National Parks & Conservation The Environmental Journal January 1979

Sixty Years

THE PROTECTION of Nature, beginning with the most spectacular examples of the scenery of the Continent as it was before the White Man came: that was our first charge. The long views, deep forests, clear streams; the eagle, the mountain lion, the antelope; solitude, tranquility for men; a glimpse of eternity: these were to be saved, in a few special places at least, before the march of the cities destroyed them everywhere.

And so it was that Stephen Tyng Mather, founder of the National Park Service in 1916, established the National Parks Association on May 20, 1919. We shall be celebrating the Sixtieth Anniversary of the event our Diamond Jubilee—throughout the coming year.

First of all, the parks meant scenery, and the Natural Wonders of the Earth: Yosemite Valley, the geysers and falls of Yellowstone, the awesome Grand Canyon.

But the parks also meant wildlife, protected in its natural setting from the depredations of men. Will Wharton, one of the early leaders of NPA, also founded the Bison Society, to rescue the buffalo, now protected in the National Park System. Grizzly bear, elk, timberwolf, a multitude of species endangered elsewhere live without fear in the parks. The Association has helped to defend the System against hunting.

And the parks also meant forests, dark primeval woods untouched by the axe and saw, the Giant Sequoias among them, and later the Coast Redwoods.

And the parks, nonetheless, were for people. The Act of 1916 puts the protection of nature first. The enjoyment of the parks by people must be in ways which leave the resources unimpaired for future generations.

ATHER may have been concerned mainly with the enlargement of the National Park System and good facilities for visitors. Robert Sterling Yard, who became the Executive Secretary of NPA, was alert to protect the parks against overdevelopment and commercialization. The Association emerged as an independent private organization supporting but monitoring the work of the Service.

As late as 1953, the NPA was only a little group of about 3,000 persons who paid \$3 a year dues. *National Parks Magazine* was but a small-page quarterly.

Mrs. Katharine W. Bryan began a direct-mail campaign to enlarge membership beginning in 1953 and brought the numbers up to about 9,000 within five years. I took the helm as Executive Officer in August 1958. We launched our Expanded Program in January 1959, changing the Magazine to a monthly and enlarging the format, stepping up membership expansion.

We broadened the program very soon beyond the National Park System, changed the name later on to the National Parks and Conservation Association, and established ourselves as one of the major conservation organizations in the United States. A N EARLY CHALLENGE was to resist the overdevelopment of roads in the National Parks. The Tioga Road across Yosemite Park was a battleground. While we could not stop its conversion to a trans-Sierra highway, we put something of a brake on excesses.

Many years later we were to battle the Music Corporation of America and its plan to turn Yosemite Park into an "unconventional convention center" and a motion picture staging area. As part of our Diamond Jubilee this year we shall celebrate the new Draft Management Plan for Yosemite, which although not perfect, moves much more bravely toward protection than anything we have seen before.

A proposal launched in 1953 to build a road along the C&O Canal near Washington met with determined resistance by conservationists. The Army Engineers brought forth a plan a few years later to build 16 large reservoirs throughout the Potomac Basin for the dilution of pollution, one of which would have flooded much of the Canal. The NPCA brought together one of the largest environmental coalitions ever assembled to combat the dams, with participation by farm, labor, and conservation organizations. We were successful after a long battle and the C&O Canal National Historical Park is now one of the most highly treasured units of the System.

The venture took us into ecological river basin planning. We broke new ground as to the human values which ought to govern river management: flood plain protection against development, for example, as contrasted with flood control dams which drown farms and communities.

E JOINED forces with the wilderness protection people early in their efforts: Bob Marshall, Sigurd Olson, Howard Zahniser. Wilderness in the parks was already protected in considerable measure by the Act of 1916, but could be given additional protection as Congressionally approved roadless and primitive country.

The problem was to prevent the remaining lands in the parks from being overdeveloped as a consequence. We proposed a system of comprehensive interdepartmental regional planning aimed at the dispersion of visitation out into the National Forests, BLM lands, reservoir areas, and the like. We shall be pressing this approach in the years ahead as deep currents of our society move toward nature protection, not destruction.

But the dispersion of crowds into the National Forests requires harvesting methods in the forests which provide an even flow of timber and other forest products and at the same time protect the scenery, wildlife, vegetation, recreational opportunities, and the forests themselves. This meant using the selection systems of management in contrast with large-block *Continued on page 31*



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FRONT COVER: Moonlit sea stacks, Olympic Beach, by Ed Cooper BACK COVER: Tidepool, Olympic Beach, by Ed Cooper Dramatically silhouetted against moonlit sea and midnight sky, Olympic Beach's characteristic sea stacks seem like creatures from a fairytale. Equally strange and wonderful are the tidepools, where colonies of green sea anemonies resemble underwater gardens tended by red and purple starfish for visiting fish and crabs. (See page 4.)

Eugenia Horstman Connally, Editor Joan Moody, Assistant Editor Nancy Schaefer, Editorial Assistant

National Parks & Conservation Association, established in 1919 by Stephen Mather, the first Director of the National Park Service, is an independent, private, nonprofit, public service organization, educational and scientific in character. Its responsibilities relate primarily to protecting, promoting, and enlarging the National Park System, in which it endeavors to cooperate with the National Park Service while functioning as a constructive critic. In addition, the Association engages in domestic and international programs involving parks, forests, wildlife, wilderness, recreation, open space, rivers, oceans, pollution, pesticides, ecology, environment, population, transportation, historic and archeological preservation, natural resources, and related or comparable matters. Life memberships are \$750. Annual membership dues, which include a \$7 subscription to National Parks & Conservation Magazine, are \$150 Sustaining, \$75 Supporting, \$30 Contributing, \$22 Cooperating, and \$15 Associate. Student memberships are \$10. Single copies are \$2. Contributions and bequests are needed to carry on our work. Dues in excess of \$7 and contributions are deductible from federal taxable income, and gifts and bequests are deductible for federal gift and estate tax purposes. Mail membership dues, correspondence concerning subscriptions or changes of address, and postmaster notices or undeliverable copies to National Parks & Conservation Association, 1701 Eighteenth Street, NW, Washington, D.C. 2009. When changing address, allow six weeks' advance notice and send address label from latest issue along with new address.



by EARL CLARK

OLYMPIC:

AS CAPTAIN GEORGE Van-couver sailed up the Pacific coast of North America in the spring of 1792 enroute to his epoch-making discovery of Puget Sound, he entered this description of the coastline in his ship's log: "In the vicinity of those fertile and delightful shores we had lately passed, we had not . . . seen any inhabitants, or met with any circumstances that in the most distant manner indicated a probability of the country being inhabited."

Remarkably enough, the great e---1orer could make nearly that s : judgment today about this stretch of the Washington coast. From the Hoh River north to Cape Alava-a distance of about forty miles-the only human habitation is the Indian village of LaPush, at the mouth of the Quillayute River. Otherwise, viewed from the ocean, this wilderness beach seems as devoid of human imprint as it did when Vancouver and earlier Spanish explorers sailed by.

Fortunately, it seems destined to stay that way. In 1953 President Harry S Truman, by presidential proclamation, added this strip of primeval coast to nearby Olympic

The wild and rugged grandeur of the Washington coast is preserved at Olympic National Park

Washington's Wilderness Beach

National Park, thus ensuring that it would be protected from development. Furthermore, despite occasional pressure from Olympic Peninsula interests that would like to have a highway paralleling at least part of this wild beach, the Park Service has continued to limit beach access to two existing automobile entrances and a few trails. Thus, in spite of nearly half a

million visitors in 1978, Olympic Beach is likely to remain as former Supreme Court Justice William O. Douglas described it, "the wildest, most remote and picturesque beach of our whole coastline."

OLYMPIC IS, in fact, not one, but a long series of beaches constantly being reshaped by the forces of sea and rain. Separated from one another by rugged headlands that jut into the Pacific surf, each beach offers its own special attractions and challenges to the hiker. Some are big, some are small. Some beaches are hard packed sand, especially when the tide is out. Some are soft, which makes for slow hiking as it is hard for feet to get a purchase in the yielding sand. Some are gravel,

which is even harder walking. And when the tide is in, you may find yourself clambering over huge driftwood logs, or barnacle-encrusted boulders.

It is absolutely imperative to know the times of low and high tides when you hike these beaches. Some headlands that may be rounded safely at low tide are impassible at high tide. Luckily, all these danger points can be bypassed by trails.

From the Hoh River to Third Beach, for example, almost a third of the trip may be inland, so numerous are the intervening cliffs and promontories.

Seaward, for the entire length of the beach, one is never out of sight of "sea stacks"—great rocks jutting up from the surf for hundreds of yards offshore—some large enough to justify being named as islands, smaller ones so distinctive as to have been dubbed Hand Rock, Foot Rock, Old Man Rock, and the like. Eons ago these stacks were part of the mainland; but as the relentless ocean battered away the cliffs, the softer rocks and clay sloughed off into the sea, leaving these hard basaltic rock spires standing in lonely



isolation while the tireless ocean went on grinding big rocks into little rocks, and little rocks into sand.

The process, of course, is never ending. Look along any stretch of this beach where it is bordered by steep cliffs, and you will see giant trees leaning out at drunken angles, except where they are rooted atop a solid rock outcropping. Between these rocky points the banks are largely clay. This coastal stretch averages 120 inches of rain a year, most of it in the period from October to April, so the actual monthly average is closer to 17 inches a month. The torrents of rain quickly saturate the thin covering of soil and turn the clay into a slippery mass that needs only that one more drop to cascade down to the beach, taking the covering landscape with it.

Once the trees topple onto the beach, the ocean goes to work on them. Few beaches anywhere have a greater accumulation of driftwood than this Pacific beach, some of it chewed out of the thickly forested shoreline by the insatiable surf, some carried to the shore by rivers flowing from the interior.







The pounding Pacific surf and an average rainfall of ten feet a year have carved out the many islands and jagged sea stacks that lend such drama to Washington's Olympic coast. Sea and rain also continually reshape the curving beaches and eat away at the soft clay banks of the shoreline, exposing rocky headlands that bar the hiker's path at high tide. Trees toppled when these banks collapse will eventually be added to Olympic Beach's vast store of driftwood. Heaped and scattered along the shore, driftwood provides drama and sometimes danger for visitors to this wilderness beach, for it shifts treacherously and may injure the unwary.

Of course, not all the driftwood is home grown. Crates and boxes with foreign lettering, pallets, and logs and lumber washed off ships at sea end up here, too. On my first trip to Olympic Beach a quarter century ago I spotted a bundle of freshly cut two-by-fours, still bound in steel tape, washed up on the beach. On my most recent trip I found the bundle still there, thrust back into the woods by winter storms and now just as weathered and fraved as the battered logs that are the ocean's playthings.

This abundant driftwood might seem ideally suited for building shelters and campfires—which are permitted on the beach if kept well away from driftwood—but visitors should approach it cautiously. It consists largely of full-sized trees, too big to be easily used for firewood, and apt to roll and shift treacherously, especially at high tide. For safety, the Park Service provides numerous shelters and posts areas where beach logs present extra hazards.

I F YOU are well prepared for it, winter can be the most rewarding time of all to visit Olympic Beach. In winter the beaches, especially the most remote, are almost devoid of other travelers; and the power of the sea is at its most awesome, with high tides and howling storms tossing the driftwood like matchsticks. It is a time to take refuge in one of the shelters provided every few miles; a time to have longjohns, rainsuit, and warm parka in the pack, not forgetting a cap with ear flaps, and warm gloves.

At such times it is easy to see why many a ship has met its doom along these rock-strewn shores. Some of these disasters are marked by memorials along the beach. One such is the Chilean Memorial, north of Rialto Beach, erected in memory of a ship from that country that went down off Cape Johnson in 1883 with a heavy loss of life. Farther north near Cedar Creek is another memorial, this one to a Norwegian ship that went down in 1903 with the loss of eighteen men, whose names are engraved on a stone obelisk in a clearing a little off the beach.

CAPE ALAVA, westernmost point in the contiguous forty-eight states, marks the northern end of that part of the Olympic seashore lying within the park. The Cape is the ancestral home of the Makah Indians, whalers and fishermen whose descendants now live on a reservation just north of the park boundary. Fascinating remnants of an-



Like the rocky outcrop at Rialto Beach, above, that seems to have turned the ripples of the retreating tide to stone, fascinating rock formations abound at Olympic Beach. Cannonball Island, off Cape Alava, got its nickname from the perfectly rounded stone concretions at left. According to legend, ancestors of the peninsula's Makah Indians hurled similar stones at their attacking enemies from the safe vantage point of this island fortress.

cient Indian cultures can still be seen at Cape Alava and its offshore Islands.

At Wedding Rock, for example, petroglyphs depicting killer whales, dance masks, and even what might be a Spanish sailing ship are etched into the basaltic rocks on the beach. Although the sea has done some rearranging of the rocks since I first saw them, the petroglyphs are still largely intact and still puzzling to archeologists, for they are apparently not of Makah origin.

North of the Cape, at a site where some five hundred years ago a mud slide buried an Indian longhouse, a Washington State University archeological team has uncovered more than 50,000 Indian artifacts—the largest such discovery ever made. Interested visitors can be escorted through the working by the hospitable young crew members and a museum to house the artifacts is expected to open in the coming year.

Offshore from Cape Alava is Tskawahyah, or Indian Island, popularly known as Cannonball Island, to which you can walk at low tide. At its base are hundreds of basketball-sized boulders or concretions, so rounded by the sea that they are the size and shape of cannonballs. Legend has it that besieged Makahs from the adjacent village would seek safety atop this little wooded island and drop the round boulders over the cliff on their assailants.

EVEN MORE FASCINATING than these reminders of human occupation, however, is the wildlife that visits the sandy shore and inhabits the tidepools in the offshore rocks. The best time to be on the beach is at low tide, especially a minus tide. Off most of the sandy beaches are rocks still being ground down by the surf, not visible until the sea recedes and leaves them exposed. These rounded lava ledges bring to view an exciting world of sea life as the tide withdraws. The ocean serves as a pestle grinding away at these ledges, churning gravel around in them to create myriads of little pools, from dishpan to bathtub size. It is easy to stroll past these pools and never notice the teeming life in them. But crouch beside one and observe a while, and you will become aware of a microcosm of sea life at your feet.

Barnacles and mussels left high and dry on the exposed rocks have closed up awaiting the next lifegiving tide; but down in the pools they gape open, sifting out the plankton that enrich these waters, especially in spring and summer. Hermit crabs, few larger than an inch in diameter, scuttle back and





forth in their borrowed shells. The little crab's most vulnerable point is his rear end, and once he has ensconced it in an abandoned shell, he's found a home—a mobile home.

Sea urchins, their spines combing the water for food, stick to the submerged rocks like tiny purple porcupines. (In fact, their name derives from a Latin word meaning hedgehog.) One of the earth's oldest forms of life, sea urchins have been used to cure such diverse maladies as ulcers, scrofula, and kidney stones. They are still considered a culinary delicacy in some parts of the world.

Beside them flowerlike sea anemones may be harvesting food with tentacles that are green from the algae inhabiting their tissues. Look longer, and you may see tiny fish darting about, or crabs and marine snails hidden in the seaweed on the floor of the pool. Several varieties of starfish brilliant orange, scarlet, or purple—may be plastered against the rocks, lying dormant until revived by the tide.

Other tidepools are lavish gardens in which sea flora undulate when the sea washes over them. There is the noisy sea sac, or popweed, so called because its pods break with a snapping sound as you walk over them, or may even just pop open when exposed to a hot sun. Fronds of the fir-needle seaweed, a popular delicacy in Japan, wave gently from the rocks. The ubiquitous kelp sends long streamers out from rocky crevices. Brownish sea girdle, from which iodine is made, floats lazily in its underwater garden.

For all its beauty, the beach might still be cluttered and smelly were it not for the scavengers of all shapes and sizes that keep it clean. Smallest of these is the sand flea, forever hopping underfoot, particularly relishing seaweed that has been thrust ashore to die and rot. Little sand dollars, about the size of silver dollars, burrow after tidbits in the sand. Flocks of sandpipers frisk along the sand at water's edge, picking the last bits of meat out of stranded shellfish. And swooping low over the water are the sea gulls, scooping up clams at low tide and dropping them on the rocks to break them apart. The gulls roost on offshore rocks with the fish-eating cormorants, but their fellow scavengers, the raucous crows, prefer the safety of the shoreline trees. Aloof from these noisy and gregarious birds, bald eagles soar overhead, to light on remote eyries on the rocks off-shore.

But not all the beach life is under water, or flying overhead. Once my son and I were walking up this beach when we were puzzled by the sound of voices above the booming surf—puzzled, because look as we might, there was absolutely no one in sight. At last we traced the unseemly racket to its source. Out on the rocks about a hundred yards offshore was a great herd of sea lions, probably on their



annual migration from Alaska to California, barking and chattering at a great rate. We started edging out onto the rocks for a picture, but as we got closer, more and more of the herd slithered into the water. A huge grandfather bull was the last to leave, squawking indignantly at us as he heaved his bulk into the sea.

On another trip, my companion and I were spraddled on the beach with a log for a headrest, basking in the sun after a lunch break. It was low tide, and out on the exposed rocks a movement caught our eyes. A fawn was having a great time exploring the tide pools, oblivious of the incoming tide. Then, scarcely fifty feet away, a doe bounded out of the woods and over the bank, unconscious of our presence. Reaching the fawn, she began gently but insistently nudging him back to shore, for all the world like any mother urging her child to quit a risky adventure and get on home!

Waking at sunrise in our sleeping bags at Cape Alava one morning we spotted a pair of raccoons out on



At low tide, offshore tidepools, opposite, offer absorbing glimpses of marine life in microcosm. Awaiting the return of the lifegiving tide, brilliantly colored starfish and the colonies of gooseneck barnacles on which they feed form abstract patterns on the exposed rocks. In the shallow pools, the tentacles of green sea anemones comb the water for food, and hermit crabs scuttle for shelter across the sandy bottom, their soft bodies protected by borrowed shells, above. Everywhere, glistening seaweeds festoon the rocks and undulate gently with the tide.

the rocks at low tide, happily stuffing themselves on a seafood breakfast.

You'll never walk the beach without seeing the tracks of these animals in the sand; and perhaps if you're lucky, you may come across bear tracks as well. But you'll be most likely to see resident harbor seals sunning themselves on the offshore rocks or bobbing around in a cove as if curious to observe the strange two-legged creatures up there on the beach.

N^O MATTER WHICH of Olympic Beach's many attractions you may encounter on any visit, you can be sure of one thing—you will have different adventures the next time. For the beach changes from year to year, even from month to month.

The little sand beach you remember from one trip may have been heaped with gravel your next time out. The creek beside which you camped one year may have been obliterated by a slide the next. What the seething ocean gives, it is just as apt to take away.

But one thing never changesthe grandeur of this rugged coast. Olympic Beach will furnish you memories to cherish forever: a spectacular sunset over the ocean, the timeless ocean-wrought sculptures, the breathtaking skyful of stars that you never see in such abundance back in the city, the booming surf that imprints its rhythmic roar upon your ear until long after you have left the beach. Perhaps above all you will remember that a mere person, after all, is only as a grain of sand when confronted with this mighty display of nature's cosmic forces.

A free-lance writer whose articles have appeared in *American Heritage*, *Travel*, and *American West*, Earl Clark is well equipped to guide us along Olympic Beach. Living as he does in nearby Port Angeles, he has hiked the beach for years in all seasons.

Every day tons of a practical source of fuel are thrown in garbage cans and flushed down sewers in the United States

by JAN S. PAUL

METHANE– Alternate Energy

W^E AMERICANS are truly paradoxical. Energy is a focal issue on our minds, yet we scream about oil shortages and existing or projected high costs; we argue loudly the merits and problems of nuclear power; we equate any alternative power as being inferior and expensive; and we ignore a source of endless energy that is technologically well advanced, environmentally safe and clean, and relatively inexpensive-methane.

The elements of methane gas are contained in all organic matter. The release of this gas as organic matter breaks down is part of the process called anaerobic digestion. Many kinds of organic matter, whether plant or animal in origin, can be decomposed by anaerobic digestion.

In nature this process produces pools of natural gas. It is possible, however, for man to duplicate nature—and in less than thirty days instead of thirty million years. Methane is a major constituent of natural gas, comprising better than 90 percent from most sources. The gas produced from organic materials has a somewhat lower heat value because of its carbon dioxide content, but it can be used in any application where natural gas is used.

HY AREN'T WE using this source of methane? It isn't because we lack the technology. In fact, it seems everyone has the technology. There is Exxon, with its catalytic coal process; and the University of Hawaii and Encotech with their pig manure and shredded palm fronds; Bio-Gas of Colorado, Inc., Loveland, Colorado, has developed a pilot plant to produce gas from the waste from beef cattle; and others are experimenting with drilled gas wells in land fills. The problem is that each of these processes has a mind-jolting price tag-thousands, even millions, of dollars.

How is it, then, if methane production is so expensive, that a farmer in rural India-poor by U.S. standards-can cook and heat and light his house for a construction cost of \$400 and the manure from six cows? Technology, you see, sometimes gets in the way of simple practicality. (Admittedly, this unit would have a low power potential-about equivalent to a 400-watt standby generator.)

The simplest methane generator costs only pennies. It is a gallon glass jug, a rubber stopper with a hole in it, and a length of metal tube. Although in energy-generating terms it is a toy, this device does work. Keep its simplicity in mind as we delve into the methane generation process.

As I said, methane can be generated from organic matter from many sources; our greatest source of organic matter is garbage and

animal waste. Methane generation plants could easily consume all our organic garbage in short order. In fact, Hawaiian-based Encotech projects are disposing of the garbage generated by the approximately 680,000 people of Honolulu. The same thing could happen in New York, Chicago, Miami, Los Angeles-anywhere.

Astounding as the idea may be of neutralizing our urban organic waste and obtaining energy in the process, the main attention for anaerobic digestion processing is focused in rural areas. If cities have garbage problems, consider the farmer. Agricultural organic wastes amount to more than twenty times that of organic waste produced by man in all other activities. Every farmer knows the problems of disposing of animal waste. Methane generation seems to be a resourceful, environmentally sound solution of the disposal problem.

METHANE GENERATION involves two major groups of bacteria and works through a two-step decomposition process. First, acid-forming bacteria go to work on the waste, converting it to soluble volatile organic acids. After these acids are formed, methane-forming bacteria go to work, releasing methane, carbon dioxide, and hydrogen sulphide. The bacteria responsible for anaerobic decomposition are pres-

Source

ent everywhere in nature. They create methane gas, however, only in the absence of oxygen.

You may ask, then, if anaerobic digestion is such a good idea, why aren't we already using it to clean up our environment? In truth the process has been in use at sewage treatment plants for years, but with little publicity and little effort to capture the gas for use beyond the limits of the treatment plants. This track record, however, has nothing to do with failure to use the process. Rather, it is related to where and how the process is employed. The organic wastes that we flush into our sewers and septic tanks are broken down by anaerobic digestion. (Methane is the gas involved in septic tank explosions and is one reason they are vented.) We don't hear about the process at our local sewage treatment plant because sewage is avoided as a topic of conversation in civilized society.

Further, methane production and recovery at sewage disposal plants have not been consistently successful. There are two reasons for this lack of success, based on the fact that environmental conditions greatly influence anaerobic digestion. First, sewage flowing into a disposal plant comes from many sources, none of which can be readily identified or specifically controlled. The likelihood, theretore, of sewage containing toxic



SIMPLEST METHANE GENERATOR





Organic matter

The simplest methane generator (left) is a jug with a cork and a tube. Methane gas is a valuable byproduct of anaerobic digestion, a complex process that takes place in organic matter in the absence of oxygen (below). Either plant or animal organic matter may be decomposed by anaerobic bacteria.

Methane gas Sludge Carbon dioxide and Hydrogen sulphide effluent Methane production by methane-forming bacteria Volatile organic acid production by acid-forming bacteria Water Heat

METHANE GENERATION

materials that can destroy the necessary anaerobic bacteria, is great. Second, because the primary function of a sewage plant is to dispose of sewage, it has been generally accepted that if enough methane gas was recovered to run the plant and perpetuate the process, the plant was well operated. Excess gas is usually burned off and thus wasted. Because more than that minimum goal was not demanded or expected, using such operations as examples of marginal success is unrealistic and unfair.

Anaerobic digestion, however, does have some disadvantages. Aside from the high initial capital cost, methane gas is potentially explosive. The process has a critical temperature range so that regular maintenance supervision is necessary for success. Raw waste must be properly diluted and mixed. Although the digested material is a rich soil additive and organic fertilizer and has no pest problem, anaerobic digestion reduces its solid volume by only one-third to one-half; thus a residue remains for land disposal. The effluent has not been treated enough to be released into water sources. That would require further (tertiary) treatment.

Nevertheless, the advantages of the process far outweigh these drawbacks. The process produces a combustible gas that can be readily substituted for natural gas, propane, gasoline, kerosene, and when used to fuel a power generator—electricity. Thus the fuel value of methane is similar to that of other common fuels.

Methane is also odorless, colorless, clean burning, and 100 octane, and it produces no residues. All it leaves behind in burning is water vapor. Being a dry-vapor fuel, it is 100 percent utilized, as opposed to up to 30 percent loss through evaporation in wet fuels.

ALTHOUGH anaerobic digestion is a sensitive process, "sensitive" is not necessarily synonymous with "complicated." Solid waste is diluted with water to make a slurry. This slurry is well mixed and channeled into the digester tank where it is retained for ten to thirty days until digestion is complete (longer for a nonseeded batch). Mechanical stirring will speed the process, decrease retention time in the tank, and prevent crusting on the inside walls of the tank.

A constant tank temperature should be maintained for the most consistent results; 95°F is a practical optimum. In cold weather, part of the methane should be used to warm the slurry; perhaps 45 to 55 percent of the methane is required in cold climates in winter. A report from the University of Georgia indicates that only 15 percent of generated methane is needed to maintain the process at peak efficiency there and that a pH value between 7.0 and 8.0 gives best results. Organic overloading of the tank and extremes of temperature will disrupt the microbial processes, which will decrease the pH.

Actually, an anaerobic system can be as small and simple as that gallon jug, or as complicated as

Heat Value of Methane as Compared with Common Fuels	
Fuel	Heat Value
Methane gas Natural gas Wood Kerosene/Diesel Electricity Coal	600 BTU/ft. ³ 2,200 BTU/ft. ³ 7,400 BTU/lb. 19,500 BTU/lb. 3,420 BTU/KWH 13,600 BTU/lb.

Encotech's \$400,000 units designed to produce 80,000 gallons of methane motor fuel per week, or Exxon's \$2 billion, 250-millioncubic-feet-per-day plant.

The Indian gobar gas unit is practical simplicity incarnate. It consists of a well 8 to 10 feet deep and 5¹/₂ feet in diameter, lined with brick, and with a concrete bottom to prevent seepage. Animal waste solids and water are mixed 1:1 in an open vat to form slurry. The slurry is then piped into the well and allowed to ferment. Fermentation (anaerobic digestion), of course, releases methane, which is collected in a steel cylinder. From this storage cylinder the gas is piped into the house as fuel for cooking, lighting, and heating. Gas may also operate small machinery.

The entire cycle takes twenty days, after which the slurry is drawn off into an open pit. When the moisture has evaporated and the residue has dried, what is left is nitrogen-rich fertilizer that is superior in some ways to raw animal waste. In fact, many Indian



SINGLE-DIGESTION TANK

farmers feel that they return their investment in about two years in fertilizer savings alone. Such a basic Indian one-family plant requires six cows or sixty-five pounds of dry matter per day of similar organic waste. On a twenty-day cycle, approximately 1,200 pounds of waste go into the slurry.

CO FAR the consideration has been simplicity, a direct adaptation of that jug-and-tube toy on a useful scale-what is known as a single-stage or single-digester unit. A two-stage digester does better in both gas production and organic solid reduction, because the second digester holds the slurry until further digestion is completed. Obviously, a two-stage system will cost considerably more than a single-stage system. An acceptable compromise, however, is possible with a single tank unit using a floating partial cover, a heater, and a means to mechanically stir the slurry.

Another variable that affects

both production of gas and cost of equipment is the method of feeding. Most economical in terms of initial investment is "batch feeding," in which the digester is loaded once and closed, the process allowed to run its course, the gas collected, and the slurry residue emptied when gas production ceases. Although this sytem is ideal for small volumes of wasteand is the one used in the simple systems discussed so far-and can be quite satisfactory with little or no supplemental heat, gas production tends to be uneven, and slurry detention time is longer because there is an unproductive starting period until the necessary methane bacteria level is reached.

"Continuous feeding," on the other hand, produces a constant gas supply because the older slurry provides buffering and seed bacteria for new slurry; handles a larger and more constant volume of waste; and has less variation in pH. This procedure, however, requires more initial investment in equipment and more daily supervision.



MECHANIZED SINGLE-TANK METHANE GENERATOR

The gobar gas unit in use in India is a simple single-digestion methane production system (left). The improved mechanized unit above provides a simple means to stir (by hand) and heat the slurry. This type of unit will speed the production of gas by optimizing environmental conditions. O^{BVIOUSLY} generation of methane gas is not reserved for the big energy-producing corporations or for the rich. It is as available to and practical for ordinary citizens as other alternate energy sources, and at reasonable cost. Unlike wind power or solar energy, it does require a "fuel" source, and at first glance that requirement could seem to be a problem for the urban and suburban dweller. Not so.

Ideally, all organic kitchen garbage in the country should be disposed of, not down the garbage disposal, but into a "gobar" type anaerobic processing unit. Such a plumbing arrangement is not likely at the moment; public health and sanitation people would take a dim view of such a system. The basic point, however, remains: The organic waste that ordinarily goes down the disposal or out in the garbage can, if chopped fine and watered, produces methane gas. A little raw manure will speed the process and is available even in metropolitan areas (riding stables, kennels, egg farms).

Methane from organic waste may not be the total energy selfsufficiency of the future. Really, what is? But if every farm and every urban community, either as individuals or in cooperative accord, reclaimed the energy from this ever-present and currently proliferating waste, we would have not only an additional and self-perpetuating source of energy, but a richer and more beautiful environment as well.

Educated and trained as a physicist and nuclear engineer, Jan S. Paul answered questions about the safety and economy of nuclear power with the edict, "If it is so terrible, then find an alternative." Now she is taking her own advice and is looking at alternatives. DRAWINGS BY ART SERVICES The Convention on International Trade in Endangered Species has several inherent weaknesses . . . but is the U.S. government adequately enforcing the laws?

by FAITH THOMPSON CAMPBELL

A Continuing Threat to Survival of Species

ONSERVATIONISTS are be-coming increasingly concerned over the imminent threat of extinction facing much of the world's wildlife and plants. The international demand for such luxury items as turtle soup, fur coats, reptile leather shoes, and exotic pets and houseplants is the major threat for some species. None of us would argue that supplying such a demand justifies extinction of a unique form of life. But strong economic and even psychological pressures prevent total elimination of the trade in certain species. The need, then, is for scientific management of the trade to assure continued survival of the species concerned and their rational utilization. Unfortunately, the best international mechanism vet devised for managing the trade is not fully effective.

TRADE:

The reasons for trade in wildlife and plants and their products are many. Some species are valuable for scientific research or development of new medications. Others are valued for their beauty, either as pets or as processed products such as purses, apparel, or desk ornaments. The willingness of people to purchase such items creates the demand. The supplier is often a rural resident of a developing country who has few sources of cash income other than the collection of monkeys, birds, crocodiles, or plants. Efforts by the governments of supplier countries to control the export of wildlife, plants, and their products are usually fruitless because prices are sufficiently high to foster smuggling. The need is for an international agreement to regulate the market in the *consuming* countries.

Precisely such an approach has been implemented by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

CITES creates a complex mechanism for regulating trade in endangered and threatened species. In brief, appended to this international treaty are three lists of protected organisms of varying degrees of endangerment. Each list, or appendix, offers a different degree of protection.

Appendix I species are those threatened with extinction. Commercial trade in these endangered species is prohibited, and they may be exported or imported only for purposes found not to be detrimental to their survival.

Appendix II lists species that may become threatened with extinction. Commercial trade in these threatened species is permitted, but only at a level that will not be detrimental to the species' continued survival.

Appendix III lists species that do not meet the criteria to be included in Appendix I or II but which individual countries wish to protect within their own borders and trade in which they seek international assistance to regulate.

The determination of safe levels and allowable purposes of trade is made by an independent scientific authority established by each country under CITES.

Export permits are required for trade in Appendix II and III species; export and import permits for those listed on Appendix I. These permits are issued and validated by a separate management authority, which acts after receiving the advice of the scientific authority and determining that the specimen was acquired legally. This body must also determine that live animals and plants will receive proper care both during transit and at their destination.

In the case of specimens that are held or processed in a country other than that from which they were taken in the wild, a management authority must issue a re-export permit which certifies that they were imported into that country in accordance with the Convention and that living specimens will be cared for properly.

Negotiated in 1973, CITES came into force in July 1975 after ten countries had ratified it. Fortyseven parties have signed the treaty.

The United States has always taken a leading role in wildlife



The demand for products made from wildlife is the major factor in the endangerment of many species. Although importing products manufactured from endangered species is illegal, Fish and Wildlife Service special agents have seized many contraband goods, such as this leopard purse, cheetah compact and slippers, tortoiseshell jewelry and forks, and crocodile shoes.

conservation; this is equally true with regard to CITES. The treaty was negotiated at Washington, D.C., under U.S. leadership. The United States, moreover, is a major consumer of wildlife and wildlife products.

According to Fish and Wildlife Service figures, in 1976 the United States imported 91 million manufactured goods, including coats, shoes, purses, jewelry, and carvings; 32.5 million skins and hides; 34,000 game trophies; and 300,000 live birds. Data indicate that the trade continues to grow.

In 1977 the United States imported the following products originating from just one genus of lizard (*Tupinambis*): 29,292 pairs of shoes, 8,000 other leather goods, and 308,714 skins. One hundred and sixty million plant units (plants or seeds) were imported.

DESPITE the United States' traditional leading role in conservation and its responsibilities as a major consuming nation, implementation of the CITES has been slow. An Executive Order creating the Scientific and Management Authorities was not issued until April 1976, a full year after the tenth party had ratified the Convention. Regulations governing the granting of permits underwent the normal stages of drafting, release for public comment, and final issuance; they went into effect in May 1977. Thus, at the time of this writing, the United States has been actively enforcing the CITES for only sixteen months. Already some people fear that the U.S. effort has been inadequate.

Evaluating these allegations of lax enforcement is difficult for several reasons. First, CITES was never intended to stop trade in wildlife and plants, so charges that it has failed to do so are wide of the mark.

Second, at least at this early stage it is difficult to get an overall picture of the impact of CITES on U.S. trade; consequently, impressions of lax enforcement arise from individual incidents that may not reflect the broader situation.

Finally, even with the best will of the U.S. government agencies involved, CITES is not a perfect tool for managing trade. Many important countries that supply wildlife are not members; these countries include Indonesia, Thailand, Tanzania, Zambia, Argentina, and Colombia.

Important transshipment ports are also excluded; among them are Singapore; Barranquilla, Colombia; and, until August 1978, Colon, Panama.

Several consuming and processing countries are also not parties: Japan, Italy, Belgium, The Netherlands, and Spain. France joined only in May 1978.

The importance of the ports and

fashion centers of Europe is magnified by the fact that wildlife and wildlife products rarely travel from the country of origin directly to their ultimate destinations but, rather, are first stored or processed in a third country. CITES attempts to control trade from and through these nonparty countries by asking parties to require similar export permits from *all* countries, but the possibilities for "laundering" shipments to conceal illegal origins are legion.

HE DIFFICULTIES associated with evaluating the "laundering" problem and devising a solution are illustrated by the case of the African elephant. This species was placed on Appendix II of CITES effective February 1977. Data from 1976, before the elephant received such protection, indicated that considerable quantities of ivory were leaving Africa illegally. For example, although Zaire had authorized the export of only 1.5 metric tons of ivory-all to Belgium—Hong Kong and Japan reported importing 283 metric tons from that country.¹ Similarly, Kenya reported exports of 68.7 metric tons, but importers recorded a minimum of 284.4 metric tons originating from Kenya.²

Alarmed by these data, conservationists pressed the U.S. Fish and Wildlife Service (FWS) to declare the African elephant endangered and to prohibit further ivory imports. The Service wished, however, to allow continued sales of ivory obtained through legitimate means, such as culling or legal hunting. A compromise was reached under which the Service declared the African elephant to be a threatened species and adopted special import regulations. These regulations, which went into effect in June 1978, strengthened the existing CITES provisions by requiring that both countries of origin and countries where the ivory is carved be parties to CITES.

Some people have questioned whether these regulations can effectively curb trade in laundered ivory. Others allege that the Service has failed to enforce the ban on imports from nonparty countries. It is still too early to answer these criticisms because adequate postregulation data are not yet available.

VEN IN CASES of direct ship-L ment of specimens from the country of origin to the consumer, CITES may not prevent overexploitation. Governments setting export levels face strong economic pressure to allow the highest possible export. Importing countries have no mechanism to limit imports of Appendix II species, even when their scientists believe that overexploitation is occurring. Concerned governments may, of course, limit imports of such species by their own domestic legislation; but this approach is not so effective as international agreement.

CITES is also ineffective in assuring proper care of live animals and plants during collection from the wild and initial shipment, because these tasks are usually performed by poorly educated villagers isolated from governmental regulation.

At the international level, however, CITES does have a role. Treaty signatories are expected to adopt transport standards in March 1979. However, the past laxity of airlines and governments indicates that we must be prepared to press the government to enforce these standards.

Finally, lack of sufficient personnel at border crossings and the skill of professional smugglers mean that individual valuable smuggled species will always escape detection. Fortunately, the impact of this trade on entire species is usually small.

HE PROBLEMS I have de-scribed are major weaknesses in realizing the control of trade envisioned by CITES, but they are to some extent unavoidable. More disturbing are the alleged failures of the U.S. government effort itself, failures that could be corrected by the good will, energy, and dedication of responsible officials. The most easily documented failure is that of the Animal and Plant Health Inspection Service (APHIS) of the U.S. Department of Agriculture, which until recently completely ignored its responsibility to enforce CITES regulations pertaining to plants.

Within days of the CITES regulations coming into effect in May 1977, the Deputy Administrator of APHIS sent a memorandum to Regional Directors outlining a policy of nonenforcement. The memorandum instructed personnel to advise importers who lacked proper permits to contact the Management Authority to obtain them; "however, until further notice, no shipment of plants should be detained or refused entry because of the lack of or inaccuracy of documentation." Similarly, exporters were to be advised that documents were required and that the shipment might not be allowed in by the importing country; "but we should not stop the shipment." APHIS justified this policy by the lack of financial and personnel resources to enforce CITES.

The result of APHIS policy was virtually unregulated trade in rare and protected plants. APHIS estimates that in FY 1977 38 million plants subject to CITES were imported; virtually none of these plants had permits. Angry botanists reported imports of extremely rare cycads from South Africa, some of which were allegedly stolen from botanical gardens. U.S. conservationists were alarmed at the government's failure to control the export of ginseng and cacti, listed on Appendix II. Although no one will ever know the exact volume of this trade, U.S. statistics on ginseng exports in 1977 indicate its dimension: the Management Authority figure, based on permits issued, is 4,202.5 pounds; the Commerce figure is about 400,000 pounds.

U.S. failure to enforce CITES provisions relating to plants had serious implications both for plant conservation and for continued U.S. leadership of the world conservation movement. Concerned government officials and conservation organizations began pressing APHIS to reverse its policy. Alerted to the problem, former Senator Brooke wrote highly critical letters to both the Department of the Interior and the Department of Agri-

Because of many threats to their continued existence, the entire family Cactaceae is listed for protection on Appendix II of the Convention on International Trade in Endangered Species. Nevertheless, trade to satisfy the demands of plant collectors is an increasing problem. At the First Eastern Cactus and Succulent Conference, held in October 1978, many wild cacti were displayed. Moreover, the Best in Show award went to this extremely rare Ariocarpus scapharostrus, which is known from only one location in northern Mexico. Rewarding collection of rare wild species only instigates vandalism on wild populations.

culture to demand that disputes over jurisdiction be resolved and that enforcement actions be initiated.

In mid-July 1978, APHIS responded. In a new memorandum from the Deputy Administrator, agents were instructed to detain import shipments not accompanied by proper documents and to coordinate further action with his office. According to subsequent reports, APHIS was diligently seizing illegal imports at the borders. The new policy, however, apparently did not include stepped-up enforcement of export regulations.

THE EFFICACY of U.S. enforcement of wildlife trade regulations is a matter of considerable controversy at this time. Concerned individuals have made alarming allegations that FWS or Customs agents are failing to intercept all shipments or, worse, are allowing shipments through without proper documents. Clark Bavin, Chief of the FWS Division of Law Enforcement, questions these statements.

For example, it is alleged that

wildlife dealers arrange for their shipments to arrive on evenings and weekends when few FWS agents are on duty, and that the Customs Service then releases the shipment without proper scrutiny. Some people believe that "vast numbers" of animals thus enter the country. Bavin counters that at least one trained agent is on call twenty-four hours a day and that cooperation with the Customs Service is excellent. He adds that wildlife dealers often notify agents of an incoming shipment in order to speed the clearance process. (Of course, dealers knowingly importing illegal wildlife would not alert agents to their arrival.) The Service concedes that large numbers of aquarium fish and wildlife products such as leather goods may escape detection, but not other specimens.

A NOTHER PROBLEM centers around proper treatment of shipments of live animals or plants that lack proper permits on arrival. Due to the confusion of international transport, legitimate permits may become separated from the

shipments to which they apply. In other cases permits may never have been issued. When confronted with such a shipment, the FWS or APHIS agent may suggest to the importer that he re-export the shipment immediately. The importer would probably not consent to do so; in any case, immediate re-export would probably result in the death of most of the specimens. If the shipment is to remain in the country pending resolution of permit requirements, the agent has the problem of deciding who should take care of the animals or plants in question.

Finding a temporary caretaker is no easy task. The caretaker institution must be prepared to accept the animals at any time; to provide specialized diets or other care; to maintain all specimens in quarantine and separate the sick, but keep the entire shipment as an identifiable group, and so on. The length of stay would depend on legal disposition of the case.

Finding a permanent home for specimens legally confiscated is no easier. CITES states that the country of origin is to be asked



PHOTOGRAPHS BY FAITH CAMPI





whether it wants the specimens returned; most countries would probably say no because most of the animals or plants would not be suited for return to the wild and would die as a result of the stress of shipment. Consequently, some institution would have to be found that would be willing to care for the specimen on a permanent basis and to promise not to sell it (as this would reestablish commercial trade in illegal specimens). Zoos would be interested in the occasional rare species that they could display, but not in the large shipments of more common, less spectacular species. For this reason, no CITES party has yet established the "rescue centers" called for in the treaty.

In response to these difficulties, agents of both APHIS and FWS ap-

parently have chosen to release the animals or plants into the custody of the importer under a variety of systems. APHIS agents reportedly have been requiring the importer to post a cash bond or sign a compliance agreement in return for custody of the plants.

FWS practices differ from port to port. According to the Division of Law Enforcement, agents in San Francisco require cash bonds for all shipments released to the custody of the importer. Agents in Chicago, Los Angeles, and Miami rely on Customs recall. Agents in New York occasionally require cash bonds but usually rely on informal agreements with the importer. Chief Bavin explained that the agents relied on their past dealings with the particular importer, the type of animal, and the exporting



country in assessing the need for a bond.

The impact of this practice of releasing shipments to the importer pending resolution of the case is difficult to determine. Some conservationists fear that such releases, especially in the absence of a cash bond or other security, encourage importers to try to bring animals and plants into the country without proper permits.

When they arrive at the border such shipments are probably seized, thus preventing their illegal sale in the United States. Other damage, however, has already been done: removal of the specimens from the wild, subjection of specimens to the stress of travel, and creation of an administrative burden to the agency that must find an institution to care for them. In

As trade in endangered spotted cats is restricted, the fur of the bobcat—although inferior—is increasing in market value. Bobcat coats—such as this one made only of paws—are seen increasingly in fashionable fur salons. According to federal law, bobcat fur (Lynx rufus) should be labeled "lynx cat" to distinguish it from "lynx"—the Canadian lynx (L. canadensis) and European lynx (L. lynx). But enforcement has been lax, so bobcat garments are being labeled "lynx," "cat lynx," "American lynx," or "Montana lynx" as well.

Inasmuch as the bobcat is listed on Appendix II of the Convention on International Trade in Endangered Species, permits are required for export of pelts. But this control mechanism is not yet effective. Although more than 106,700 bobcats were taken during the 1977–1978 trapping season and the U.S. Scientific Authority authorized the export of 79,410 skins, as of August 1978 only 11,257 export tags had been processed by the Management Authority. Other pelts may have borne tags but never were inspected at the border. addition, release of shipments in at least technical violation of CITES creates an impression of lax enforcement.

Bavin concedes that such releases might promote carelessness by wildlife dealers in obtaining permits, but he rejects assertions that they may also stimulate outright smuggling. In support of his view he notes that each case of improper documentation is assigned a specific number and an agent, who must report on its disposal. Headquarters personnel monitor the performance of agents in the field. Bavin states that New York, Los Angeles, San Francisco, and Chicago offices report not a single case in which valid documents have not been forthcoming following release of the shipment.

The reports of the Division of Law Enforcement are reassuring. Nevertheless, a number of conservationists remain convinced that illegal shipments are somehow entering the country. A compromise solution to overcome the impression of laxity would be to require at least a token bond or security when releasing shipments temporarily into the custody of the importer.

A NOTHER ENFORCEMENT difficulty arises in controlling export of U.S. species. First, the country's open borders mean that most exports are never seen by an agent. Second, scientific management of these species requires not just that the total numbers exported be controlled, but that the harvest be distributed among geographic areas to prevent extermination of the animals or plants in some parts of their ranges.

The U.S. Scientific Authority has tried to achieve this latter goal by establishing state quotas for allowable exports of those species in most demand: bobcat, lynx, river otter, and ginseng. This system depends on state game officials for implementation.

Unfortunately, it is easy for

trappers and diggers to obtain export tags in states other than those in which the animal or plant was actually taken. This practice would result in reduced protection for these species by allowing the sale of specimens taken in excess of a particular state's quota. It would also result in unreliable population data on which to base future quotas.

There is some evidence from the 1977–78 trapping season that such cross-state tagging was taking place. North Carolina is the most obvious case. That state issued its full quota of 800 tags for bobcat, yet dealers reported only 593 actually trapped in the state. The additional pelts may have originated in Virginia and West Virginia, which issued far fewer export tags than the reported harvest, or in South Carolina, which had a zero quota.

Similarly, North Carolina issued all its 1,200 tags for otter, but only 927 were reported trapped there. Neighboring Virginia reported 1,141 otter trapped, far in excess of its quota of 585.

As already noted, plant shipments apparently leave the country freely without permits, even though APHIS sometimes inspects them for disease prior to export.

SOME OF THE problems in enforcing wildlife trade regulations stem from the lack of data on dealers; others stem from the small number of agents responsible for the mammoth task. The Fish and Wildlife Service is trying to overcome these problems by adopting new regulations.

Under its proposals, wildlife dealers who "continuously" import or export wildlife or wildlife products for commercial purposes would be licensed by the FWS; they would be required to maintain records of their transactions and submit them for inspection.

All exports would be required to pass through the same designated ports as are now in effect for imports; this provision would limit the number of ports that agents would have to supervise.

Exporters would also be required to complete a Declaration of Exportation of Fish or Wildlife for each shipment, as is now required of importers.

These proposals are a welcome step forward, but they do not go far enough.

First, the regulations contain no criteria for the issuance or revocation of a dealer's license.

Second, agents are given too much discretion in determining whether to allow importation of shipments that lack proper permits or otherwise violate the law.

Third, there is no provision for inspecting outgoing shipments. Without such authority, the FWS will be unable to enforce the requirements pertaining to either declaration or permits.

The effectiveness of the regulations will also be undermined by some general weaknesses of the trade regulation program.

First, the regulations were not coordinated with APHIS, so plant dealers remain unlicensed.

Second, the FWS currently does not maintain centralized records of import declarations; unless such centralized processing is resumed, the data from the import and export declarations will not be available for compiling the annual report required by CITES for assessing trade trends, or for discovering patterns of questionable or illegal practices.

Third, the U.S. Postal Service will have to cooperate in order to assure that trappers who send their pelts to Canada by mail fill out the export declarations.

Finally, many people believe that FWS agents are already stretched too thin to perform their present tasks. Adding new responsibilities will only make enforcement more spotty.

The FWS is under strong pressure by the wildlife trade industry, particularly furriers and taxidermists, to withdraw its proposal. These dealers object to the licensing requirements as burdensome and as not leading to improved enforcement.

On the contrary, the licensing requirements could be a major tool in discouraging illicit practices, and the dealers' records will be invaluable in future investigations of suspicious transactions. For this reason, conservationists should support the FWS proposals and urge needed strengthening amendments.

CITES escape severe punishment through bungled prosecutions or plea bargaining and thus are underterred from future illegal acts. To support their contention, these conservationists cite cases in which valuable birds or plants were initially confiscated, then returned to the importer.

Clark Bavin, Chief of the Fish and Wildlife Service's Division of Law Enforcement, disputes this view. He notes that prosecutions may have to be dropped because the evidence does not meet legal requirements. Sometimes the case can be reopened on other grounds, such as violation of Customs Regulations. Bavin also cites, with justifiable pride, a number of major smuggling cases successfully prosecuted by the FWS, including a conspiracy to export 2,500 alligator hides. Unfortunately, data from the FWS indicate that courts often undermine enforcement efforts by reducing fines and suspending sentences.

It is impossible at this time to reach a definitive conclusion on the results of FWS prosecutorial actions. Both sides in the argument can cite individual cases to support their contentions, but no clear pattern emerges. Improvement can be expected, however, for several reasons.

First, violations under CITES should be more easily proved than those under the older Lacey Act. Under the former, lack of a permit is sufficient grounds for seizure, whereas under the latter the FWS had to prove that the specimen was taken contrary to the law of the country of origin.

Second, manuals issued under CITES should ease identification of wildlife parts and products at the border.

Finally, the Division of Land and Natural Resources of the U.S. Department of Justice has promised to give higher priority to prosecuting trade violations. This added high-level attention should help overcome any lack of incentive within the FWS or APHIS and improve cooperation among all agencies involved.

ONCERNED conservationists can help in several ways. They can support the FWS law enforcement program and its requests for manpower and adequate funding both within the Administration and before Congress.

They can press APHIS to extend its enforcement activities to exports, and support adequate funding for the program.

They can report suspicious dealings of which they are aware.

And they can inform themselves about U.S. and CITES trade regulations and take care not to purchase prohibited items. Conservationists may also wish to consider reducing their own purchases of all wildlife and plant luxury products in order to preserve these fine specimens in the wild.

Notes

1. John Burton in *New Scientist*, 20 April 1978.

2. Letter from Ellis T. Monks, Honorary Secretary, World Wildlife Fund to Iain Douglas-Hamilton, 9 December 1977.

Dr. Faith Campbell began her active involvement in environmental matters as a graduate student in political science and now works for the Natural Resources Defense Council. Specializing in wildlife conservation, Dr. Campbell has followed implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora for two years and has consulted with foreign and international conservation organizations to increase the treaty's effectiveness.

NPCA at work

REDWOOD

Park Service Deals with Proposition 13 & Redwoods Rehabilitation

The Park Service may inherit 28,000 more acres of redwood lands soon as a result of California's Proposition 13 and subsequent state park budget cutbacks. Meanwhile, NPCA is working to ensure that NPS does not face its own problems in planning for the newly enlarged park.

In March the 95th Congress had added another 48,000 acres to the national park to resolve a longstanding controversy over logging on park borders. (Clearcutting in the same watershed as the park has caused erosion and siltation, threatening tall trees within the park.) Then in July 1978 it was announced that three state redwood parks would come under the federal government's control because of Proposition 13, the California property tax referendum.

Prairie Creek Redwoods State Park, Jedediah Smith Redwoods State Park, and Del Norte Coast Redwoods State Park are within the original park boundaries. The 1968 law creating Redwood National Park authorized the

VOYAGEURS

At Voyageurs National Park in Minnesota sota, recreational snowmobile interests are trying to force the National Park Service to construct a trail right down the center of the Kabetogama Peninsula—cutting through the heart of habitat for deer, wolves, eagles, and other wildlife and disturbing the sense of solitude in the park's wildest region.

At Minnesota hearings on a new draft management plan for the park, NPCA urged the Park Service to stick to its guns on opposing the trail and emphasized that such a trail would violate established nationwide NPS policy.

As it stands, the NPS draft management plan takes an enlightened approach to the future preservation, development, and use of the park.

Recognizing the value of Voyageurs as a basically roadless park geared to wilderness-oriented recreation in the lake country, the plan would restrict snowmobile use to the frozen surface Park Service to acquire them by donation. The state, however, does not intend to turn over title to the lands but to transfer management of them. Originally the transfer was to take place on October 1, 1978; but at press time negotiations between the state and federal government apparently had reached a standstill because of a lack of agreement about whether NPS would retain management control for the twenty-five years it wants or shift personnel for five years.

The federal law expanding the park by 48,000 acres also calls for a rehabilitation program to reduce erosion problems on park land, accelerate the revegetation of the expanded park, and cooperatively develop land use standards for a new 30,000-acre protection zone located south of park boundaries. This rehabilitation program is underway. Robert Barbee, new superintendent of Redwood National Park, reports that NPS is channeling most of the park's budget increase for this year into rehabilitating cutover lands. NPCA will help ensure that appropriate personnel and funds will continuously be available to the park, particularly if NPS must take on new responsibilities for the state parks.

The Congress stipulated that no funds be made available for other uses in development of the park until a general management plan has been prepared, and set a deadline of January 1980 for its submission to Congress. The Park Service has made Redwood National Park its top planning priority for 1979, and held workshops in California this past summer.

You Can Help: Decisions on this management plan will affect every aspect of resource protection and visitor use of the park. If you would like to become involved in the planning process through submission of comments or participation at hearings, write:

Redwood Planning Team Redwood National Park P.O. Drawer N Crescent City, CA 95531

Snowmobilers in Minnesota Push for Trail Through Heart of Park



NPCA 60 YEARS AGO

The National Parks Association (now NPCA) was founded in 1919 at the behest of Stephen Mather, first NPS director, and his assistant, publicist Robert Sterling Yard, who resigned from the NPS to become first NPA executive secretary. The Association grew out of the National Parks Educational Committee, an alliance of many noted persons formed in 1918 to assume war-time charge of a movement begun in 1916 to establish such an association. In the spring of 1919, at Mather's request, committee executive Henry Macfarland reported to its members that the time had arrived to establish the association: "With the return of peace, public interest in our national parks, which scarcely lapsed during the war, has markedly increased ... the coming summer is expected to break all records. Congress meantime has . . . recently added two new national parks to the system, the Grand Canyon of the Colorado River in Arizona and Lafayette National Park [Acadia] on Mt. Desert Island, Maine." Thus, on May 29, 1919, committee members gathered at the Cosmos Club in Washington, D.C., to merge into the new association, adopting these goals:

Articles of Incorporation of the National Parks Association

We the undersigned, persons of full age, and citizens of the United States, and a majority of whom are citizens of the District of Columbia, being desirous to establish and maintain an association for promoting the study of national parks and monuments of the United States and encouraging the extension and development of the system of national parks and monuments in the United States, do hereby associate ourselves as a body corporate for said purpose, under an Act to establish a Code of Law for the District of Columbia, approved March third, nineteen hundred and one; and we do hereby certify in pursuance of said act as follows:

First. The name or title by which such association shall be known in law, is the National Parks Association.

Second. The term for which said association is organized, is perpetual.

Third. The objects of the association are:



1. To interpret the natural sciences which are illustrated in the scenic features, flora and fauna, of the national parks and monuments, and circulate popular information concerning them in text and picture.

2. To encourage the popular study of the history, exploration, tradition, and folk lore of the national parks and monuments.

3. To encourage art, with national parks subjects, and the literature of national parks travel, wildlife and wilderness living, and the interpretation of scenery.

4. To encourage the extension of the national park system to represent by consistently great examples the full range of American scenery, flora and fauna, yet confined to areas of significance so extraordinary that they shall make the name national park an American trademark, in the competition for the world's travel; and the development of the national monuments into a system illustrative of the range of prehistoric civilization and early exploration and history.

5. To enlist the personal service of individuals and the cooperation of societies, organizations, schools, universities, and institutions in the cause of the national parks and monuments.

6. To acquire, hold, and convey real estate and other property necessary for the purpose of the association as herein stated.

7. And in general, to do and perform all things necessary to promote the objects of said Association.

Fourth. That the affairs and property of the corporation shall be in general charge of a Board of Trustees, the number of whose members for the first year shall be twenty-one (21), and shall not thereafter exceed thirty, except by a three-fourths vote of said Board.

In testimony whereof, we have hereto set our names and affixed our seals, at the City of Washington, in the District of Columbia, on the 19th day of May, 1919.

Charles D. Walcott (seal) J. Walter Fewkes (seal)

Henry B. F. Macfarland (seal)

W. H. Holmes (seal)

H. R. Bush-Brown (seal)

Robert Sterling Yard (seal) Filed May 20, 1919

NPCA at work

Voyageurs—from page 21

of certain lakes used by motorboats in the summer and to a few short overland portage routes connecting them.

Congress established the park in 1970 to preserve the rugged character of an area used as a water highway by the fur-trading voyageurs of the eighteenth century. John A. Blatnik, former U.S. congressman from northeastern Minnesota and author of the 1970 legislation, described plans for the park in the September 1974 issue of National Parks & Conservation Magazine:

The nation's thirty-sixth national park will be a wilderness park, with emphasis on sports such as hiking, camping, canoeing, and fishing in summer and cross-country skiing, snowshoeing, and ice fishing in winter. Traveling by foot or camped by a fire or an ice hole, the visitor acquires an immediate feel for the land as the Indian knew and cared

PARK MANAGEMENT PLANS National Park Service Needs

The NPCA program puts heavy emphasis on involvement in the National Park Service's planning process through comments on preliminary planning documents and general management plans for units of the National Park System.

When Congress establishes areas of the Park System, therefore, NPCA efforts to protect parks have just begun. The general management plan for a park is particularly critical because it determines short-term and long-term strategies for resource management, visitor use, development, historic preservation, transportation circulation, and research within the Park System unit. The Park Service is stepping up its efforts to involve the public in the planning process.

The accompanying list (page 23, left) of National Park System units will be the subject of management planning (at various stages in the process) in the Fiscal Year 1979 (October 1, 1978, to September 30, 1979).

Another aspect of the NPCA program is to make sure that the Park Service has sufficient appropriations for carrying out these studies. NPCA has long urged an increase in funding to alleviate a planning backlog for many parks. During 1978 this Associa-Continued on page 30 for it. Motorboating-and in winter snowmobiling-will be permitted on the larger lakes, but motor vehicles will be entirely prohibited on the peninsula.

Nevertheless, the Citizens Committee on Voyageurs National Park, a sixteen-member group created by the Minnesota state legislature in 1975, and Rep. James Oberstar of the state are currently seeking support for the snowmobile trail down the peninsula.

Dr. Lawrence C. Merriam, NPCA Trustee and Professor of Forestry at the University of Minnesota, St. Paul, noted at the hearings that current nationwide NPS policy restricts snowmobile use in parks to designated routes "established on existing public roadways and waterways open to motorized vessels" in summer.

Because there are no public roads in

More Planning Funds

General Management Plan Program,

FY 1979

As Listed in Order of Priority by the National Park Service)

- 1. Redwood National Park
- 2. Indiana Dunes National Lakeshore
- 3. Assateague Island National Seashore
- Gateway National Recreation Area 4.
- 5. Glen Canyon National Recreation
- Area
- Yosemite National Park 6
- Valley Forge National Historic Park
- Canaveral National Seashore 8
- Lassen Volcanic National Park 9
- Channel Islands National Monument 10
- 11. Voyageurs National Park
- 12. Delaware Water Gap National Recreation
- Area
- 13. Coulee Dam National Recreation Area
- 14. Big Thicket National Preserve
- 15. Cape Lookout National Seashore
- 16. Acadia National Park
- Bighorn Canyon National Recreation 17 Area
- 18 Shenandoah National Park
- Pictured Rocks National Lakeshore 19
- 20. Golden Gate National Recreation Area
- 21. Monocacy National Battlefield
- Statue of Liberty National Monument 22.
- 23. Fossil Butte National Monument
- 24. Grand Canyon National Park
- 25. Mesa Verde National Park
- 26. Sleeping Bear Dunes National Lakeshore
- 27. Great Smoky Mountains National Park Big Cypress National Preserve 28.
- Congaree Swamp National 29.
- Monument Lake Mead National Recreation Area 30
- 31. Chattahoochee National Recreation
- Area

Voyageurs, Merriam stressed that the policy calls for limiting snowmobile use in the park to certain lakes.

Furthermore, restrictions on snowmobiling in the park would not adversely affect snowmobilers in Minnesota because some 6,700 miles of maintained snowmobile trails already are available in the state-2,000 of them in the region of the park.

In fact, current trends show snowmobiling in the area declining while oversnow foot travel is increasing.

Snowmobiling not only would ruin the experience of wilderness-oriented visitors by creating noise and shrinking the perceived size of the park; it also would disrupt late winter osprey and eagle nesting. Voyageurs, particularly its primitive upland areas, should be Continued on page 29

NPS Planning Projects to Go Unprepared Because of Inadequate Funding in FY 1979

- 1. Eleanor Roosevelt National Historic Site
- 2 Ninety-Six National Historic Site
- Manassas National Battlefield Park 3
- Big Bend National Park 4
- Stones River National Battlefield 5.
- Shiloh National Military Park 6
- Minute Man National Historical Park
- 8 John D. Rockefeller, Jr., Memorial Parkway
- Lake Mead National Recreation Area (general 0 management plan)
- Lincoln Boyhood National Memorial 10
- 11. Everglades National Park
- Vicksburg National Military Park 12
- Ozark National Scenic Riverways 13.
- Chickasaw National Recreation Area 14
- Canyonlands National Park 15
- 16 Grant-Kohrs Ranch National Historic Site
- Ocmulgee National Monument 17.
- Grand Canyon National Park (wilderness) 18.
- 19. Fredericksburg and Spotsylvania County Battlefields Memorial National Military Park 20.
- Petersburg National Battlefield
- 21. Bryce Canyon National Park
- 22 San Juan National Historic Site
- 23. Virgin Islands National Park
- 24. Mt. Rushmore National Memorial
- Buck Island Reef National Monument 25
- Kennesaw Mountain National Battlefield 26 Park
- Chickamauga and Chattanooga National Mil-27 itary Park





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95TH CONGRESS WENT WILD ANYWAY

The failure of the 95th Congress to cast the "conservation vote of the century" on Alaska wildlands should not obscure the fact that the same Congress acted more decisively to protect new parks and wildernesses than any Congress in history.

The Congress filled some big gaps in the National Park System by making twenty new additions including many nationally significant natural areas and historic sites, ranging from Mineral King Valley in California to the Kaloko-Honokohau historical area in Hawaii. (See descriptions on page 25.) More than half of these additions were passed in the legislative marathon of the final days of Congress as part of the National Parks and Recreation Act of 1978—by far the most dramatic conservation victory of the 95th.

Called the omnibus parks act, that measure alone nearly tripled park wilderness acreage, tripled the size of the National Trails System, and marked a monumental turning point for the National Wild and Scenic Rivers System—enlarging it with the biggest single expansion of the system since it was established.

The omnibus parks act was the brainchild of Rep. Phillip Burton (D-Calif.), who became chairman of the House Interior Subcommittee on National Parks and Insular Affairs at the beginning of the 95th Congress and proceeded to take bold action to push many park and wilderness proposals that had languished in committee for years.

Burton's leadership also was a decisive factor in a number of other conservation issues besides the omnibus bill—notably the resolution of a longstanding battle over Redwood National Park through Burton's successful measure to expand and protect the park, the protection of the Boundary Waters Canoe Area under his strategic guidance, and a generous increase in the Land and Water Conservation Fund. Furthermore, if it were not for the efforts of Senate parks subcommittee chairman Sen. James Abourezk (D-S.Dak.), who retired at the end of the 95th Congress, a number of proposals would not have cleared the Senate, which was generally less responsive than the House to park bills.

In fact, the initiative for much of the park and wilderness legislation in the 95th Congress came from the House side. The House advanced efforts to protect new parks, wildlands, and rivers in Alaska. The battle for the Alaska National Interest Lands Conservation Act was led by House Interior Committee Chairman Morris Udall (D-Ariz.), who introduced the original bill; by Rep. John Seiberling (D-Ohio), who led the Subcommittee on General Oversight and Alaska Lands in painstaking study and revision of the measure; and by Interior Secretary Cecil Andrus. The bill passed the House by a landslide victory in May only to die in the Senate in the last hours of Congress despite efforts by Sen. John Durkin (D-N.H.) and others (see November 1978, p. 27). But at year's end prospects for permanent protection of Alaska's wildlands looked promising, thanks to President Carter's historic action creating seventeen monuments (see page 29).

On balance, the Congress provided the most comprehensive park legislation ever in the omnibus act. Considering new forest wildernesses as well, such as those in the Endangered

Rep. Phillip Burton championed the National Parks and Recreation Act—called the "omnibus parks act"—the most comprehensive national park legislation ever.



American Wilderness Act (introduced by Udall and Sen. Frank Church), it was the greatest Congress for wilderness since passage of the Wilderness Act of 1964.

The congressional record on other environmental matters was something of a mixed bag with some of the chief disappointments coming on wildlife legislation, an area in which the House was weaker than the Senate during the 95th. Congress weakened the Endangered Species Act. Moreover, a Senatepassed bill that would bring nongame species of wildlife under a new federal program to help states in conservation efforts died in the House.

The national energy bill, which wound up in a vastly different form than the original Administration plan, captured most of the headlines.

Other successful bills included a stripmining law passed thirty-seven years after Everett Dirksen introduced the first bill in the House (October 1977, p. 25). Other landmarks of the Congress were Clean Air Act Amendments (November 1977, p. 21), amendments to the Outer Continental Shelf Lands Act to tighten environmental safeguards and assist states, a tanker safety law (June 1977, p. 26; August 1977, p. 25), defeat of pork barrel water projects when Congress sustained President Carter's veto of the public works appropriations bill, and clean water amendments.

A brief breakdown on some of the environmental actions of the 95th Congress of particular interest to NPCA members follows.

Omnibus Parks Act

Burton's National Parks and Recreation Act of 1978 was signed by President Carter as Public Law (PL) 95-625 on November 10, 1978. (NPCA action: September 1978, p. 20; December 1978, p. 21.) See pages 25 to 27 for descriptions of areas in the Act, which:

• Adds eleven new units to the National Park System and enlarges Sequoia National Park to include Mineral King Valley. (NPCA action: January 1978, p. 20.) Included are nine historic areas, the New River Gorge National *Continued on page 27*

95TH CONGRESS ADDITIONS TO THE NATIONAL PARK SYSTEM

National Parks and Recreation Act of 1978

Edgar Allan Poe National Historic Site: A house in Philadelphia where Poe lived between 1842 and 1844 will commemorate this famous poet and short story writer whose tales of wonder and horror are some of the most familiar and influential works of nineteenth century Romanticism. Apparently Poe wrote classics such as "The Raven," "The Pit and the Pendulum," and "The Tell-Tale Heart" in the three-story, one-room-deep house. His short stay there occurred during some of his most productive years. The Poe house complex has been owned by the Free Library Association of Philadelphia.

St. Paul's Church: A restored eighteenth century parish church in Eastchester, New York, associated with colonial printer John Peter Zenger, will be preserved in the National Park System. The outspoken Zenger was successfully defended by Alexander Hamilton in a trial that set a precedent for freedom of the press.

Kaloko-Honokohau National Historical Park: This 1,300-acre area on the west coast of the island of Hawaii will be a center for preservation of traditional Hawaiian culture. A large settlement once occupied the site; and foundations of many houses as well as petroglyphs, trails, and a cave burial ground remain. A native Hawaiian park staff will interpret the area's history for visitors and provide instruction in crafts and dances; the Park Service is authorized to provide traditional native Hawaiian accommodations.

Palo Alto Battlefield National Historic Site: Located north of Brownsville, Texas, this area is the site of one of two important battles on American soil during the Mexican-American War.

Santa Monica Mountains National Recreation Area: At last, a new recreation area will protect tens of thousands of acres in the rugged Santa Monicas, a range that rises in the heart of Los Angeles. Running along the backbone of the mountain range, the recreation area will include unspoiled canyons and meadows and will reach down to the coastline in places. This urban park unit will be managed in cooperation with state and local agencies. The area will include 30,000 acres of new federal acquisition. State and local governments already have 33,000 acres of parklands.

Ebev's Landing National Historical Reserve: This 8,000-acre area in Washington state will preserve from development a living rural community that provides an unbroken historical record from nineteenth century exploration and settlement in Puget Sound to the present. It commemorates settlement by Colonel Isaac Ebey, who led the first permanent settlers to Whidbey Island in the early 1800s, as well as the previous exploration of the area by Captain George Vancouver in 1792. The Olympic Mountains rise behind a meadow-strewn bluff and rich agricultural land at Ebey's Landing, from which park visitors can listen to whales sounding offshore.

Friendship Hill National Historic Site: In 1789, perhaps influenced by philosopher Rousseau's call for a return to nature, young Albert Gallatin built a stone house in the western Pennsylvania wilderness on the banks of the Monongahela River. Later Gallatin's public duties as U.S. representative, Secretary of Treasury, and diplomat took him away from home to Washington, D.C., and abroad. Now his house and 720-acre estate will represent the Jeffersonian period in the park system.

Thomas Stone National Historical Site: Located at Habre-de-Venture near Port Tobacco, Maryland, this historic site was the home of one of the signers of the Declaration of Independence, Thomas Stone. The Park Service will restore the Georgian house, which dates back to 1771, as a working colonial residence. Stone was a member of the Continental Congress. His friend George Washington reportedly visited the Stone home often; Mrs. Stone was the daughter of Washington's personal physician.

Maggie L. Walker National Historic Site: Maggie Walker became the first woman president of an American financial institution in 1903 when she established the St. Luke's Penny Savings Bank in Richmond, Virginia. A black person and a paraplegic, Walker consolidated her bank with other black banks in 1931 to ensure that people would be able to get their money during the Depression. Her Victorian home in the Jackson Ward Historic District, an early center for ethnic social organizations in Richmond, is included in the historic site.

New River Gorge National River: A scenic sixty-six-mile segment of the New River in West Virginia that includes the "Grand Canyon of the East" will now be preserved as a free-flowing stream. One of the highest-volume whitewater streams in the nation, the New offers some of the best whitewater runs in the East. It is the world's second oldest river and predates formation of the Appalachian Mountains.

Jean Lafitte National Historical Park and Preserve: This new park and preserve unit protects areas in and near New Orleans, including parts of the historic French Quarter and a portion of Louisiana's characteristic bayou country overgrown with cypress and Spanish moss. Much of the area is associated with Lafitte, the notorious buccaneer and hero of the Battle of New Orleans in the War of 1812. The 20,000-acre unit features a core of 8,000 acres in the Barataria Marsh plus a park protection zone.

Mineral King Valley: Formerly managed by the Forest Service, this beautiful alpine valley in the Sierra Nevadas of California is now part of Sequoia National Park. One of the finest deer herds in the state and several rare species of wildlife will be protected from developments such as a longstanding proposal for a mammoth ski resort.

Other New Additions

(All but the last two were formerly in National Parks and Recreation Act but were approved separately.)

San Antonio Missions National Historical Park: For the first time the park system includes intact missions illustrating the importance of the Spanish influence in colonial America. The park preserves four eighteenth century Spanish missions—all located along a seven-mile-long historical district on the San Antonio River in San Antonio, Texas.

Chattahoochee River National Recreation Area: This recreation area provides a wild setting for hikers, canoeists, campers, and cyclists in the Atlanta metropolitan region. It is composed of fourteen units totaling 6,300 acres along a forty-eight-mile corridor of the Chattahoochee River stretching from the northern part of Atlanta northeast to Lake Lanier.

Fort Scott National Historic Site: Fort Scott in Kansas played a significant role in the opening of the West as well as during the Civil War and the strife in the state of Kansas.

War in the Pacific National Historical Park: Located on the island of Guam, this park is the first representation of World War II among the historical areas of the park system. The Allied victory on Guam in August 1944 ensured defeat of Japanese forces in the Pacific. The park will provide a center of information on the amphibious operations in the Pacific from 1941 to 1945.

American Memorial Park: The Park Service will develop and administer the existing American Memorial Park at Saipan until the governor of the Northern Marianas chooses to transfer the area to his jurisdiction.

Hassel Island: This historic island in St. Thomas Harbor is an addition to the Virgin Islands National Park. The ruins of fortifications built by the British to protect the harbor, remains of onceprosperous coal and shipping stations, and the Creque Marine Railway are some of its attractions.

Lowell National Historical Park: Illustrating the impact of the Industrial Revolution on social and economic history, a new park in Lowell, Massachusetts, will restore and preserve buildings in a city that was once the largest cotton textile center in the nation. Visitors can tour the mill and canals that were the focus of the highly structured lives of the "nuns of Lowell"—farmers' daughters who came to participate in an experiment in a new brand of capitalism—and later of immigrant laborers.

Eleanor Roosevelt National Historic Site: Val-Kill Estate in Hyde Park, New York, is a national historic site honoring a woman who gave a new dimension to the role of "First Lady." In 1924 future President Franklin Roosevelt set aside this 175-acre estate two miles from his birthplace and lifelong residence. It subsequently served as Eleanor Roosevelt's principal home for many years until her death in 1962. A memorial will highlight her contributions as an educator and diplomat.

WILD & SCENIC RIVERS National Parks and Recreation Act of 1978

Pere Marquette: This wild and scenic river is a 66-mile-long segment of the Pere Marquette. A classic canoeing and trout stream in the Lower Peninsula of Michigan, it will be preserved under Forest Service management.

Rio Grande: Highlighted by deep limestone canyons, towering spires, and other rock formations, the Rio Grande forms the U.S.-Mexican border in a remote area of the Chihuahuan Desert. The Park Service will manage a 191-mile-long segment.

Skagit: The Skagit in Washington is perhaps the premier salmon and steelhead fishery south of Alaska, and the area is a refuge for the largest wintering group of bald eagles on the West Coast. The wild and scenic river designation covers 158 miles including the section of the Skagit from Bacon Creek downstream to Sedro-Wooley and several tributaries.

Upper Delaware: A stretch of the river from Hancock, New York, downstream to Sparrowbush cuts through an unusually beautiful valley in the Pocono and Catskill Mountains and defines the New York and Pennsylvania border. One of the finest trout fisheries in the East, the Upper Delaware is also popular for canoeing. The Park Service will manage this segment of 75 miles.

Middle Delaware: A 39-mile segment of the river that runs through the existing Delaware Water Gap National Recreation Area will be a wild and scenic river under Park Service jurisdiction. In addition, lands within the recreation area itself will be transferred from the Army Corps of Engineers to NPS. The law expresses congressional sentiment against construction of the controversial Tocks Island Dam.

American: The North Fork of the American River carves its way down the Sierra Nevada Mountains in California, forming spectacular waterfalls and offering excellent swimming and fishing. A 37-mile segment will be managed by the Forest Service.

Missouri: The wild and scenic river includes that 59-mile portion of the river that forms the Nebraska-South Dakota state line. It is one of the few remaining stretches of major rivers in the Mississippi drainage that has not been impounded or used for commercial barge navigation; it supports a diversity of fish and wildlife including the paddlefish, one of the oldest kinds of fish, which is now rare. The Missouri was the main route of the Lewis and Clark expedition.

Saint Joe: The Saint Joe River charts a course through a wild mountain range in southeast Idaho. A 68-mile segment from the confluence of the North Fork to Saint Joe Lake will be protected from dredge mining as part of the rivers system. Cutting through a deep V-shaped canyon where mountain slopes rise abruptly from the water's edge, this river segment passes through largely undeveloped Forest Service land that is prime wildlife habitat. Trails and campgrounds offer recreational opportunities along the river.

STUDY RIVERS

National Parks and Recreation Act of 1978

(In most cases only portions of the rivers have been designated as possible wild and scenic rivers.) Kern River (North Fork), California Loxahatchee River, Florida Ogeechee River, Georgia Salt River, Arizona Verde River, Arizona San Francisco River, Arizona Fish Creek, New York Black Creek, Mississippi Allegheny River, Pennsylvania Cacapon River, West Virginia Excatawpa River, Alabama and Mississippi Myakka River, Florida Soldier Creek, Alabama Red River, Kentucky Bluestone River, West Virginia Gauley River, West Virginia

Greenbrier River, West Virginia

NATIONAL TRAILS National Parks and Recreation Act of 1978

- The Mormon Pioneer Historic Trail from Nauvoo, Illinois, to Salt Lake City, Utah
- The Oregon National Historic Trail from Independence, Missouri, to Portland, Oregon
- The Continental Divide National Scenic Trail from the Montana/Canada border to the New Mexico/Mexico border
- The Lewis and Clark National Historic Trail from Wood River, Illinois, to the Columbia River, Oregon
- The Iditarod National Historic Trail from Seward to Nome, Alaska

PARK WILDERNESS AREAS National Parks and Recreation Act of 1978

- Buffalo National River, Arkansas (10,-529 acres; 25,471 acres potential wilderness additions)
- Carlsbad Caverns National Park, New Mexico (33,125 acres; 320 acres potential wilderness additions)
- Everglades National Park, Florida (1,-296,500 acres; 81,900 acres potential wilderness additions)
- Guadalupe Mountains National Park, Texas (46,850 acres)
- Gulf Islands National Seashore, Florida and Mississippi (1,800 acres; 2,800 acres potential wilderness additions)
- Hawaii Volcanoes National Park, Hawaii (123,100 acres; 7,850 acres potential wilderness additions)
- Organ Pipe Cactus National Monument, Arizona (312,600 acres; 1,240 acres potential wilderness additions)
- Theodore Roosevelt National Park, North Dakota (29,920 acres)

NPS STUDY AREAS National Parks and Recreation Act of 1978

- The Crow Creek Village Archeological Site, South Dakota
- The ridgelands area east of San Francisco Bay, California
- The Oak Creek Canyon area, Arizona An expansion of Chiricahua National
- An expansion of Chiricahua Nationa Monument, Arizona
- An update of an earlier study for a national seashore, Guam
- The Mississippi River Delta Region, Louisiana
- An extension of the New River Gorge National River, West Virginia
- The area from Newport Beach to Laguna Beach, California

Other Study Areas Historic Camden, South Carolina

NATIONAL RESERVE National Parks and Recreation Act of 1978

Pinelands National Reserve: This reserve covers about 1 million acres in southern New Jersey in the vast, lowlying Pine Barrens, a remarkable expanse of forest and watercourse dotted with cranberry bogs and noted for its valuable aquifer. The existence of both scientific resources and human habitatation and visitation in the area will require cooperative federal-state-local management.

news notes

Omnibus Parks—from page 24

River, for which this Association has led conservation efforts (NPCA action: August 1977, p. 22), and the Santa Monica Mountains National Recreation Area (NPCA action: July 1978, p. 27). Nine other areas will be studied for possible future addition.

• Establishes eight new national wild and scenic rivers and authorizes seventeen other river segments in fourteen states for study. (During the study process, a segment is protected from alteration by damming or channelizing. Most studies will be carried out by NPS except where 50 percent or more of the adjacent lands are in national forests.)

• Adds 1.8 million acres within eight NPS units to the National Wilderness Preservation System and specifies that about 120,000 other acres within those units are potential additions. (See list, this page.)

• Adds four new National Historic Trails and one new National Scenic Trail to the National Trails System.

• Authorizes \$725 million for a new Urban Park and Recreation Recovery Program over the next five years to renovate recreation facilities in urban areas. The program is a keystone of the Carter Administration's urban plan. (NPCA action: September 1978, p. 27.)

• Establishes a Pinelands National Reserve in southern New Jersey and creates the national reserve as a new approach to preservation through federal-state-local cooperation. (NPCA action: December 1977, p. 18.)

• Authorizes purchase of concession facilities owned by the concessioner in Yellowstone National Park, clearing the way for the Park Service to upgrade these facilities and setting a precedent for NPS action on private concessions.

Other Park/Wilderness Laws

• Redwood National Park: PL 95-250 resolved an intense controversy over logging along the boundary that was endangering trees in the park. It enlarged the park by 48,000 acres, called for watershed rehabilitation and a jobs program, and created a 30,000-acre "park protection zone." (NPCA action: April 1978, p. 22.)

• Land and Water Conservation Fund: PL 95-42 increased the LWCF by \$450 million to deal with the backlog

Rep. Morris Udall of Arizona (right) gets a first-hand experience of a wild river by rafting the Salt River in his state with conservationist Thoren Lane. A possible wild and scenic river addition on the Salt is under consideration as part of the National Parks and Recreation Act. Along with Rep. John Seiberling of Ohio, Udall, House Interior Committee chairman, is leading efforts to preserve parks and wildlands in Alaska.



of acquisitions for areas of the Park System and related outdoor recreation areas. (NPCA action: July 1977, p. 25.)

• **Boundary Waters Canoe Area:** PL 95-495 created an expanded Boundary Waters Canoe Area Wilderness; placed further restrictions on mining activity; banned logging; and reduced motorized use. (NPCA action: December 1978, p. 21.)

• Endangered American Wilderness Act: In this landmark forest wilderness act, Congress saved from logging and roads 1.3 million acres in seventeen roadless areas found in ten western states.

• Appalachian Trail: PL 95-248 assured protection for the entire length of the trail corridor. (NPCA action: December 1977, p. 22.)

• Great Bear and Bob Marshall Wilderness: PL 95-546 added 60,000 acres to the existing Bob Marshall Wilderness in Montana and created a new 290,000-acre Great Bear Wilderness adjacent to Glacier National Park. The land is almost all Forest Service land. Great Bear is the most important grizzly habitat in the Lower 48 states; it has been endangered by oil development. This legislation was long promoted by the late Sen. Lee Metcalf.

• Absaroka-Beartooth Wilderness: PL 94-249 protected another 904,500 acres of Montana backcountry—alpine lakes, meadows, and mountains.

• Indian Peaks Wilderness: Congress designated 70,000 acres of wilderness in an area adjacent to Colorado's Rocky Mountain National Park known as Indian Peaks. (NPCA action: May 1977, p. 4.) The Act also provides for a study of possible additions to the park. Adjoining Indian Peaks will be a new Arapaho National Recreation Area, administered by the Forest Service for intensive recreation and some development. The Arapaho area formerly was the Shadow Mountain National Recreation Area administered by NPS.

• Chattahoochee and Park Transportation: PL 95-344 established the Chattahoochee National Recreation Area and set up a three-year program to improve public transportation systems to and within our national parks. (NPCA action: November 1978, p. 26.)

• William O. Douglas: PL 95-11 commemorates the contributions of Associate Justice William O. Douglas to the C&O National Historical Park in Maryland, Virginia, and the District of Columbia. (NPCA action: August 1977, p. 20.)

• Pennsylvania Avenue and San Antonio: In one of the more interesting marriages of measures produced in the last-minute congressional flurry, a new law continues authorizations for the Pennsylvania Avenue Development Corporation (to restore the famous street in Washington, D.C., that connects the White House and the Capitol) and establishes San Antonio Missions National Historical Park in Texas.

Endangered Species

Although Congress had the Endangered Species Act under consideration for most of 1977 and 1978, the 1973 law had expired on September 30, because of lack of reauthorization. For six weeks the Interior Department's Office of Endangered Species—in limbo without funding or authority to administer the Act—had to do other tasks.

In its last-day rush on October 15, Congress reauthorized the law for only eighteen months and enacted major new amendments in the form of a compromise that had been worked out in the early morning hours by a House-Senate conference. The conference committee resolved differences between a bill passed by the Senate in July and a much different bill passed by the House on October 14. The lastminute bill, signed on November 10, produced both extensive weakening amendments and desirable measures:

• The worst amendment is a process by which federal projects (dams, highways, and so forth) can be exempted even if the species threatened by a given project will be exterminated. The exemption process has two steps. First, a three-member review board would decide if the required consultation procedures between the Fish and Wildlife Service and the federal agency responsible for the project had been followed. (The board would be composed of a member appointed by the Secretary of the Interior, one appointed by the President following the recommendation of the state governor or governors involved, and an administrative law judge.) The board then would file a report with a seven-member Cabinet-level committee that must decide that there are no reasonable and prudent alternatives before it can give the project the go-ahead. The committee can rule that benefits-including economic considerations-clearly outweigh the need to take actions consistent with conserving the species. Although the criteria are not strong, there is provision for public participation in development of the factual record.

• Tellico Dam in Tennessee, completion of which would endanger the snail darter, and the Grayrocks Dam in Wyoming, which could endanger the whooping crane, were given even more special treatment. An expedited and truncated exemption procedure was established for these two dam projects, both of which had been stopped by court injunctions.

Meanwhile, in August the Interior Department and the Tennessee Valley Authority, builder of the Tellico, had jointly released to Congress a report revealing that there are several feasible and beneficial ways to develop the 38,-000 acres of Tellico project lands. The agencies noted that "the snail darter issue may ultimately not control the final decision as to how the Tellico project shall be completed"—even though the issue led to extensive revisions to the Endangered Species Act during the 95th Congress.

• The law contains a new and narrower definition of "species" that will mean less protection for invertebrates.

• The law weakens the definition of "critical habitat" for endangered species and requires that in designating critical habitat economic considerations be taken into account—instead of relying strictly on biological facts and the needs of the species.

• Strengthening amendments include increased protection for plants and a means of ensuring that potential conflicts are identified at the earliest possible time by requiring biological assessments before projects are begun. NPCA has long been a leader in calling for increased protection of plants.



Voyageurs—from page 23

totally closed to snowmobile activities, NPCA maintained.

The Citizens Committee also is pushing other radical changes in the NPS plan. One threat comes from hunting interests who want a significant ecological unit on the Black Bay of Rainy Lake deleted from the park so duck shooting can be allowed. NPCA adamantly opposed deleting any existing park lands, especially natural areas like Black Bay, for sport hunting.

In a previous attempt to delete Black Bay, Rep. Oberstar introduced a floor amendment to the parks omnibus bill (see p. 20). Although the amendment passed the House, it was easily defeated in the Senate. But the pressure is still on from hunters.

Moreover, commercial interests are pushing hard to get the Park Service to permit seaplane landings for recreational purposes on all the wild interior lakes in Voyageurs. NPCA said such flights would compromise the primitive nature of the relatively small park. A public shuttle-boat system proposed in the NPS plan would eliminate any need for float planes on interior lakes, NPCA pointed out.

Another threat to Voyageurs that could pose grave dangers over the long term is a large coal-fired power plant now under construction in Atikokan, Ontario, north of the Minnesota border. Acid rain from the plant's emissions and transboundary water pollution could damage sensitive softwater lakes and aquatic life in the park. NPCA has urged continued NPS cooperation with an ongoing EPA study of the plant's effects.

You Can Help: NPCA members who oppose turning the park into an intensive-use recreation area and want to maintain it as a wilderness park can help by urging the Park Service to adopt proposals in the Voyageurs National Park Draft Management Plan to prohibit snowmobiling on Kabetogama Peninsula and seaplane landings on interior lakes and to maintain Black Bay within the park:

Superintendent Voyageurs National Park Box 50

International Falls, MN 56649



A President for the parks, Jimmy Carter visited Yellowstone in summer 1978 (above). In December he gave the American people a priceless heritage—Alaska wildlands.

CARTER MAKES HISTORY IN ALASKA

Just as our list of conservation achievements of 1977–1978 was on its way to the printer, President Jimmy Carter *doubled the size of the National Park System* and added 56 million acres to the conservation news story of the century!

On December 1, 1978, Carter issued Presidential proclamations creating seventeen new national monuments totaling 56 million acres and covering thirteen areas that had been proposed as NPS units, two wildlife refuges to be administered as monuments by the Fish and Wildlife Service, and the two most threatened forest areas in Alaska-Misty Fjords and Admiralty Island. The proclamations were issued under the Antiquities Act of 1906 and will give the lands permanent protection, although Congress can make changes in the designations. It is expected to consider Alaska legislation during 1979.

Moreover, Interior Secretary Andrus and Agriculture Secretary Bergland will take administrative actions toward protecting forestlands and twelve additional wildlife refuges totaling about 50 million acres.

On October 30, the state of Alaska had filed suit against Carter and Andrus to try to prevent use of the Antiquities Act and other authorities. Next the state moved to claim 9 million acres of land within the proposed national conservation system units as state lands, most of which would be slated for development. Meanwhile, in other areas mining claims already had been staked in areas that would have become open to development when a December 18 congressional deadline for acting on the Alaska bill expired.

In the face of a possible court injunction from the state suit, Andrus had taken emergency action in November to protect 110 million acres under the BLM Organic Act for three years. This protection, however, might not preclude state selections.

So on December 1, with the support of the members of the Alaska Coalition including NPCA and of 146 congressmen and 21 Senators, Carter issued his bold proclamations to ensure that state and development interests would not decide the fate of wildlands belonging to all Americans.

NPCA has pledged to help protect the new monuments and will support future efforts to designate additional refuges, wildernesses, and wild and scenic rivers in Alaska—actions for which the President has no authority. (For a recorded update on how to help, Members can call the Alaska Coalition Hotline at 202-547-5550.)

Meeting on the same day that the President issued his historic proclamations, the NPCA Board of Trustees passed the following resolution:

Whereas, the national interest lands in Alaska include our nation's last remaining wilderness frontier, and

Whereas, these wilderness lands include our greatest wildlife populations, complete ecosystems, and most magnificent scenic wonders, and

Whereas, these public lands are the heritage of all the American people, and

Whereas, unless protected, the value of these areas to present and future generations of Americans will be irreversibly degraded,

Now therefore, *be it Resolved*, That the Board of Trustees of the NPCA, meeting in semi-annual session on Friday, December 1, 1978, does hereby extend to President Jimmy Carter our heartfelt appreciation for his historic action in proclaiming 56 million acres of national monuments on public lands in Alaska, and in directing his Cabinet officers to further protect an additional 50 million acres of national interest lands by Secretarial order. Further, the NPCA hereby pledges its enthusiastic support for ensuing actions to assure permanent protection of these areas for the benefit of present and future generations.

NPCA at work

Management—from page 22

tion testified on invitation before congressional committees urging an increase in Fiscal Year 1979 appropriations for general management plans. Subsequently the Congress did add \$500,000 to the Administration's budget request for planning.

Much more funding is required for these plans, however. The second list on page 23 consists of areas that NPS would like to study and has personnel to study but will be unable to do so because Congress failed to appropriate enough funds. In addition, supplemental appropriations will be required for new park units and river studies contained in the recently enacted National Parks and Recreation Act of 1978 (see list, page 25). Some parks, such as the new Lowell National Historical Park, will have to fund preliminary planning out of their own budgets because of the scarcity of funds in the planning budget.

You Can Help: If you have particular interest in or knowledge of one or more of the areas that the Park Service is planning to study in FY 1979 (see first list), you can help shape the future of this unit. Check the March 1978 issue for a guide to "How to Help Plan Parks" or write to NPCA for a copy. You can tie your efforts into NPCA's program by becoming an NPCA con-TACT. Write the CONTACT Program, NPCA, 1701 Eighteenth Street, N.W., Washington, D.C. 20009. If you are interested in helping the Park Service get funds to plan for those parks that were shortchanged in the FY 1979 budget, for new parks, and for river studies, let your representatives and senators know about your support for supplemental appropriations and for increased funding in the NPS FY 1980 budget.

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Continued from page 2

clearcutting. It meant returning to the ideas of Gifford Pinchot, whose name was synonymous with conservation for two generations. Thus the NPCA became a parks, wildlife, forestry, and river basin management association.

A S THE ADVERSE environmental effects of a badly managed industrial system became more apparent during the 1960s, the NPCA was one of the first private organizations to recognize the perils of air and water pollution. We supported the establishment of the Environmental Protection Agency and the Council on Environmental Quality, and again expanded the scope of our interests from parks to conservation generally.

Big roads, as noted, at least where they hit the parks, had been one of our early concerns. The trouble was rooted outside the parks in what was then the Public Roads Administration. The proliferation of the private automobile was not only imperiling parks but threatening human welfare in the cities. Free shuttlebuses in the parks, good mass transit in the cities, were among the answers. A national transportation system going back to the rails was needed. And so, like other conservation organizations, we got willy-nilly into transportation.

Yosemite Valley had been poisoned for people by the fumes of automobiles. Blue clouds of noxious gases rose above El Capitan. The view from the high knobs in Shenandoah National Park had been obscured by urban and industrial haze. We were locked into the energy problem before we knew it. We advocate solar, wind, ocean thermal, and geothermal systems adequate for the needs of an industrial society and urge that the nation free itself from dependence on fossil fuels. As for nuclear power, the problem of long-lived radioactive wastes has not been solved, and we think the world should back away.

A T ONE POINT Everglades National Park was gravely threatened by urban water diversions and a huge jetport proposed for the Big Cypress wetlands. We lent our efforts toward the organization of the Everglades Coalition and later the Environmental Coalition for North America, bringing conservation and labor organizations together for a successful battle to protect the park and establish the Big Cypress National Preserve.

The first job for the Environmental Coalition was to tackle the Trans-Alaska Pipeline, urging its relocation thrugh Canada. Subsequent events have proved beyond a shadow of a doubt that the alternative we proposed would have been better.

Early involved in the establishment and protection of National Parks around the globe, on the model of the American system, we took part in the worldwide movement against the extinction of species. We played a key role in the adoption and strengthening of the Endangered Species Act and the Endangered Species Convention. We participated in the Stockholm Conference on the Human Environment in 1972 and in the United Nations Environment Programme thereafter. We led the environmental participation in the UN Conference on the Law of the Sea, involving oceanic pollution, the survival of the oceanic fisheries, the protection of the marine mammals, and the prudent management and fair distribution of the mineral wealth on the deep seabed.

AVING REALIZED early, in an agreement with Fairfield Osborn, William Vogt, and Robert C. Cook, that the population explosion was the root cause of most of our environmental evils, we began educational efforts through the magazine 15 years ago. Recognizing now that as far as the United States is concerned the critical population problem is illegal immigration, we are trying to bring the labor, population, and environmental organizations together to strengthen the laws of the United States and their enforcement.

Always committed to the protection of the Coast Redwoods, we supported the establishment and enlargement of Redwood National Park, urging at the same time that the entire Coast Redwood Forest be protected against destructive cutting by regulation or the acquisition of interests adequate to require the use of selective harvesting systems.

The battle for the preservation of one hundred million acres of wild and scenic country in Alaska will be won or lost this coming year. The NPCA played a key role in the effort last year, particularly in the Senate. The National Park and Recreation Act of 1978, adopted after another militant effort, in which NPCA played a vital role in the Senate, may be one of the greatest conservation victories since the Act of 1916.

THE COMPUTER PROGRAMMERS at CEQ, Interior, Defense, calculate the productivity of the world's farmlands and the burgeoning populations of the planet, looking ahead to the year 2000, dreading to look beyond. Grave malnutrition and even starvation for hundreds of millions of people are probable. The extinction of hundreds of thousands of plant and animal species from population pressure is a grim and likely prospect. Facing these dangers, the environmental movement of the United States, although the strongest in the world, seems puny indeed. Can the necessary coalitions be developed for action before too late?

Within the menace and the challenge, the National Parks remain, due in significant part to the efforts of NPCA to protect them, as tokens, not of the past, but of the future. Can men turn the machine, the factories, the cities to the uses of a serene and secure civilization? The light of the promise of our world shines on the snows of Olympus, Rainier, Denali, symbols not of yesterday, but of tomorrow.

—Anthony Wayne Smith

in

DIAMOND JUBILEE ... For sixty years NPCA has dedicated itself to preserving and caring for the land that our forefathers cherished. We are grateful for our members' support. By giving freely to the NPCA, you are helping preserve our American heritage for future generations to cherish.

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