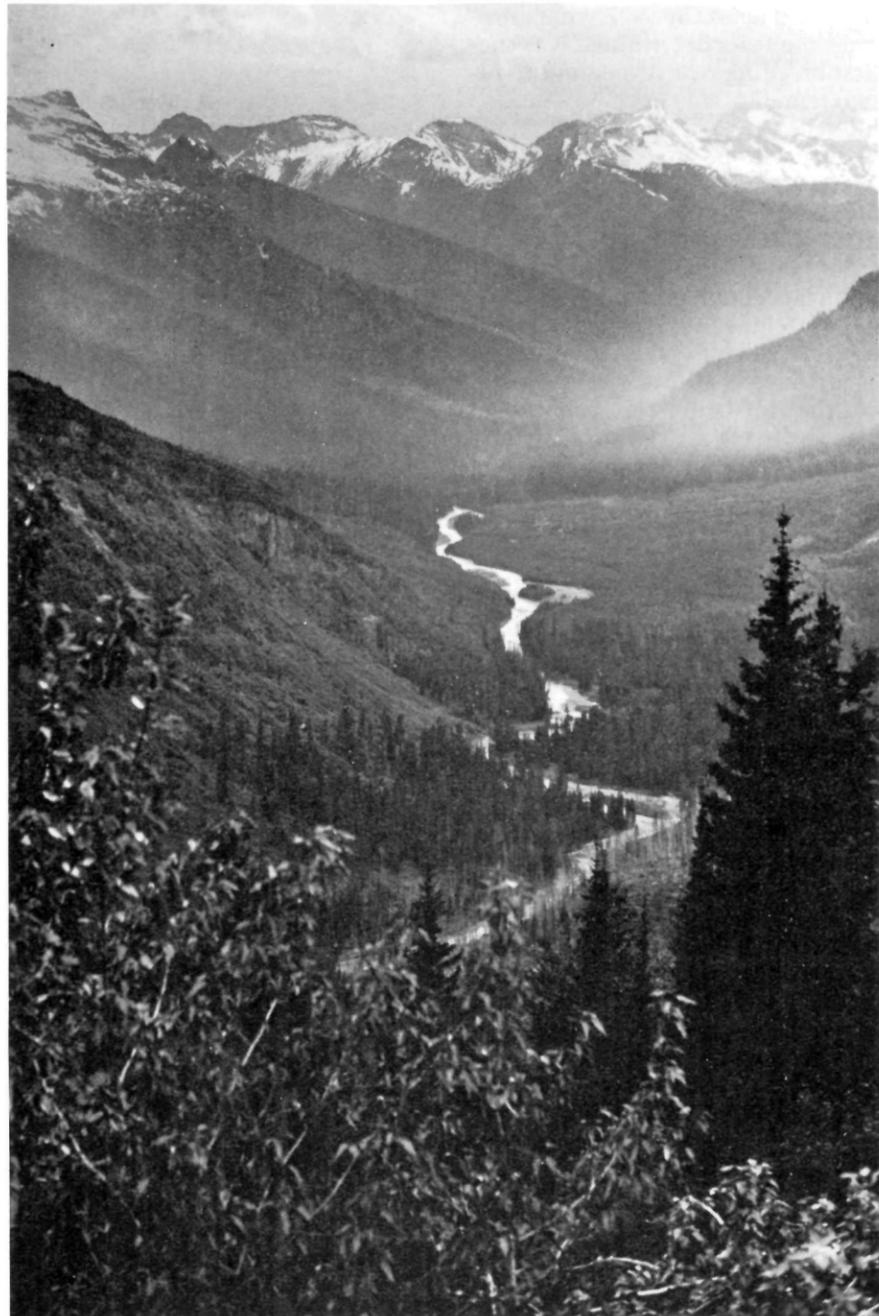
After eleven years of intensive management, the parrot's prognosis, although guarded, is positive. There have been no hurricanes and no disease, either of which could finish off the parrots in the wild. Jim Wiley adds only one more requirement: "All we need now," he says, as if mentally crossing his fingers, "is good luck." ■

Delphine Haley's interest in endangered species and methods used to save them led her to visit Puerto Rico several times to learn firsthand about the endangered parrot. A field correspondent for Defenders of Wildlife, Ms. Haley has written many articles on endangered species and a book on North American mustelids, and has edited a book on marine mammals.

International Peace Parks:

A proposed U.S.-Canadian system

by DR. JOHN E. CARROLL



In 1932 the Parliament of Canada and the U.S. Congress dedicated the world's first international peace park, uniting Glacier National Park in Montana (above) with Waterton Lakes National Park in Alberta.

In the year 1932, the Parliament of Canada and the U.S. Congress dedicated the world's first international peace park. This dedication united Glacier National Park in Montana with its smaller sister, Waterton Lakes National Park in Alberta, for the purpose of permanently commemorating the long-existing peace and good will between our nations.

Recent years have seen the spreading of this peace park concept east and west to both coasts, to Campobello Island International Peace Park in the Atlantic at New Brunswick-Maine; the Klondike International Historical Park near the Pacific at British Columbia-Alaska, and the proposed Kluane-Mt. St. Elias International Park in Yukon Territory and Alaska as well as the proposed Arctic International Wildlife Range farther north.

Other areas, too, though not formally acknowledged as international parks, are looked upon by large numbers of people as such. A prime example is the Quetico-Superior international sanctuary composed of Ontario's Quetico Provincial Park and the Superior National Forest, Minnesota, which includes the Boundary Waters Canoe Area Wilderness. Other unofficial examples are the Niagara provincial and state parks surrounding Niagara Falls in Ontario and New York; the St. Lawrence Islands National Park in Ontario with the Thousand Islands State Park in New York; and the Manning Provincial Park in British Columbia with the North Cascades National Park in Washington. Parks Canada, the Canadian counterpart of our National Park Service, has compiled a list of no less than forty-nine other sites with

good potential for international peace parks.

International parks already established or under serious consideration, however, are not managed or interpreted jointly. Other than exchange visits by park officials and similar cooperative efforts, the peace parks are autonomous and largely symbolic.

Given the increasing trend to commemorate and preserve areas and structures of broad cultural importance in parks and to relate man and society to natural landscapes and natural ecosystems, the time has arrived to propose a wholly new *system* of international peace parks, to be established along the entirety of our joint borders. Such a system would be established, administered, and managed jointly by regular personnel of both Parks Canada and the U.S. National Park Service in roughly equal numbers. All planning, budgeting, and decisionmaking would be joint, and funding would be provided equally from both federal governments.

Some of the units of this new system would be basically ecological in orientation, whereas others would be basically historical. But each unit, as well as the system as a whole, would have a common theme—aiming to interpret the Canadian and U.S. landscapes and the human heritage of those areas (such as the epic struggle to survey and mark the boundary); to describe the settlement and the society and economy of the broader region; and, most important, to interpret the totality of Canadian-American interaction in that region, so as to engender an appreciation of the interdependency of our two nations. At the same time the system would provide recrea-

tion and would preserve areas of natural and historic significance.

The proposed International Peace Park System would involve mostly small to moderate size acreages with a few larger acreage areas. Some of the units would be nothing more than two- to three-acre roadside rest areas and picnic grounds; some would be large picnic grounds of perhaps twenty to thirty acres or more with walking trails. Other units might involve a few hundred acres, with campgrounds and some recreational facilities. A few units might reach a thousand acres or more.

Specifically, I would suggest that relatively larger international peace parks be located at the least within the areas listed at right.

These eighteen areas provide a rather comprehensive sampling of border region landscapes (outside of the Arctic tundra) and should be able to present and interpret virtually all the major historical and present-day aspects of our relationship. Thus, the system itself will serve as a model to all of joint Canada-U.S. cooperation.

It was not so long ago that the late President John F. Kennedy said, "Geography has made us neighbors—history has made us friends." What better way to commemorate both of these truths than through an imaginative system of international peace parks! ■

NPCA Trustee John Carroll is Associate Professor of Environmental Conservation at the University of New Hampshire, Durham. This article was adapted from a paper submitted to the Conference on Canadian National Parks in 1978 and published in *Canadian National Parks: Today & Tomorrow, Conference II* (University of Waterloo, Ontario, 1979).



The cairn astride the boundary at the International Peace Garden in Manitoba and North Dakota symbolizes the good will between the U.S. and Canada.

Possible Sites for International Peace Parks

- Coastal border area of New Brunswick-Maine
- Coniferous forest region of northern New Brunswick-eastern Quebec and northern Maine-New Hampshire
- Quebec Eastern Townships and northern Vermont or northern New York (near Montreal)
- Thousand Islands area of eastern Ontario and northern New York (near Kingston and Watertown)
- Niagara Peninsula and western New York area (near Buffalo, Niagara Falls, and Fort Erie)
- Windsor-Detroit area of Ontario and Michigan
- St. Clair River-Sarnia-Port Huron area of Ontario and Michigan
- Sault Ste. Marie area of western Ontario and northern Michigan
- Duluth, Minnesota-Thunder Bay, Ontario area
- Red River Valley area north of Grand Forks-Fargo, North Dakota, and Minnesota and south of Winnipeg, Manitoba
- International Peace Garden area of North Dakota and Manitoba
- Southern Saskatchewan-eastern Montana area at a highway border crossing south of Regina (perhaps near Estevan, Saskatchewan—on Routes 39-52)
- Southern Alberta-central Montana area at a highway crossing south of Lethbridge or Calgary, Alberta (preferably near Coutts-Sweetgrass on Routes 4 and I-15)
- Glacier-Waterton Park area of southern Alberta and western Montana
- Southeastern British Columbia-northern Idaho area (preferably Kingsgate-Eastport on Route 95)
- Southern British Columbia-northcentral Washington area (preferably Osoyoos-Oroville on Route 97)
- Vancouver-Blaine, Washington area on Routes I-5 and 499
- Prince Rupert, B.C. and/or Ketchikan, Alaska

Choice public lands may be slipping
through conservationists' fingers
while we are looking
the other way

by WILLIAM J. HART

CORPS LANDS: Is anybody minding the store?



CLEARWATER LAKE, MISSOURI; PHOTO BY ARMY CORPS OF ENGINEERS

AT A TIME of overcrowding and development pressure on our national parks, it is ironic that a 10.75-million-acre system of choice scenic, recreational, and historic sites with greater visitation rates than the National Park System is being neglected. That system consists of several thousand Corps of Engineer sites around the nation. Yet with little fanfare, the federal government is currently surveying such choice public recreation lands to determine whether they should be disposed of.

Pursuit of their objectives has often brought the leaders of conservation-oriented groups into confrontations with the Corps. The antagonism goes back at least to the mid-1930s when Secretary of the Interior Harold Ickes tangled with and lost to the officer corps acting in their unique role as engineer consultants to the Congress. But although many conservationists have long opposed dam

projects proposed by the Army Corps of Engineers that would flood farmland, river bottoms, and canyons, the fact is that many such projects have been completed in the past ninety years and have become part of the American landscape. Now that they exist, we should make the best of them.

The reservoirs and their adjoining lands belong to all the people of the United States every bit as much as do the lands and waters of the national parks, national forests, and national wildlife refuges. They were acquired with public money for public purposes, and conservationists should be concerned about how well they are being managed.

Approximately 5 million acres of water surface and 5.7 million acres of adjacent lands are available for public recreation use in the Corps system. The meeting of land and water provides an appealing setting for camping, picnicking, and swimming. The reservoirs

offer fine warm water fishing and opportunities for all types of boating—from macho speedboats to sailing and canoeing. And 82 percent of these existing reservoirs are in or within fifty road miles of some urban area. For instance, Lake Lanier, a 38,000-acre impoundment within an hour's drive of metropolitan Atlanta, draws visitors from the entire Southeast with its rugged shoreline, intriguing islands, and finger-peninsula woodlands of varied flora. In 1973, Lanier attracted a visitation as large as the combined totals for Yellowstone, Yosemite, and Great Smoky Mountains national parks.

The system contains significant historic and prehistoric sites as well. Inasmuch as the older reservoirs have not been thoroughly surveyed, the fact that they were built in river valleys where most activity in prehistoric and historic times took place makes it likely that a large number of significant sites have yet to be identified.



LAKE OAHE, SOUTH DAKOTA, PHOTO BY ARMY CORPS OF ENGINEERS

Unusual geologic formations, plant communities, and opportunities for research in plant succession also exist within the system. At some Corps reservoirs the scenery is very appealing. This appeal is not surprising, considering that landscape evaluation methods confirm that the highest diversity of topography and vegetation types is found along river corridors, precisely the places where dams have been built. It is easy to understand why Corps reservoirs in the Ozarks—a land of rivers, streams, and mountains—attract tourists.

Many of the projects provide good habitat for fish and wildlife, but it could be enhanced by more intense management.

Many Americans take advantage of opportunities to enjoy these lands and waters. In fact, the first nationwide outdoor recreation plan prepared by the Bureau of Outdoor Recreation (now the Heritage Conservation and Recreation Service) reported that in 1972, 36.5

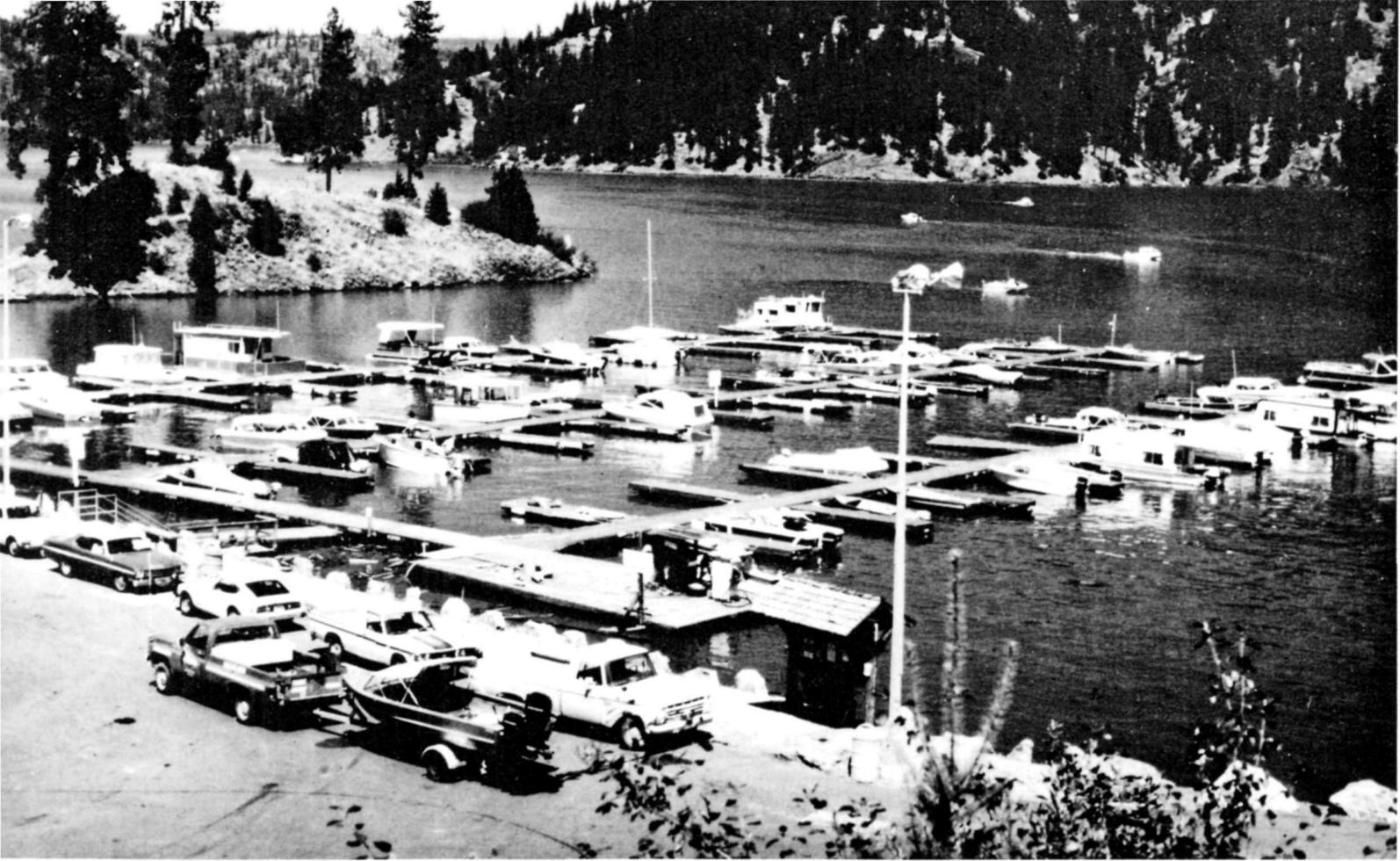
percent of recreation attendance at sites under the six major federal agencies administering land and water resources occurred in areas under Corps management, compared to 24 percent at units of the National Park System.

The Corps does not actually *manage* all the areas in its system. Some recreation areas are leased at no cost to other federal agencies, state and local governments, and nonprofit private organizations for development and management. But despite diligent efforts to delegate management responsibility for as many recreation areas as possible—reinforced by pronouncements from prominent Corps leaders, civilian as well as military, that the Corps is “not in the recreation business”—more than 2,000 of 3,100 developed recreation areas remain the direct management responsibility of Corps personnel.

A substantial number of these recreation areas have not been re-

furbished since the projects were completed ten, twenty, or thirty years ago; and their facilities and natural environment show clear evidence of the pounding they are taking. A decade ago Dr. Edward Crafts, who became the first Director of the Bureau of Outdoor Recreation after an illustrious career in the U.S. Forest Service, reviewed the evidence and rightly urged that the Corps embark on a crash program of facility repair and expansion. But this recommendation has never been given priority by Corps brass, national administrations, or Congress. Similarly, there are not enough permanently employed professional recreation and natural resource personnel in the Corps system to protect the quality of the resources and to ensure visitor safety and enjoyment.

THE REASONS for the low priority given resource management in the Corps are (1) lack



DWORSHAK LAKE, IDAHO; PHOTO BY ARMY CORPS OF ENGINEERS

of a congressional mandate; (2) the jurisdictional lines of congressional committees; and (3) lack of a cohesive, informed clientele organization like NPCA concerned about the wise use of the natural resources under Corps jurisdiction.

Most Corps projects authorized by Congress in the 1930s do not mention public access or resource management. Later legislation mandates free public access to the water, but the provisions are not necessarily retroactive. And it was not until late in the 1950s that recreation and fish and wildlife were mentioned in Corps legislation as legitimate project purposes, and then they were included only in specific projects. Thus, management for recreation and fish and wildlife enhancement is not an authorized objective at most Corps projects.

What Corps resource management exists stems from (1) the mandate to provide outdoor recreation at a few projects; (2) the language found in the Flood Control

Act of 1944, which *authorizes*—not *directs*—the Secretary of the Army to provide recreation opportunities; and (3) the Federal Water Resource Recreation Act of 1965, which requires the Corps to give full consideration to the opportunities a given project affords for outdoor recreation.

The overall objectives of the National Park System are stated in the 1916 act creating the National Park Service. There is no comparable congressional mandate for Corps-administered recreation and related natural resources (nor for Bureau of Reclamation resources, for that matter). The lack of a mandate to manage natural resources that applies retroactively to all Corps lands means that property at an older Corps project that is held only for what the Forest Service calls “dispersed recreation” is land that is not needed for “project purposes.” Consequently, the General Services Administration, acting under law and prodded by Executive Order, is ob-

liged to survey those lands and declare them excess to the needs of the federal government. Thereafter, disposal follows a set procedure. The lands are offered to state and local governments at no cost; if there are no takers, they are sold at auction. Even though they are located in or near urban areas, the lands are in small jurisdictions where interest in putting land on the tax role is high. Thus the surplus land is acquired by real estate developers able to capitalize upon proximity to a body of water created by the public.

Jurisdiction for traditional recreation and related natural resources is vested in the Senate and House committees dealing with agriculture, parks, and fish and wildlife, and the matching subcommittees of the appropriations committees. Substantive matters related to the Corps, however, fall within the jurisdiction of the public works committees of both houses; funds are appropriated through the public works subcommittees. The in-



1. PERCY PRIEST RESERVOIR, TENNESSEE; PHOTO BY ARMY CORPS OF ENGINEERS



LAKE SHELBYVILLE, ILLINOIS; PHOTO BY ARMY CORPS OF ENGINEERS

terests, values, and standards of performance set by members of the two sets of committees are different. The public works committees have little interest in recreation and natural resource management, nor is there reason for the members to be interested, given the clientele groups—the construction industry and barge-line operators, among others—who interests their actions most directly serve.

Well-organized conservation organizations focus their pressure on congressional committees with jurisdiction over the agencies most influential in their spheres of concern. Similarly well-informed and organized lobby groups pressure the public works committees. The staunch supporters of sound natural resource management regard the Corps as a natural enemy, and neither the Corps nor its oversight committees will impress the lobbyists upon whom they depend for support if they make a super effort to manage recreation resources. As

a result, no one seems to care whether Corps water project resources are well managed.

WHY SHOULD NPCA members—already deeply involved with wilderness and Alaska land struggles and with threats to national parks—press for improved management of natural resources by the Army Corps of Engineers? Because every recreation day spent in a facility outside a national park is one less unit of demand on the National Park System. For example, the boundary of Mammoth Cave National Park is, in some places, within one mile of the boundary of the Corps' Nolin Lake project. The Mammoth Cave National Park wilderness plan published by NPCA urged cooperation by the two agencies to help disperse visitation from the park to Nolin Lake.

Efforts to seek a clear congressional mandate to manage Army Corps of Engineers resources for outdoor recreation and for fish and

wildlife enhancement are not a matter of abstract principle; they are dictated by the best interests of parks all across the country. Conservationists should urge their elected representatives to involve conservation-oriented committees in substantive legislation and funding on behalf of natural resources at existing Corps projects. ■

William J. Hart, a professional resource planner and administrator, has served for 26 years as chief executive officer of state forestry and state park and recreation agencies, as a senior member of planning and environmental consulting firms, and as an independent consultant in natural resource affairs. He prepared regional wilderness plans of nineteen units of the National Park System for NPCA. Currently he is a consultant operating from Wilmington, North Carolina, and adjunct professor of forestry and environmental studies at Duke University.

Mammoth Cave violates planning process, appeases local interests

In a highly unusual procedure this past year, the Park Service modified a final master plan for Kentucky's Mammoth Cave National Park that had already gone through the regular public review process and been approved. NPCA charged that the action was taken "for the sole purpose of appeasing local residents and officials."

More importantly, the revised master plan did not alter an earlier proposal for a controversial proposed bridge across the Green River on the grounds that it will "facilitate required transpark traffic" in the park, and it equivocates on relocating the Great Onyx Job Corps Center.

Local interests want to set up a through-park road connecting with major highways on both sides of the park. But NPCA warned that it is probably unlawful for the Park Service to propose and construct a road through a national park for transpark traffic—rather than for internal circulation—when alternatives are available. This bridge and road were unani-

mously and adamantly opposed by the national conservation organizations when reviewing the final master plan.

Therefore, NPCA questioned why, if the Park Service intended to revise a final master plan to reflect public views, the agency did not reevaluate this controversial project.

In comments on the revisions, NPCA program associate T. Destry Jarvis also expressed alarm at wording that implies that outside entities such as local units of government will take the initiative in protecting the park's resources from developments. "The National Park Service cannot subordinate its trust responsibilities to fully protect park resources to local units of government," Jarvis said.

Likewise, a statement is made in the revised draft plan that the Great Onyx Jobs Corps Center will be relocated "if necessary." This equivocation is completely out of line with other NPS documentation and decisions at the highest levels that the center *must* be moved outside the

park. Obviously, NPS is wavering because of local pressure.

The Job Corps Center, for which there are no longer any available work projects within the park, has resulted in such extensive damage to the caves from sewage pollution and vandalism that NPCA sued the Park Service in 1979 over the relocation issue.

Other defects in the revised plan include outdated wilderness language that fails to recognize the potential of lands such as the Hilly Country of Mammoth Cave park as national wilderness areas. In fact, NPCA called on the Park Service to immediately initiate a new wilderness review for Mammoth Cave including both surface and subsurface features.

In conclusion, NPCA maintained that such modification of the final master plan would be unjustifiable unless the NPS made a comprehensive review and included the views of all interested parties—national as well as local—so that the public interest in protecting the park could be upheld. ■

Bill to expand Indiana Dunes clears House without fight

Legislation to expand Indiana Dunes National Lakeshore passed the House of Representatives in late October 1979 and is expected to see action in the Senate after the 96th Congress reconvenes this year.

The bill, HR 2742, would add approximately 1,400 acres to the NPS unit, a mosaic of natural areas on the shore of Lake Michigan. Preserving the integrity of the lakeshore is critical because it represents the remains

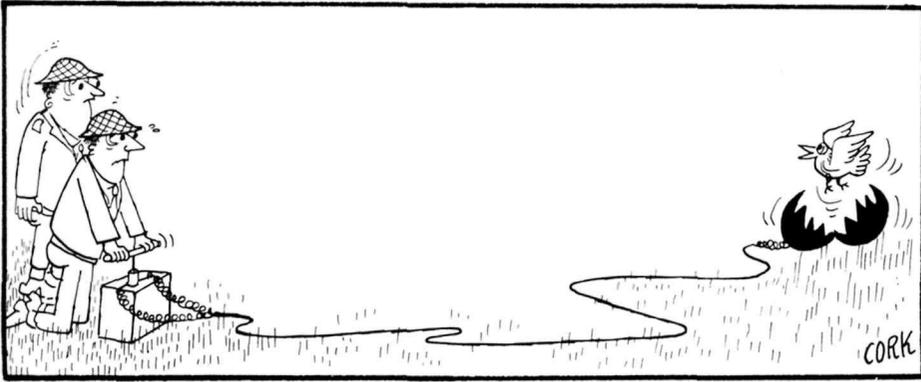
of a system of dunes, interdunal ponds, bogs, and marshes probably unique in the world.

As a crossroads for the four major climatic zones of North America, Indiana Dunes was the birthplace for many of the basic concepts on which the science of ecology is based. But the spread of population and industrialization eliminated much of this natural system.

The largest area proposed for protection under HR 2742 would be Beverly Shores "Island," an area of high dunes, wooded ravines, and wetlands that is completely surrounded by the national lakeshore. Addition of Beverly Shores to the lakeshore is necessary to ensure access to and protection of the longest stretch of beach in this unit of the park system.

Other proposed additions include a highway strip; a campground site; part of Dune Acres, which will provide better beach access and afford a magnificent view of famous Cowles Bog; and approximately 60 acres owned by the





Rocky road for Bumping Lake

The decades-long controversy over a plan to enlarge Bumping Lake, a reservoir in the heart of the wilderness in Washington state, escalated in 1979 as the fight spread from the Administration to Congress.

The U.S. Bureau of Reclamation wants to build a new dam to enlarge the reservoir, which is located within a wild area of Yakima County, Washington, less than ten miles from Mount Rainier National Park. Opponents of the enlargement have been

poking holes in the Bureau's justification for the project for years.

But even though final Administration approval has not been given, in March 1979 Rep. Mike McCormack (D-Wash.) introduced legislation (HR 3489) that would give the Bureau of Reclamation the go-ahead to begin construction.

In a related action, McCormack and Sen. Henry Jackson (D-Wash.) introduced legislation (HR 2757, S 585) au-

Continued on page 22

Northern Illinois Public Service Company (NIPSCO).

The NIPSCO greenbelt drains into Cowles Bog and must be protected from industrial pollution. NIPSCO fought the legislation, arguing that inclusion of its land might stop construction of the Bailly nuclear power plant. The legislation includes provisions to ensure NIPSCO that the nuclear power plant will not be halted by expansion of the lakeshore.

The legislation also was opposed by some homeowners in the area, even though many of them would be completely unaffected by the expansion. Much of the protest came from residents of the Ogden Dunes area, no part of which has been included in the House bill.

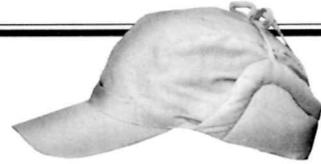
NPCA had testified in favor of the expansion of the lakeshore, but had recommended several changes to the legislation, many of which were included in the House-passed bill. In fact, the House legislation is an extremely good compromise among the

many views on how the lakeshore should be expanded.

In the Senate opposition is expected from some landowners as well as from senators concerned about the \$38.6 million cost of the expansion. Before any action, Senate park subcommittee chairman Dale Bumpers is expected to visit the lakeshore to see the proposed additions.

Legislation to enlarge the lakeshore led to floor fights in past congresses; the legislation died in the last days of the 95th Congress in 1978, partly because of opposition from Indiana legislators over renaming the area after an Illinois legislator, the late Sen. Paul Douglas, who was instrumental in saving Indiana Dunes.

But this year a consensus was reached in the House among environmentalists, industry, the Indiana delegation, and the Carter Administration. The bill does not change the name of the lakeshore, but would dedicate it to Douglas and name an environmental education center after him. ■



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Bumping Lake—from page 21
 authorizing the Bureau to study a six-dam proposal sought by the state of Washington. Known as the "Grand Design," the proposal features the Bumping Lake enlargement as its key project and has been touted as the cure for current water shortage problems plaguing the Yakima River system.

At House hearings on both McCormack bills before the Water and Power Subcommittee this past spring, conservationists testified that the Bumping Lake enlargement project was not feasible and that planning for the project was based on inadequate and inac-

curate information. According to experts, most of the runoff from Bumping River watershed is already allocated by water agreements to irrigation. Thus, any possibility that the enlarged reservoir would ever be filled is quite remote.

Another reason NPCA opposed the project is that it would inundate several thousand acres of *de facto* wilderness that were originally part of the proposed Cougar Lakes National Wilderness Area. Some of the last stands of old-growth Douglas fir in Washington would be flooded.

In reaction to the serious criticism

of the project, the subcommittee has not given HR 3489 further consideration. However, the Grand Design study legislation passed the Senate in June and was approved by the House Interior Committee in October 1979. At press time, House floor action had not been scheduled.

During House Interior Committee consideration of the Grand Design legislation, an amendment sought by NPCA was added to require the U.S. Geological Survey to conduct a study of the water flow in the Yakima River system as part of the overall feasibility study. NPCA expects that such a



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Has Baltimore hooked "National Aquarium"?

A new law giving the title "National Aquarium in Baltimore" to a facility under construction in that city has raised fears about the future of the National Aquarium in Washington, D.C., which is the nation's oldest aquarium. NPCA President Smith has urged Secretary of Interior Andrus to squelch rumors that the D.C. aquarium will be shut down and to secure its future.

To be sure, the present Washington aquarium—housed in cramped quarters in the basement of the Department of Commerce building—cannot compete with the lavish design of the aquarium in Baltimore. The aquarium in the Inner Harbor area of Baltimore will be one of the largest and most technically advanced in the country, featuring about 5,000 aquatic species, large walk-through exhibits such as a Maine seacoast cove and an Amazonian rainforest, and huge ring tanks surrounding the visitor with the colorful life of a Caribbean coral reef or the open ocean. By comparison, the National Aquarium displays about 250 species in relatively traditional fish tanks. But for its size it exhibits a fine collection of worldwide marine and freshwater life.

Moreover, NPCA pointed out to Andrus that the aquarium's location next to the Smithsonian makes it an invaluable stop for tourists from around the globe and for students from the Washington area. Dr. Eugenie Clark, noted marine biologist ("the

study will reveal that there is simply not enough water in the Bumping River drainage to fill the proposed enlarged reservoir.

Despite the likelihood that the feasibility study will expose even more fallacies in the Bureau of Reclamation's arguments and the fact that the legislation authorizing construction of the Bumping Lake enlargement was tabled in 1979, the fight is not over. Like a bad penny that keeps showing up, the project is expected to surface in the Bureau of Reclamation's 1981 budget proposal, forcing Congress to consider it again this year. ■



Shark Lady") who is Vice-Chairman of NPCA Board of Trustees, says, "For years I have been taking my classes from the University of Maryland to the National Aquarium. Its location is ideal, and its displays represent one of the best ways of teaching my students about the fishes of the Chesapeake Bay and comparing these with representatives from around the world. This direct experience is extremely important to students. In fact, my own love for oceanography first developed when I was a young girl visiting the aquarium in New York."

The new law giving the national title to the Baltimore aquarium (PL 96-118 signed by President Carter on November 16) technically has no effect on the Washington aquarium because it does not take the title away from that facility or give any federal funds to Baltimore. But it has led to speculation: Will the Washington facility merge with Baltimore's? Will we have two "national aquariums"? Will other cities try to designate their aquariums as national facilities?

"Now the door is open. You could have a National Aquarium of Timbuktu," says Bill Hagen, former director of the National Aquarium and retired Assistant Director of the Fish and Wildlife Service, which administers the aquarium. "I've visited aquariums around the world and can attest to the fact that the aquarium in

Continued on page 26

Evolution of park idea cast in new light

National Parks: The American Experience. by Alfred Runte. University of Nebraska Press, 1979. xvi, 240 pages, 52 photographs, 1 map. \$16.50.

How and why did our national parks come into being? What were the human motivations behind this astonishing development? These are the questions Alfred Runte seeks to answer in his admirably-researched, highly-readable *National Parks: The American Experience*.

An environmental historian with long-standing interest in the parks, Mr. Runte traces the evolution of the national park idea, beginning with the controversy over our first natural wonder, Niagara Falls. He describes how that concept was expressed in the preservation of Yosemite, Yellowstone, and other areas. He notes the profound effect of the Census Bureau's announcement on the passing of the frontier in 1890, when realization hit home of how little remained of America's natural heritage. He writes of the founding of the National Park Service; the need to stimulate public support for the parks by getting people out into them—and the key role of the railroads in accomplishing this action; the revolutionizing impact of the automobile; and, finally, American leadership in carrying the park idea to other countries.

Refreshingly independent in outlook, the author moves on his subject forcefully and deliberately, introducing new material (at least, to this reviewer), and casting old material in a new light.

Central to his thesis is his contention that "the national park idea evolved to fulfill cultural rather than environmental needs." It grew out of "cultural anxiety" and "the search for a distinct national identity." Frontier America was wanting in cultural forms, in the tangible evidences of human achievement—the art treasures, ruins, edifices that mark a cultivated society. Our remarkable natural features compensated for this, and it was through them that our people found the cultural pleroma they sought. Before the value of these features as cultural assets could be se-

cured, however, they had to be judged by business standards. In an economic sense, the parks had to "begin worthless and remain worthless to survive," Runte stresses. And where there was doubt, provision was required for later tract deletion or revision. The significance of this for us is inescapable; conceived in compromise and dependent on the indulgence of the commercial interests, basic protection for the parks is not as strong as we may like to think. Although not intended as such, this book might serve as a warning to make our parks impregnable.

Runte sees in stark, pragmatic terms. The light he beams on his subject is powerful and direct. Almost too direct. Like a noonday sun, it flattens the terrain he traverses, robs it of dimension. There are points where our views diverge, as when he slights Frederick Law Olmsted's role in the preservation of Yosemite. Nor does he take sufficient note, in my opinion, of the idealism and altruism that powered the park movement.

Most importantly, I quarrel with the undue emphasis he places on the notion that it was nationalistic sentiment and the desire to achieve cultural standing in the eyes of Europe that gave rise to the park concept. National vanity and the shame that followed European reaction to our disfigurement of Niagara Falls must have played a part, of course, but certainly not to the degree he indicates. As Howard Mumford Jones says, we were "a nation yearning to be loved and fearing to be outdone." But we were also a nation proud and independent, striving to cultivate our own cultural milieu; and we tended, at least in our better moments, to view the Old World as just that and hardly something we wanted to emulate.

The national parks are more than cultural baubles to dress up the national image, or appease a desire to appear refined. They stem from a deeper stratum in our natures. They are the expression of a deeply felt, instinctive need to cleave to fundamental reality, to hold onto the evidences of Earth as miracle, which, indeed, it is.

—**Gilbert F. Stucker**
Chairman, NPCA Board



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NPCA at work

Population stabilization bill introduced

Rep. Richard Ottinger (D-NY) has introduced HR 5062, "A Bill to Declare a National Policy Goal of National Population Stabilization, and to Establish an Office of Population Policy."

NPCA supports this bill as it is a stronger version of one introduced in the past Congress. It forthrightly would put the United States on record in favor of eventual population stabilization and sets up a coordinated planning mechanism to ease the passage toward demographic equilibrium.

HR 5062 has been referred to the Committee on Government Operations. This is not considered a sympathetic forum, and little action can be expected unless strong public support is expressed for the legislation.

You Can Help: NPCA members can address letters of support and requests for hearings on the proposals to:

Hon. Jack Brooks, Chairman
Comm. on Gov. Operations
U.S. House of Representatives
Washington, D.C. 20515 ■

Congress declares end to open season on archeological treasures

NPCA-supported legislation aimed at stopping the wanton, organized destruction of archeological sites and resources on national park lands, other public lands, and Indian lands was signed by President Carter on October 31, 1979.

Archeological resources needing protection on public lands range from Civil War weapons to the mysterious cave figurines and Anasazi granaries left by prehistoric people in the Grand Canyon. (See "In Search of the Ancient Ones," June 1979.)

The new law, PL 96-95, became necessary to protect archeological sites from piracy and pillage because a court ruling had nullified the archeological protection section of the Antiquities Act in the Ninth Circuit and stiff civil and criminal penalties were needed to dissuade individuals from illegally damaging or removing artifacts.

In the Southwest some archeological sites actually have been invaded by bulldozers to unearth treasures such as the Mimbres pottery that makes its way to exclusive shops in New York and other major cities. Mark Michaels, who represented the Society of American Archeologists in pushing for the new law says, "There are organized rings of looters in the Southwest. This law gives us much more of a handle to crack down on them and provides penalties commensurate with the crimes. Under the Antiquities Act, we could only prosecute the guy caught digging—usually the little guy with the pickup truck instead of the one

making big bucks. Now we can get those selling, purchasing, exchanging, and transporting these antiquities."

PL 96-95 is aimed at such commercial profiteers rather than those collecting arrowheads for hobby. (Arrowheads and bullets collected on the surface of the ground are excluded from the penalties but collecting them is already prohibited on certain federal lands such as national parks.) Within three days after the law's signature, on the Apache National Forest in Arizona the first apprehensions of suspected commercial looters were made.

The law covers archeological resources 100 years old or older and sets up a system whereby persons may apply for permits to the federal land manager if they want to excavate, remove, or study these resources. Upon a written request from a state governor, the manager must issue a permit for conducting archeological research to a state institution. The law's effectiveness will depend on enforcement efforts by agencies including the National Park Service, Bureau of Land Management, and Forest Service. Led by the latter, Federal agencies are already training available staff in enforcing the law, but a former BLM ranger recalls that he had 2 million acres to patrol. Right now one hotspot for looting is southern Utah.

The legislation was introduced in the House by Rep. Morris Udall (D-Ariz.) and in the Senate by Sen. Pete Domenici (R-N.Mex.) and cosponsored by most senators and representatives from the Southwest. ■

Five million urge U.S.–Canada action on acid rain

With President Carter and the Prime Minister of Canada expected to meet early this year in Ottawa, thirty-five organizations representing a combined membership of more than 5 million people from throughout North America have asked them to respond to a package of political action resolutions on acid rain. Acid rain is a top item on the Ottawa meeting agenda.

The resolutions say that acid rain is already causing such severe environmental degradation that Canada and the United States should each immediately adopt and enforce a ten-year action plan to reduce the pollution to less than 50 percent of present atmospheric levels. These resolutions were drawn up and unanimously approved at the international ASAP (Action Seminar on Acid Precipitation) conference in Toronto in November.

The approximately 800 citizen activists, noted scientists, regulatory decisionmakers, international negotiators, and political leaders participating in the ASAP meeting made it the world's first interdisciplinary conference on acid rain and the largest Canada–U.S. environmental meeting ever. Sponsors include environmental, health, tourist, and anglers' organizations.

The meeting was coordinated under the leadership of the National Clean Air Coalition and Federation of Ontario Naturalists. NPCA initiated the conference a year ago, developing the proposed plan for it as a result of its work with the Voyageur Wilderness Programme, Friends of the Boundary Waters Wilderness ("Friends"), Friends of the Earth, Canadian Nature Federation, and Algonquin Wildlands League to protect the Quetico-Superior area of Ontario and Minnesota from acid rain. The Friends is holding a North Woods Acid Rain Conference on February 2 in Minneapolis to deal with threats like proposed copper-nickel mining in the state.

The ASAP resolutions note that precipitation averaging about fifty times more acid than normal has been caused by emissions of sulfur and nitrogen oxides from coal-burning power plants, smelters, and autos and that this acid rain has "rendered hundreds of lakes lifeless, decimated sport fisheries, impaired visibility, and threatened agriculture, tourism and forest

industries and the public health and welfare of citizens throughout North America." It has even been linked to human mortality rates. In fact, a *New York Times* article on ASAP called acid rain "one of the most serious worldwide environmental problems of the coming decade."

Parks and wilderness areas in both nations are particularly endangered because many occur in regions where soils and lakes have little capacity to



neutralize the acid. NPS representatives at the conference confirmed that acid rain is a "major concern" of the Park Service; preliminary data from Great Smoky Mountains National Park, for instance, indicate acid stress on trout populations.

The Quetico-Superior lake country—including Quetico Provincial Park, Voyageurs National Park, and the Boundary Waters Canoe Area Wilderness—is also quite vulnerable. One problem in protecting this region from projects such as a powerplant under construction in Atikokan, Ontario, has been the lack of laws offering special protection from air pollution to Quetico or other Canadian parks. The ASAP resolutions call for each country to implement special siting and control standards to preserve existing pristine air quality in their parks and wildernesses.

Of all environmental problems, acid rain is a prime example of pollution that knows no boundaries because the pollutants can dump acid rain on sites hundreds of miles away. Accordingly, the ASAP resolutions call for a strong U.S.-Canada air quality treaty and a citizens' commission to publicly monitor compliance. In announcing formal negotiations on a bilateral air quality agreement in 1979, the two nations agreed to address "control strategies aimed at preventing and reducing transboundary air pollution."

If this agreement is to be more than a piece of paper, the ASAP resolutions point out the need for specific strategies—"best available control technol-

ogy" (at present, scrubbers that remove most of the sulfur dioxide from a plant's flue gas), coal washing, and other measures for existing and new sources in both nations. ASAP delegates also prepared action strategies for each region in North America.

The Administration's energy plan would triple coal use by 2000, which could dramatically increase acid rain. But the ASAP resolutions say direct use of coal should be facilitated "only in utility and industrial boilers with best available control technology" in each nation and "the conversion of existing facilities from oil to coal only where the resultant emission rates will not increase."

But the resolutions warn that even the best technology cannot halt the effects of the wasteful consumption of fossil fuels. Like nuclear dangers, acid rain is another sign of the need for a major shift toward conservation and renewable resources. The resolutions say use of natural and unconventional gas would be a preferred substitute to oil during the transition period.

The ASAP statement supports increased acid rain research, but warns that research cannot be a substitute for immediate control action in both countries. Otherwise, the environment may not be able to hold up while the slow wheels of diplomacy turn in negotiating a treaty. One noted scientist emphasized, "The fish dying in acid lakes are a warning to us just as a canary dying in a coal mine warns miners." Gus Speth, chairman of the Council on Environmental Quality, pointed to the need to control many existing power plants because only 8 percent of U.S. coal-fired electricity comes from plants with scrubbers.

No scrubbers are in use or required on plants in Canada. One large smelter in Ontario produces 20 percent of Canada's sulfur emissions. Overall U.S. emissions, however, are much greater than those of Canada and are likely to increase, particularly if the new Energy Mobilization Board exempts projects from the Clean Air Act. But Canadian Minister of the Environment John Fraser told ASAP delegates, "We Canadians in particular should proceed from a realistic recognition that in this particular drama there are no blameless Mr. Cleans." ■

National Aquarium—from page 23
Washington is doing an excellent job for its size. But they have overwhelming problems in terms of space and appropriations."

What bothers Hagen and many others is that plans for a better aquarium in Washington have been around for several decades. Hagen dreamed them up himself. President Kennedy signed a bill authorizing \$10 million to start construction of a large new aquarium on Hains Point in Washington. A staff was created and a design was approved but later the project met with opposition. Although

President Nixon put a halt to it in 1970, the authorization for it is still on the books.

The Fish and Wildlife Service has recommended to Secretary Andrus that a study be conducted on establishing a new aquarium in Washington. In regard to the present D.C. aquarium, the FWS report says, "Although managed by a dedicated and innovative staff, it is inadequate by any measure" because of the limitations of its location. Yet, it is "very heavily visited."

FWS took the stand that the National Aquarium should be in the capi-

tal or its vicinity. The Hains Point site, which is on Park Service land, is one of several possibilities. Because of inflation, chances for a new aquarium in D.C. are slimmer than they were when it was first authorized. But NPCA believes that, at the minimum, the present facility should be maintained and properly funded.

Although Secretary Andrus has not yet responded to our letter, an Interior Department representative told us that "The present Washington aquarium will be with us for some time. There has been no move to cut it from the department's budget." ■

Developments at Cape Hatteras would devastate Outer Banks

At Cape Hatteras National Seashore, NPCA has registered stiff opposition to two proposed developments in the Oregon Inlet area that would wreak havoc on the sensitive natural systems along the Outer Banks of North Carolina. One proposal involves stringing an aerial electric transmission line across Oregon Inlet to facilitate new housing and commercial development on Hatteras Island; the other calls for building huge jetties a mile out into the ocean to "stabilize" the inlet.

NPCA recently urged NPS Director William Whalen to deny a special use permit application for electric transmission lines because the project would facilitate a population boom in the residential enclaves within the national seashore that could destroy the area's natural values. The Cape Hatteras Electric Membership Corporation has applied for the permit to construct an aerial 115kv line across Oregon Inlet and to upgrade its existing transmission line on Hatteras Island from 34.5kv to 115kv.

NPCA warned that, at present, limitation in electrical supply is the major constraint on population growth on Hatteras Island. But this project could lead to a 1995 population of 25,000. Meanwhile, no comprehensive enforceable land use plans or zoning ordinances exist in the area. Moreover, construction of the line on Hatteras Island would disturb several hundred acres, and construction of the aerial crossing would disrupt wetland and estuarine ecosystems.

NPCA pointed out that the National Park Service is mandated by a number of laws to prevent destruction of the coastal environment in the national seashore vicinity and that an environmental impact statement would be required for any kind of construction on such a project.

The proposal to construct two immense jetties to stabilize Oregon Inlet emanates from the Corps of Engineers, which wants to intercept the natural littoral movement of sand, which is causing the inlet to move southward, so that the channel can remain open for ship traffic and a bridge across it can be salvaged. (See "Hubris at Cape Hatteras," December 1979.)

After reviewing an environmental impact statement including this project, NPCA predicted to Interior Secretary Cecil Andrus that the project would deal a "devastating" blow to both Cape Hatteras National Seashore—a National Park Service unit—and Pea Island National Wildlife Refuge—which is administered by the Fish and Wildlife Service. Special use permits and rights-of-way for the project would have to be issued by both these two agencies of the Interior Department. NPCA urged Andrus to ensure that the permits are denied because the attempt to stabilize the inlet "will probably disastrously affect the natural dynamics of the Outer Banks from Nags Head to Cape Hatteras." NPCA warned that new inlets could form, possibly even at heavily populated places like Nags Head, and result

in demands for new bridges and dune stabilization. The jetties would lead to rapid beach and dune erosion, dune breaching, overwash, and associated flooding. This erosion could not help but severely disrupt endangered and threatened sea turtle populations that use the beaches adjacent to the Oregon inlet.

NPCA criticized the Corps environmental statement (Draft Supplement to Final Environmental Impact Statement for the Manteo Bay Project) for failing to adequately examine effects on the turtles and also on the migration of fish and invertebrates. The project could substantially lessen marine and estuarine production for many species that must migrate between the Atlantic Ocean and Pamlico Sound.

NPCA President A. W. Smith summed up the Association's view of the jetties proposal by saying, "This proposal is reminiscent of the beach erosion control program operated by the National Park Service in Cape Hatteras from 1936 until 1974. After nearly forty years of effort, the National Park Service and the Department of Interior concluded they couldn't fight nature and determined to no longer attempt to stabilize the shoreline." The Corps is still trying to fight the same old war with similar proposals to stabilize Ocean City Inlet adjacent to Assateague National Seashore in Maryland and Moriches Inlet adjacent to Fire Island National Seashore in New York. ■

New Olmsted historic site honors visionary park/landscape designer

Frederick Law Olmsted, Sr., was not only the father of American landscape architecture but also a natural visionary; his designs ranged from Central Park in New York City and the setting for the U.S. Capitol in Washington, D.C., to the original strategies for protecting Yosemite Valley in California and Niagara Falls in New York and Ontario. The creation of a Frederick Law Olmsted National Historic Site to honor him was one of the major accomplishments of a parks law signed by President Carter on October 12, 1979. (The other important provisions of this law—PL 96-87—are discussed in the following articles.)

The Olmsted site will consist of the planner's home and office at 99-101 Warren Street in Brookline, Massachusetts, which contains a massive archival collection.

Best known for designing New York's Central Park, Olmsted's other works endure all over the continent. They include Brooklyn's Prospect Park, Fairmount Park in Philadelphia, the Boston Common, Mount Royal Park in Montreal, and Jackson and Washington parks in Chicago.

Olmsted also helped win protection for the Adirondacks in New York and lobbied the United States and Canada to tear down commercial eyesores at Niagara Falls and make the area an international preserve.

He was one of a handful of people

who pushed for creation of a "wild park" in Yosemite to preserve it for public use for all time. Although Yosemite was state-owned at the time and did not revert to the federal government for some years, Olmsted drew up a strategy of management for protecting the valley that laid the groundwork for the movement to create a National Park System decades later. In an 1865 report on his plan to the California legislature, Olmsted said:

The first point to be kept in mind . . . is the preservation and maintenance as exactly as possible of the natural scenery: the restriction, that is to say, within the narrowest limits consistent with the necessary accommodation of visitors, of all artificial constructions markedly inharmonious with the scenery or which would unnecessarily obscure, distort or detract from the dignity of the scenery.

Fifty years later, the 1916 law creating the National Park Service drew upon this preservation ethic in defining the mandate of the Service:

To conserve the scenery and historic objects and the wildlife [of the national parks, monuments, and reservations] and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.

These words, which would echo over the centuries in conservation battle after conservation battle, are attributed mainly to Frederick Law Olmsted, Jr., who followed in his father's footsteps to be a park activist.

Although Frederick Law Olmsted,

Sr., thus helped sow the seeds for the entire national park movement, industrialization and population growth took their toll on many of his landscape designs and strained the faith of this "Emerson with a hoe" that providing places of natural tranquility would improve society.

A man of great originality who likely was the most influential planner in the nation's history, Olmsted died in 1903 in an asylum he had helped to design, depressed that all his goals had not been realized. Author Peter Wild sums up his legacy: "He offered the nation a vision of what it might be—a land of humane cities surrounded by the sweeps of national parks and forests. Though the public eventually hailed him as the master of the art he founded—landscape architecture—his vision failed to be implemented on a national scale. It lived, however, to be passed on to Teddy Roosevelt, Gifford Pinchot, Franklin Delano Roosevelt, and Lewis Mumford, who struggled to apply it during increasingly critical times." ■

Byron commemorated

PL 96-87, signed by President Carter on October 12, 1979, has a variety of provisions in addition to establishing an Olmsted historic site. (See preceding article.) First of all, it commemorates the late Rep. Goodloe Byron,



NATIONAL PARK SERVICE



PHOTOS COURTESY OLMSTED ASSOCIATES, INC.

As a young man during the Civil War (far left), Olmsted was one of a handful in California who sowed the seeds for the national park movement when President Lincoln signed their bill to protect Yosemite. In the 1880s (left) Olmsted lived and worked in this house in Brookline, Massachusetts, that is now the new historic site.



who long worked to protect the Appalachian National Scenic Trail. It provides for erecting a memorial right on the trail to this U.S. representative from Maryland. Rep. Byron, who grew up near the trail and hiked and camped along it countless times with his wife and children, was a driving force for many years behind protecting it. Most recently, he introduced legislation, signed into law in 1978, to protect the trail from development.

An outdoorsman, naturalist, and jogger, Goodloe Byron died in 1978 while jogging along the towpath of the C&O Canal. It was Byron's hope that the trail "forever remain a national asset, to be enjoyed each year by millions of Americans."

Rep. Beverly Byron, his wife, now represents the same congressional district her husband had served. ■

Entry fees frozen

Among other provisions in PL 96-87 is one that resolves a controversy over an Office of Management and Budget proposal to impose a sharp increase on entrance fees at National Park System units. The law freezes those fees at current levels in the sixty-four parks that now charge them. No additional parks will be permitted to charge entry fees.

The entrance fees provide a small amount of revenue that is used to help pay some of the costs of park operation, but they have never represented a major portion of the Interior Department's budget. Rep. Phillip Burton (D-Calif.) and Sen. Dale Bumpers (D-Ark.), the chairmen of the park subcommittees, led the congressional opposition to the fee increases, maintaining that the parks should be accessible to those with lower incomes.

The law does not affect other so-called "user" fees for campgrounds and other visitor services.

Other: This law also permits the burial of the late Piscataway Indian chief, Turkey Tayac, in the ossuary at Piscataway Park, Md., and creates a series of technical changes to Burton's National Parks and Recreation Act of 1978, which authorized many new parks and numerous changes in existing units of the park system. ■



La Ohana, "the family," preserves Hawaiian musical traditions of several generations. Here the group entertains crowds at the 1979 Western Regional Folk Festival.

P.S. on parks

Alan Hogenauer became the first person on record to visit all NPS units outside Alaska when he arrived at Big Cypress National Preserve in Florida on October 30, 1979. The challenge of visiting all the park units has taken Dr. Hogenauer, 38, more than twenty years—beginning with a childhood family visit to the Statue of Liberty in New York. Frequent additions to the system have increased the scope of his task; for instance, when the new Olmsted historic site became the 305th unit outside Alaska in October, Hogenauer made a quick trip to Massachusetts. Director of Market Research for TWA Airlines in New York, he makes a hobby of completing travel lists—from "Bronx Landmarks" to "Readers Digest Scenic Wonders."—*Carroll Schell, Resource Management Specialist, Big Cypress*

The Western Regional Folk Festival drew twenty thousand people to Golden Gate National Recreation Area this past fall. The festival, staged in the beautiful Marin Headlands just north of the Golden Gate Bridge, has become an annual Columbus Day weekend tradition in the San Francisco Bay area. As usual, the festival crowd celebrated the region's rich cultural and ethnic heritage through music such as down-home Afro-American blues by J. C. Burris; Mexican *Musica jarocho* by Conjunto Jarocho Hueyapan; country tunes from Rose

Maddox and the Vern Williams Bluegrass Band; Japanese folk songs from Matsutoyo Kai Minyo; a marching orchestra of the Azores from Sociedade Filarmonica Recreio Do Emigrante Portugues; Irish fiddling and step dancing from Sean Nos and Larry Lynch; and French Creole dance from Queen Ida and her Bon Ton Zydeco Band. The Western Regional Folk Festival has become one of the largest festivals featuring authentic traditional folk musicians and craftspeople in the West. The Park Service is proud to cosponsor the festival with the Fort Mason Foundation. The event is partially supported by a grant from the National Endowment for the Arts.—*Charles Seemann, Folklorist and Folk Festival Director, Golden Gate*

The Montana Department of Highways wants to intensify development at the entrance to Glacier National Park by rebuilding a 10.8-mile section of road running from Hungry Horse to West Glacier into a four-lane superhighway. Besides threatening some of the nation's best scenic resources, opening the door to development in this area will jeopardize habitat for the grizzly bear, a threatened species. The road corridor passes within eight miles of the new Great Bear Wilderness, located between Glacier National Park and the Bob Marshall Wilderness. Most of the fewer than 1,000 grizzlies remaining in the lower forty-eight in-

habit such wild sections of the Rocky Mountains in Montana. The Canyon Coalition, a nonprofit organization working to provide the public with information about Montana's socio-environmental issues, advocates a more moderate proposal for a realigned, two-lane scenic highway in the area. Legal action has been taken to halt the four-lane highway.—*Canyon Coalition, Hungry Horse, Montana*

Six U.S. Parks are now honored on UNESCO's World Heritage List as part of an international system through which twenty-one nations have agreed to protect natural and cultural sites judged to be of such outstanding universal value that they are a part of the heritage of all people. Yellowstone National Park in Wyoming and Mesa Verde National Park in Colorado were among the initial dozen areas in the world designated as heritage areas. At the 1979 meeting of the World Heritage Committee in Luxor, Egypt, four more U.S. parks were added to the list: Grand Canyon National Park in Arizona; Everglades National Park in Florida; Independence National Historical Park in Pennsylvania; and Wrangell-St. Elias National Monument in Alaska. The United States and Canada jointly nominated the Wrangells and Canada's Kluane National Park, another new World Heri-

tage area, in recognition of the international significance of this region of awesome grandeur. The forty World Heritage areas also include eleventh-century Norse sod structures at L'Anse Aux Meadows in Canada, Chartres Cathedral and the Palace of Versailles in France, the Galapagos Islands in Ecuador, Mount Everest National Park in Nepal, Memphis and Ancient Thebes in Egypt, Ngorongoro Conservation Area in Tanzania, and the spectacular Simien Mountains in Ethiopia.—*Tom Wilson, Chief of Media Information, NPS*

The possibility of restoring timber wolves to Yellowstone National Park or some other portion of their former range in the Rocky Mountains is under review by the U.S. Fish and Wildlife Service. Thousands of gray wolves once roamed in and around Glacier and Yellowstone national parks. But in the early part of this century, records show that hunters and state and federal employees killed some 36,000 wolves in Wyoming and more than 80,000 wolves in Montana. Today reportedly only a handful of individual wolves—and probably no packs—remain in those states. [In fact, populations of wolves exist virtually nowhere in the contiguous United States except Minnesota.] Scientists say Yellowstone is the most logical

place to restore the Rocky Mountain timber wolf, but some opposition is expected.—*High Country News*

Food and lodging concessions at Yellowstone will be operated by TWA Services, Inc., for the next two years, the Interior Department announced recently. The company will replace the Yellowstone Park Company, a subsidiary of the General Host Corporation, which was ousted by the Park Service for unsatisfactory service. Yellowstone Park Company paid the government 1.5 percent of its annual gross revenue for the right to operate concessions in the park. Under the new contract with TWA, the Park Service will get 13.6 percent. NPS will consider future options during the two-year span of the contract.

Another dream in the Martin Luther King legacy is in the making. So said Coretta King, wife of the late civil rights hero, as she toured the Lincoln Home here to learn first-hand how the Park Service handles historic sites. The dream is to turn King's Atlanta home, burial site, and the Ebenezer Baptist church over to the Park Service.—*Steve Slack, The State Journal Register, Springfield, Illinois*

Have an idea for P.S. on parks? Send it to P.S.—Editorial Department, NPCA, 1701-18th Street, N.W., Washington, D.C. 20009. ■

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LOS PINOS RANCH, Cowles, New Mexico, near Santa Fe, Pecos Wilderness. Accommodates 16 in relaxed atmosphere. June to October. No poisonous snakes, scorpions, mosquitoes. Magnificent riding, trips, trout, excellent food. Address: 13 Craig Road, Morristown, NJ 07960, May to September, Rt. 3, Box 8, Tererro, NM 87583.

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"I LIKE IT WILD. . ." Enjoy, promote conservation awareness and/or raise funds with wilderness/wildlife posters, note cards, T-shirts, slide sets. WILDERNESS DREAMS, Box 4455—NPCA, Shawnee Mission, KS 66204.

COUGAR MOUNTAIN SANCTUARY—Benefactors and donations needed to help otherwise "homeless" wild felines. For information: P.O. Box 99542, Tacoma, WA 98499.

ROGER TORY PETERSON COLLECTOR PRINTS. Catalog \$2.00. Wildlife Gallery, 152 Bedford Street, Stamford, CT 06901.

WILD BIRD FEEDERS: Window, Porch, Deck, Terrace, Hanging, Pipe mounted, Suet, Nest homes. Finest bird savers made. Free literature. DIALABIRD, 554N Chestnut Street, Westwood, NJ 07675.

SIGNS—ALUMINUM, PLASTIC, CLOTH. No trespassing for parks, preserves, sanctuaries, farms. TREE NAME MARKERS. Custom signs, J&E Signs, 54 Hamilton, Auburn, NY 13021 (Dept. NPC).

NPCA CONTACT Program

Please enlist me in your NPCA CONTACT program. I feel like I've sat on my duff too long; its time to regain responsibility.

Bill Halainen

Williamsburg, Virginia

Want to voice your views on the issues by being an NPCA CONTACT? Write Laura Loomis, Program Assistant, NPCA, 1701 18th Street, NW, Washington, D.C. 20009.

Grizzly hunting appalls

As a hunter and environmentalist, I was appalled by the Montana Fish and Game Commission's petitioning of the U.S. Department of the Interior for grizzly bear hunting in the greater Yellowstone area. The grizzly bear is classified as a threatened species with very serious concern over its survival.

Most guestimates by authorities place the grizzly bear's population under 1,000 in the three states where it has managed to survive: Montana, Wyoming, and Idaho (and these are the three states which are pushing hunting it). India stopped the hunting of Bengal tigers when their populations were approximately 2,000.

It is generally recognized that undisturbed habitat and/or wilderness is the most important factor in the survival of the grizzly. It is also recognized that buffer zones of his habitat (mainly national forest lands) around Yellowstone National Park are essential for the grizzly bears as they range in and out of the park. To open up this area to grizzly bear hunting would cause serious problems and losses to the ranging park bears as well as those in the backcountry of the greater Yellowstone area. Man-bear contacts and accidents are increasing; this is simply due to many more people and developments (including mining) in the backcountry in recent times. I personally feel safer in grizzly bear country than I do in downtown Billings. Moreover, the grizzlies were there first.

However, increased contacts and accidents should not be an excuse to justify hunting the grizzly bear in its shrinking and limited habitat. According to the resolution of the commission, the proposed hunting season would take care of only the "problem"

bears in the greater Yellowstone area. Certainly the commission must realize that hunters cannot tell "problem" bears from "good" bears.

The Montana Wilderness Association has a resolution on record which calls for the stopping of all grizzly bear hunting in Montana, including the present, limited hunting in northwestern Montana. I am sure that this MWA resolution has the support of most Americans and Montanans who recognize this noble animal as part of their heritage.

Perhaps people who care about the grizzly bear might write to the Secretary of the Interior in Washington, D.C., and ask that he reject the commission's resolution.

Dr. Daniel V. Henning
Eastern Montana College
Billings, Montana

Sequoiadendron giganteum

Richard H. Pough's comments (July 1979) on the importance of fire in the *Sequoiadendron giganteum* forest are fairly accurate, although such forests are not necessarily a "sad picture of mismanagement" [December 1978 cover].

Since the research performed by the late R. J. Hardsveldt and his fellow workers in 1964, fire has been demonstrated to be an important factor in *Sequoiadendron giganteum* germination. Toward the goal of reintroducing fire into this ecosystem, twelve prescribed burns encompassing 1,707 acres have been conducted since 1972 on Redwood Mountain in Kings Canyon National Park.

The reintroduction of fire into Redwood Mountain has resulted in increased *Sequoiadendron giganteum* reproduction and in a decrease in white fir density and in the fuel load. Nutrients which have been tied up in litter and in dead and down material have been released and recycled.

Prescribed burning in *Sequoiadendron giganteum* has also been performed since 1970 in Yosemite and since 1975 in Calaveras Big Trees State Park. In Sequoia and Kings Canyon National Parks, prescribed burning is an important component of the Fire Management Program which also includes prescribed natural fire and

fire suppression. Fire is recognized to be an integral part of fuel and vegetation management and is vital to proper resources management in this area.

Tom Nichols

Resources Management Office
Sequoia and Kings Canyon

National Parks, California
Pough is glad to hear from Tom Nichols about the steps that are being taken to correct the past mismanagement, which is evident from the dense understory in the photo.

"The Species We Destroy"

I wrote the song, "The Species We Destroy," with the aim of making a small contribution toward improving the environment for all inhabitants of the earth, humans as well as animals.

Accordingly, I am writing this letter in the hope that some reader may feel that the words have a worthwhile message that could promote the goals of this Magazine. If the song were performed, recorded and publicized, it could be a means of getting the message to a wide public. Therefore, I invite readers to think what they might be able to do to put this composition to use in the cause of conservation. Several verses from the song follow. I shall be glad to send copies of words and music to anyone, to sing the composition, or to lend a tape recording.

G. Frederick Stork
8810 Walnut Hill Road
Chevy Chase, MD 20015

How are chances of seeing a condor,
A lovely whooping crane,
A red wolf or Mexican duck?
Just how long will the eagle
reign?
Have you seen a Florida panther
Or a Yuma clapper rail?
The report about these poor creatures
Is a sad, disheartening tale . . .

There's time to restore our planet,
If each will do his share.
Keep the earth clean, keep it green,
Help bring back pure water and
air.
We must save precious woods and
meadows;
These are jobs we can't postpone.
Then one of the species that we save
May be our own—
The species that we save
May be our own.

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Continued from page 2

Meanwhile, many of the purposes which could have been accomplished by a stronger provision for cooperation in one organization have been worked out in the International Whaling Commission, and the IWC appears to be the appropriate forum.

THE SECOND main focus of conservationists on the American Delegation was Article 165, which had established a Legal and Technical Commission with considerable power in making recommendations to the Council of the Seabed Authority which will be established by the Treaty. It had been hoped that an Environmental Commission would also be set up; the outcome was a Legal, Technical, and Environmental Commission.

Powers were given or restored to the Commission to make recommendations to the Council on the initiation of dispute settlement procedures, on the issuance of emergency orders to prevent serious harm to the marine environment, and on the disapproval of areas for exploitation by mining where serious harm might result to the marine environment.

The Commission will also have a duty to make recommendations to the Council for the establishment of a monitoring program to measure the risks of activities in the marine environment, and the supervision of inspectors; indeed, the Commission will be responsible for coordinating implementation of a monitoring program. While we had hoped to accomplish more, these advances are significant, and will probably be accepted by the Conference this coming year.

IT IS WORTHWHILE recalling that the Negotiating Text contains a long series of articles obligating states parties to the Convention to enact domestic legislation and establish regulatory procedures to prevent the pollution of the seas through the rivers and the atmosphere. It establishes procedures for the enforcement of these obligations.

Patiently and painfully, the nations are working their way through to solutions of differences on deep seabed mining. At stake is great wealth in the form of potato-size black nodules lying strewn across the ocean floor in many places, containing manganese, nickel, copper, and cobalt. While most of these minerals are still abundant on land,

several may be scarce by the turn of the century, and the industrial nations may well be dependent on oceanic supplies. The less-developed countries need assurance of participation in resource recovery and revenue sharing when the time comes.

Institutions of the kind being created here are the essential bridges to world order under law. For the peoples of a planet torn by quarrels over resources, impending famine, and deadly overcrowding, they offer the only hope of orderly solutions and reconciliation on an ultimately democratic basis.

FOR ENVIRONMENTALISTS, the issues are of transcendent importance. At stake here are the prevention of the pollution of the seas, which has been rising at a frightening pace; the survival of the great food fisheries of the world in times of threatening malnutrition and starvation; the survival of the marine mammals, including the great whales, threatened until just recently by extinction in most cases; and the proper management of invaluable mineral resources, needed by the developed and the developing worlds alike if mankind is to lift itself above poverty in the next few centuries.

The coming year could see the final draft of the future Convention on the Law of the Sea, barring an outburst of bickering which could bring the fragile structure down. It could see a satisfactory Article 65 on marine mammals if conservationists do not insist on unnecessary further improvements and thus endanger a delicate consensus. It could see a greatly strengthened Legal, Technical, and Environmental Commission, confirmation of clauses on land-based pollution, and approval of enforcement machinery in all these matters.

ONE FURTHER point should be made. American mining interests have been pressing for legislation to sanction mining operations at sea without waiting for the Convention. The United States, to the contrary, should be setting an example in refraining from unilateral action at this time; there is no such hurry. Environmentalists, humanitarians, and persons interested in the establishment of world order under law will be supporting the U.S. Delegation in opposing such legislation.

—Anthony Wayne Smith

NPCA is working to protect the cultural and historical resources of the National Park System. If you want to help with this program, write to Historic Park Program, NPCA. Also, please send your tax deductible contribution today to help NPCA continue this work.



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