



North Carolina donates Lookout land

By Naomi L. Hunt

Early this summer, after 10 years of negotiation, lands for the Cape Lookout National Seashore were officially transferred from the State of North Carolina to the Park Service.

The Seashore—which will eventually comprise 24,500 acres—was established by act of Congress in 1966, and on June 8, 1976, deeds for most of the land were accepted by Thomas S. Kleppe, Secretary of the Interior, from N.C. Governor James E. Holshouser in a ceremony at the Cape Lookout lighthouse. In his remarks, Secretary Kleppe called the establishment of the National Seashore “truly a Bicentennial gift from the people of North Carolina to future generations of the State and the entire Nation.”

On this strip of barrier islands, the sea, the winds and the land have contended for many human lifetimes, reshaping shore and landscape in a pattern of never-ending change. That portion of the southern end of the famed Outer Banks that runs from Ocracoke Inlet southwestward about 50 miles is known as Core Banks. Core Banks is a thin strip of land, in places wide and lush with low vegetation and green marshland, in places hardly more than a bare, overgrown sandbar. No road has ever run the length of Core Banks and it has never been a center of population.

Portsmouth, a village at the north end of the banks near Ocracoke Inlet, which had its heyday in the mid-1800s, is now administered by NPS special use permits and use-of-occupancy agreements. South of Portsmouth the land quickly narrows and assumes a character of isolation and sweet loneliness. Continuing south, the land widens and hooks back on itself like the barb on an old-time whaler's harpoon and forms a high bight of well protected water that has been known for hundreds of years as a refuge for storm-bedecked ships. The bight is also a home for many species of sport and commercial fish. Cape Lookout lighthouse and a U.S. Coast Guard station are situated at this end of Core Banks.

At various places along the Banks are fishermen's shanties and shacks. Most are in a run-down condition. Some are converted from old cars, buses, and rusting trailers. Most will eventually be removed so that nature can restore the area to its pristine isolation and natural charm.

Plans for the park reflect a desire to accept the area on its own terms. Secretary Kleppe said, “We are not going to interfere with nature just to enhance man's comfort. Only those developments that are deemed essential to visi-



Vacant keeper's quarters at Cape Lookout Lighthouse.

tor safety and resource protection will be undertaken.”

No publicly owned and operated facilities are available now, and no modern facilities are planned for the islands. The Cape Lookout visitor center will be built on Harkers Island and visitors will go by boat to the bight. Campers will carry in all supplies, including food, water, and adequate tenting; and at present there are limited concession-operated overnight accommodations.

Visitors to the Cape Lookout National Seashore area will be provided opportunities to learn the area's rich history—both natural and human. The student of nature, the person who

fishes, anyone who loves being out-of-doors with the sun, sand, and sea will be attracted to this area.

The Cape Lookout Bight and Shackleford Banks have the largest dunes, and at Shackleford exists an extensive maritime forest. Growing there are live oak, cedar, American holly, willow oak, American hornbeam, Hercules-club, and loblolly pine. Understory shrubs, where the live oak canopy is not too dense, include yaupon holly, dogwood, French mulberry, and stemless palmetto. Vines are common, covering the trees with tropical-like mysterious enchantment.

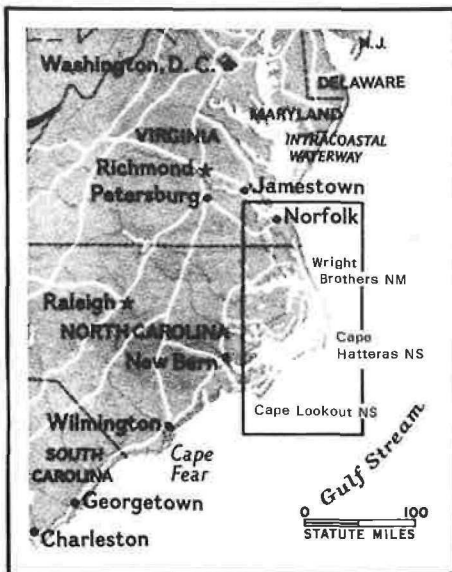
The changing geography of the islands pro-

duces the strange and beautiful "ghost forest" on the ocean side of the groves; trees killed by advancing sand and salt spray leave their skeletons to protrude, while the forest advances into new dune-protected areas on the sound side of the island.

Birdwatchers will find that the area is a wintering ground for such northern birds as loons, mergansers, cormorants, gannets, a few geese and swans, and other bay and sea ducks. Occasionally an arctic bird, such as the razor-billed auk, will appear, and a few pelagic birds, such as shearwaters and petrels, visit the area. In summer, one can find a number of tern species, pelicans, egrets, herons, and many kinds of shore birds. Permanent residents include various species of gulls, herons, hawks, and ospreys.

Perhaps the most important factor in the ecology and natural history of a barrier island is the constant change wrought by weather and water. Yet nature, when relatively undisturbed by man, has a way of restoring the balance of life in such a changing environment. The integrity of each life zone is essential to the survival of the whole island ecosystem. Thus the preservation of the barrier islands and the marine life of the surrounding waters is dependent upon leaving the area in as natural a state as is possible.

The lighthouse complex will be treated as a historical area, with a lighthouse keeper, and



perhaps his family in an NPS living-history demonstration.

Superintendent Mack Riddel says, "We do not intend to build any causeways or bridges to these islands. Access will be by private boat or ferry. Natural and historical values of the

Seashore will not be compromised for the sake of recreation."

While visitors are enjoying the Seashore, Park Service employees will be conducting a study to determine what parts of Cape Lookout National Seashore might qualify for wilderness designation, and studies pursuant to a master plan and a development plan.

Secretary Kleppe praised the cooperation between State and Federal agencies during the past 10 years since the establishment of the Seashore; and said, "We must never relinquish this open communication and cooperation as we manage these barrier islands and coastal marshes. Man's awareness of his environment is expanding so rapidly these days that no one person, or office, or State or Federal agency can be all-knowing. But if our lines of communication remain clear . . . our chances of optimum use and protection of our natural resources will be enhanced."

Superintendent Mack Riddel, who was former assistant superintendent at Cape Hatteras to the north before coming to Cape Lookout has said, "It's unlike any other national seashore. And on the island one day last summer a couple from Michigan said, as they looked away from the rubble and shacks out to the sea, in trying to explain why they came here and keep coming back: 'We feel very attracted to this place. It has been changed very little by man, as if God intended it to remain as it is. We like it here.'"

Supreme Court rules for desert pupfish

By Peter G. Sanchez
Death Valley National Monument
New Mexico

The Supreme Court, in a unanimous opinion on June 7, decided the fate of the Devils Hole pupfish. Survival of the pupfish, secure for the past ten thousand years, was threatened by pumping of groundwater in the desert near Devils Hole, Nevada. Devil's Hole, the fishes only natural habitat, is a deep water-filled cavern situated on a 40-acre isolated tract of Death Valley National Monument, Calif.-Nev., thirty miles east of monument headquarters.

Pumping began in 1968 and increased in subsequent years as a new 12,000-acre ranch developed and drilled more wells. Withdrawal of underground water lowered the Devil's Hole water level more each year, exposing a submerged rock shelf on which the pupfish feed and spawn. Predictions indicated the drying of the shelf late in 1971 and the demise of the fish. In August 1971, the United States filed suit and obtained an injunction to limit pumping. The ranch and the State of Nevada, which had joined the case, appealed.

The plight of the pupfish, an endangered species, was not argued under the Endangered Species Act. The issues at stake were more than some fish and a ranch corporation. The issues involved States and Federal water rights. For that reason Nevada and, later, fifteen other States joined with the defendants.

Previous court decisions affirmed the Federal Government's right to surface water on its lands. But Devils Hole is not flowing surface water. It is, in fact, a window open to the water table. The court found that surface and underground water are inseparable. Therefore, under the

"reservation of water doctrine" the United States can protect its water from diversion whether surface water or groundwater. Because Devil's Hole was added to the National Park System in 1952 to protect the pupfish, the Government had, by implication, also reserved an amount of water necessary for the fish's survival.

The Supreme Court ruling spans more than endangered species or national parks. In saving

the pupfish the high court also assured all water rights on ALL Federal lands—more than 775 million acres covering 34 percent of the United States. That's a landmark decision stemming from an inch-long fish living on a remote rock ledge measuring only 10 by 16 feet. The "pupfish case" will be cited often in future legal arguments involving water disputes for years to come. A voiceless fish spoke . . . and was heard.

Nickel-size Devil's Hole pupfish.



New area commemorates gold rush



Klondike, near Chilkoot Pass.

The colorful days of America's last great gold rush will be relived at Klondike Gold Rush National Historical Park in Alaska, one of the newest areas in the National Park System. The 13,271-acre park is composed of three units in Alaska, plus an interpretive center in Seattle, Washington, the scene of thousands of adventurers heading for the Klondike in 1897 and 1898.

The park could become part of an international park with Canada. Presently NPS planners and Parks Canada are developing the Canadian portion of the Klondike Trail of '98 that leads from the international border near Skagway, down the Yukon River to Dawson in the Yukon Territory and to the nearby goldfields.

The core of the U.S. portion of the park is

at Skagway. The two other units are the Chilkoot and White Pass Trails that lead from Skagway to the Canadian interior. Primitive campgrounds and interpretive facilities for hikers are planned for these units, totaling about 12,000 acres.

Sixteen historic buildings at Skagway will be acquired by the NPS with additional buildings to be restored by State and private owners. Skagway grew within a few months from a single trading post to a sprawling city of more than 10,000 miners, merchants, scalawags and thieves who were awaiting the spring thaws of 1898.

The town's weather-beaten buildings and boardwalks still retain a turn-of-the-century flavor, making the area a favorite port-of-call for tourists and inland passage ferries and cruise ships.

Many buildings still remain in their original condition but others will require restoration. Buildings not needed for park interpretation and administration would be restored—through agreements with private businesses—in keeping with the historic theme of the park.

The interpretive center in Seattle will be located in a restored building at Pioneer Square, site of the city's main business district during the gold rush days to Alaska. Plans for the center include an exhibit room, a small theater and administrative office space.

The Chilkoot Trail and White Pass Trail units are rich in artifacts—items that were abandoned by prospectors packing into the Klondike. Initial NPS efforts will go toward restoring and interpreting the Chilkoot unit, Director Gary Everhardt said. Although the White Pass Trail has been heavily damaged by landslides, parts of the trail may be seen from the narrow gauge railroad that runs from Skagway to White Horse in the Yukon Territory.

Legislation that created the new park authorizes \$5.8 million for development and \$2.6 million for acquisition of land and buildings.

JNEM museum opened in August

By Ellis Richard
Park Ranger, JNEM NHS
Missouri

In the middle decades of the 19th century the energies of western civilization began gathering once more in a city that would crystalize the essence of the final greatness of western man. No other city in that time would express the power and wealth of western ideals as well as St. Louis; gateway to an empire—built by good men and better women it glutted a continental vacuum. Cruel, destructive and noble in its breadth, with raw humanity.

One of history's greatest migrations ever, one of the world's great tragedies and one of its epic sagas is rewritten in an exhibit hall with no modern words. The premier museum of the National Park System, the Museum of Westward Expansion opened in August under the Gateway Arch at the Jefferson National Expansion Memorial.

The Museum in its conception is as radical as Thomas Jefferson was revolutionary. From Jefferson's vision of a continental destiny to the broken heart of the Indian warrior, the

cavernous opening under the Arch will let America's children reconfirm their heritage from the past.

In actual design and construction the museum is utterly complex. The intricacies of the installation and arrangement of exhibits ultimately achieve an astonishing simplicity. Like a Brahms Symphony, the full expression of an artist's craft in all its detail produces a convincing work of clarity and beauty. Nowhere does linear integrity bore the viewer. Everywhere, on every pillar, in every niche, on every wall, there is a new discovery, a new inspiration.

The exhibits are arranged analogous to tree rings, each ring equalling 10 years of western history. These rings radiate from a lifelike bronze statue of Thomas Jefferson standing at the beginning, at the dawn of the 19th century. Looking away from visitors approaching the museum, he watches after the Oregon coast on a distant wall, following the trek of Lewis and Clark.

By walking along the circumference of any ring from one end to the other, each visitor can choose a personally appealing period in western

history and explore a wide range of exhibits from that era. Or as an option the museum explorer can walk along imaginary spokes branching from the statue of Jefferson. When the latter path is followed, the exhibits relate in an evolutionary sequence within specific themes of the American move west. One spoke traces the rise and collapse of the fur traders; another, the vanguards of the second wave of emigrants; another, the settlers; another, the Indians, and still another the cattlemen, farmers, miners, and others.

On a third level the spokes themselves will be seen to interrelate. Each people affects the others. Visitors can discern this by seeing the proportional area devoted to each episode in America's western history.

Finally, there is added effect of complementing music, multi-screened kinetic images, and vast panoramic vistas of the American experience. The museum is so designed that each visitor can make a suitable choice to fit restraints of time and interest. This basic adaptability to the visitor underlies a great strength—its flexibility.

But despite its awesome scope the museum remains controversial mainly because of the treatment of its exhibits; few are encased. No colt revolver, no Hudson's Bay blanket or pocket watch, gold pan, sextant, or saddle are encased in plastic bubbles or boxes. The things, once a part of life west of the Mississippi will become part of the life of a visitor to the museum. The challenge of protecting objects will be the responsibility of ranger interpreters stationed in the museum. Their natural role will be to interpret the exhibits and at the same time protect them from theft and vandalism.

It is ironic that here in St. Louis at one of the most heavily urbanized units in the National Park System, the ethic of preservation and use is being followed to a logical end. The Museum of Westward Expansion will be as revealing and accessible as any museum in America. It presents a radical challenge in museum design, and offers the visitor as deep an experience as desired. Critics have every right to express doubts about this system. But they, like all explorers, should be willing to take the chance that could open up an entirely new concept in the way the Park Service husbands its collections.

It will succeed! St. Louis was once a doorway: a pulsing, exuberant tectonic machine powering the engines of western civilization toward the future. If we forget our ancestors,



Norm Messinger (left), newly appointed assistant super at JNEM, and museum contract manager, Frank Phillips.

the Museum of Westward Expansion beneath the Jefferson National Expansion Memorial Arch will remind us of a time when men and women went west when the going was a hard

way; of a time when our embryonic Nation was enjoying the joy of being right and the heart-break of being wrong, and of where we are today.

New interpretive concept at Yorktown

At Colonial National Historical Park, Yorktown, Va., the clock is turned back two centuries as visitors are presented a series of dramatic vignettes in the elegant house famous as the home of Thomas Nelson, Jr., an ardent 18th-century patriot and a signer of the Declaration of Independence.

"We were authorized to restore the handsome old house for the Bicentennial," said Superintendent James R. Sullivan, "but we had none of the original furnishings to put in it and no funds with which to acquire expensive antiques or reproductions." So . . . he tossed the problem to James Haskett, chief park historian, and a man with a record of imaginative accomplishments in bringing history alive.

The Park Service commissioned the writing of a living history play. The story unfolds in a drama titled "Where Two Chimneys Rise." Attention centers on Thomas Nelson, an outspoken supporter of independence from England. During the siege of Yorktown, he even commanded that this very house be fired upon because some of Cornwallis' officers were quartered in it. Later, as Governor of Virginia, Nelson exhausted much of his fortune to help rejuvenate his hometown and his State.

The program was given daily every 30 minutes throughout the past summer and will continue on Saturdays and Sundays through the fall. Two casts play on alternate days.

The play has intrigued dramatic critics and park visitors alike. "I had just barely heard of Thomas Nelson when I came to Yorktown," said a Pennsylvania woman after seeing the drama. "Now I feel like I know him (Nelson).

"If they had taught history like this when I was a kid, I sure would have learned a lot more," said her husband.



"The Nelson's" greet visitors at their restored home.



The upstairs's maid reprimands the downstairs's maid.



"Tom Nelson," "his wife, Lucy," and "Tom's father" enjoy a glass of sherry together.

John Muir NHS gets with the metric system

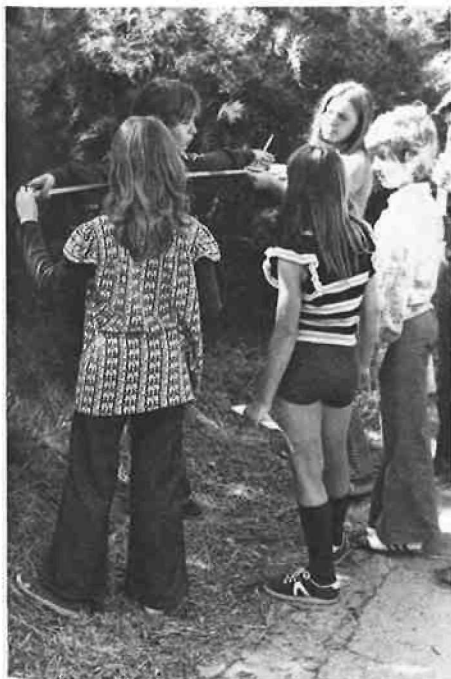
By Jim Tuck
Park Technician
John Muir National Historic Site

As the Nation advances ever so slowly toward the metric system, the Park Service is doing its part. Borrowing from the Forest Service's "multiple use" concept, John Muir NHS has found another use for the number posts on its self-guiding Orchard Trail.

The John Muir Metric Path is directed to youngsters, but adults can also profit from activities such as measuring their step in meters, walking around a hectare, converting from miles to kilometers, etc. After summer school classes try out the activities, the trail guide will be revised and made available to area school districts.

The class shown is the first one to take the path. As hard as it is to get enthusiastic about school work in the summer, they appeared to enjoy the trail—perhaps they are now a little more able to cope with our new system of measurement. Maybe their enjoyment of the trail was helped along by the ripe figs and apricots they picked.

The park has applied for a grant to the National Parks Foundation to print the trail guides for the 76/77 school year.



Kleppe commends NPS

(Following are excerpts from a prepared statement Secretary Kleppe circulated at his August 12 press conference.)

One of the really nice things about the job of Secretary of the Interior is overseeing the work of the National Park Service. The National Parks are truly the great heritage of America—natural and historical.

In the past 10 years the growth of the National Park Service has not kept pace with the growth of the National Park System. Nor has it kept pace with the growth of park use.

Since 1966, the number of areas of the National Park System has increased 28 percent. The number of Park Service employees has increased 24 percent. So far, so good. But in those 10 years the number of park visits has increased by 101 percent—more than double 1966. In a single decade we have dropped from one employee for every 22,045 visits to one employee for every 35,695 visits. I don't need to tell you what this means in terms of personal service to the park visitor. Nor do I need to tell you what it means in terms of protecting the vast and varied resources of the parks.

We have worked hard to improve things. Well over one-fourth of all positions added by the Park Service since 1966—400 men and women—were added to the roster this year by President Ford. The Park Service is now formulating requests for added strength in the field, and we hope a substantial further increase will result.

I am deeply committed to helping the Park Service to gain those resources that are necessary to keep pace with the growth it faces in public use.

I am proud of the Park Service. It has worked hard to streamline its operations. It has moved vigorously to reduce its office bureaucracy in Washington and regional offices to the minimum needed for support of the parks. New studies of how to make the best possible use of park manpower are underway. In turn, I will continue to answer this effort with the support needed to make Congress and the Administration aware of the parks' legitimate needs.

As an example of the need for personnel, the Secretary cited the newly authorized Valley Forge National Historical Park, Pa., saying:

"Valley Forge comes into the National Park System on October 1 of this year. Where are we going to get people to man Valley Forge? This is an extensive park. It needs lots of work. It is going to take a lot of people. We don't have the extra people."

Thought for the day:

The best things are nearest: breath in your nostrils, light in your eyes, flowers at your feet, duties at your hand, the path of God just before you. Then do not grasp at the stars, but do life's plain, common work as it comes, certain that daily duties and daily bread are the sweetest things of life.

Robert Louis Stevenson



Ancient Hawaiian culture featured.

Month-long Bicentennial fete in Hawaii

Puukohola Heiau National Historic Site, Hawaii, held a month-long Bicentennial celebration in August after a festive and colorful opening July 31.

The celebration entitled Ke Kulana No'eau O Ka Wa Kahiko, The Culture of Ancient Hawaii, featured instruction in Hawaiian arts and crafts such as coconut and lauhala weaving, ancient lei making, Hawaiian quilting, feather work, net making and construction. Instructors provided

visitors with materials to work with.

August 17 the park celebrated its establishment day with a tribute to Puukohola Heiau and Hawaiian games were featured. The closing day of the celebration, August 28, visitors received tips on how to prepare various Hawaiian foods and got a chance to taste them too.

Said Superintendent Jerry Shimoda: "This type of exposure to Hawaiiana is important for the visitor because . . . (it reveals) a very unique part of the American heritage."

Visitors observe Hawaiian arts and crafts.



HFC woman on way to "sound" career

By Jeanetta M. Foreman
Federal Women's Program Coordinator

Sharon M. Spriggs used to empty waste paper baskets and help clean up around the sprawling Interpretive Design Center at Harpers Ferry Center. But now Sharon is on the road to becoming an audio engineer—she'll be the second woman in NPS in the field—thanks to the Service's "upward mobility" program.

A couple of years ago, while performing her former duties, Sharon became fascinated with the audio section in the Division of Audio-visual Arts. She applied for a transfer under the "upward mobility" program. After intensive, on-the-job training for 18 months, she had learned the basics of tape duplication and audio recording. Eager to learn, she tagged along on several location recording trips and spent many hours in the sound studio's control room observing while numerous audiostation messages, sound/slide programs and films were narrated. She completed the training period with an understanding of the technical jargon, a familiarity with recording equipment and an even greater desire to utilize her new-found skills as the basis for a professional career as an audio engineer.

"A good worker with a capacity to extend herself beyond what is expected," is the way her immediate supervisor, Fred Palm describes her.

Blair Hubbard, Chief of the Branch of Audio Production states, "Sharon looks for new challenges. At our suggestion she is taking a home study course in basic electronics and this summer we are sending her to New York for a course in recording techniques. The upward mobility program gave Sharon the opportunity to prove herself."

The career Sharon has chosen is tough, demanding. The Design Center boasts one of the most complex audio consoles in the country. Technical standards are high and the Division is frequently complimented by the industry for the quality of its motion picture soundtracks. There are over 1200 audiomessage tapes in use



Sharon M. Spriggs.

throughout the System which need periodic replacement. This one facet of the Division's responsibility is, in itself, a formidable task.

A recent promotion changed Sharon's title from that of "Engineering Aid" to "Engineering Technician." The road for advancement is clear.

"Upward mobility gave me the chance," Sharon says as she thumbs through a study chapter headed "Diodes and Transistors," adding, "now I've got to do something with that chance." "I had no idea what went into mak-

ing a recording," she says.

Bubbling with the excitement of discovery, Sharon says, "I know I have a lot to learn yet. I need to know about microphones and how to use them. I want to learn to mix sounds at the console and how to edit film and tape. That's really the fun of it, learning and doing something new nearly every day." To which Division Chief Carl Degen adds, "Sharon's ready laugh and good humor are equal assets with her ambition and attitude. She is turning the opportunity given to her into a real success story."

Hickman.



Hickman is new personnel chief

NPS's new chief of Personnel is Barbara Lee Hickman, former personnel chief for Mining Enforcement and Safety Administration (MESA) of the Interior Department.

Hickman brings to NPS 16 years of personnel experience with an extensive background in classification, employment, executive recruitment, and personnel program and policy development.

A graduate of American University with a B.A. degree in American history, she began her career as an employee relations officer with the U.S. Geological Survey in 1960. She then moved to the U.S. Public Health Service where

she held a number of staff and operational personnel positions from 1961 to 1970 at the Surgeon General level and later at the Bureau level.

From 1970 to 1974 Hickman served as chief of classification and then chief of Personnel Operations for the National Highway Traffic Safety Administration, Department of Transportation, where she developed the first merit promotion program, the first employee recognition program, and the first position management program for that agency.

A native of the Washington, D.C. area, Ms. Hickman resides in Arlington, Va.

New super at Booker T.



Hutzky.

John Thomas Hutzky has been named Superintendent of Booker T. Washington National Monument in Franklin County, Va., the 200-acre site of the birthplace and childhood home of the famous educator.

Hutzky, 41, was appointed to succeed Sylvester Putnam, who became Superintendent at Richmond National Battlefield Park, Va.

As superintendent of the National Monument, Hutzky is responsible for administration of the historic site, which has a living history farm and a new environmental education and cultural center.

John joined NPS as a park guide at Saratoga National Historical Park, Stillwater, N.Y., in 1963. He was promoted to administrative assistant in 1969, and to AO in 1971. In July 1973, he became the AO at Gettysburg National Military Park, Gettysburg, Pa.

A native of Saratoga Spring, N.Y., John Hutzky studied at Dena College in Loudonville, N.Y., served a 3-year tour of duty with the U.S. Marine Corps, and completed a 2-year Mid-Level Manager Development program.

The family, Hutzky, his wife, Priscilla, and their two sons will reside in Vinton, Va., just outside of Roanoke.

Grand Canyon top tourist attraction

Grand Canyon National Park, Ariz., is America's most popular natural attraction according to a poll taken recently by the US Travel Service. The unofficial survey, entitled, "Seven Natural Wonders of the USA" was a nationwide inquiry to determine the country's most outstanding natural attractions of interest to tourists.

The poll also showed that after the Grand Canyon, tourists generally preferred the following "wonders" (in order of voting preference): Yellowstone National Park; Niagara Falls, N.Y.; Mt. McKinley National Park, Alaska; Sequoia and Kings Canyon National Parks, Calif.; Hawaii Volcanoes National Park, and Everglades National Park.

Other natural wonders receiving numerous votes in the poll included Carlsbad Caverns National Park, N.M.; Yosemite National Park; Grand Teton National Park; Glacier Bay National Monument, Alaska; Crater Lake National Park, Ore.; Mammoth Cave National Park, Ky.; the Great Lakes and the Mississippi River.



Letters

(The following letter by Dr. Blair Erb, University of Tennessee, College of Medicine, was originally written to Anthony Wayne Smith, president of the National Parks and Conservation Association.)

There is a growing need for guidelines for physical effort in recreation.

I have made several climbs with others to the top of Mount Rainier and into the Grand Canyon and the physical and thermal problems that we experienced give rise to the need for a system of grading the difficulty of climbing trails.

Since I am professionally involved in health care, I would like to suggest that the National Park Service consider adopting a system of labeling the difficulty of trails so that trail users can be prepared for the amount of work that will be required.

Many of us in the health field, including members of the American Health Association, encourage the use of the MET measurement of workload. MET represents the oxygen consumption per unit body weight per unit of time needed to accomplish a given work load. One MET is essentially one basal metabolic rate. Two METS is a metabolic rate twice that, and so on. Since the MET is normalized for body weight, one MET is the same for people of different weights. Technically, a MET represents 3.5 ml O₂/KG body weight/minute of oxygen consumption.

We use the MET and heart rate information for giving advice, exercise prescriptions, and exercise precautions to patients with and without heart disease in an effort to prevent excessive and dangerous over-exertion. Patients are taught to monitor their own heart beats by feeling their carotid pulse.

Most people can handle 25% to 40% of the maximum work capacity for 8 hours without undue fatigue. This scale, then, provides an index against which the individual can match the difficulty of a task with his own personal work performance. Since energy costs of trails can be measured, it would seem that this system of measuring metabolic requirement for trails would be a good system for enlightening the users of the Park System.

Dear Editor:

"Burros threaten parts of Grand Canyon" in the *Newsletter* was of particular interest since I have been involved in feral burro control for many years.

I became involved in this program in 1948 and have participated in it, off and on, ever since. As pointed out in Shoemaker and Carothers' article, much effort on the part of Grand Canyon rangers in the 1920s and '30s, brought the number of burros down to a very few. I do believe, however, that there were a great number more than the 20 as estimated in 1932. They are simply spread over such a vast area that any estimate has little value. Little control work was done during World War II and when I became involved the wild burros had taken over large sections of the park. It was not uncommon for us to hike into the canyon, shoot two dozen or more animals, and hike out

in the same day. At the same period of time, the Supai Indians were removing great numbers that were sent to the pet food market. I remember one 5-day period in the '60s when we had a military helicopter at our disposal and 408 animals were destroyed. Even with this sort of equipment, it will be next to impossible to remove all these exotic animals; which is indeed what should be done.

Any and all control work on feral burros seems to bring a great hue and cry from uninformed animal lovers across the land. The majority of these people have never seen a burro in the wild. They haven't the faintest idea as to how aggressive the burro is to wildlife and how destructive they are to the native plants. Burros will consume virtually everything that grows; in many cases literally eating themselves out of house and home. I have seen where these animals have increased in a limited section of the canyon to the point of starvation. They have eaten every trace of mesquite, yucca, and prickly pear cactus; spines and all. They have been reduced to little more than a bag of bones. Under these conditions, many jennies find it impossible to produce enough milk for their young. This is what the sentimentalist refer to as, "Letting them live out their natural lives in the wild." I, for one, find the bullet more merciful!

Lester Womack
Tucson, Arizona

Dear Editor:

Between the time I wrote my letter regarding personnel matters (March 12) and it was published (July 7), I was converted to permanent status (May 23). Space does not permit an explanation of how it all came about, fortunately it did and I thank those who worked in my behalf.

Because of space limitations, my letter did not give a complete picture of the position I was in at that time. Mr. Mangers pointed out that other-than-full-time people have the opportunity to acquire full-time status through the BEE system. However, that was exactly how I came to be in the position described in my letter.

The staff at Coulee Dam did not know that I was less than full-time since there was nothing on the forms or "Cert" to indicate it. When they offered me the job, I was pleased to be permanent at last. When they and Region became aware of my status, they informed me that because of the freeze they couldn't convert me, but that conversion would be automatic when the freeze lifted because I would be backed by a permanent position. Is there any wonder then, that I was dismayed and demoralized when my position was abolished after the National Park Service was allotted 400 new positions?

I appreciate that the managers have some tough problems to solve trying to juggle staffing for all the new areas within the constraints of OMB. It's not easy. All we in the field ask, is that what we are told, agrees with what is actually practiced and that the meaningless bureaucratic double talk be dropped in favor of concise, straightforward explanations.

Robert V. Seibel
Park Interpreter
Coulee Dam NRA

Dear Naomi:

A few weeks ago I learned of the Departmental Vacancy Information System and was pleased that a degree of "purity" was about to enter the Servicewide Career Development and Placement Plan. But hold it . . . yesterday brought another memorandum contradicting the first information I had received: "the Department has approved our request to exclude positions in the GS-025 Series from the requirement that they be included in the DVIS."

Why can't an employee, who possesses the necessary skills and whose performance qualifies, request that his (her) name be included on a certificate of eligibles? Is BEE so positive that it always selects the best employees that it could not be overlooking a highly qualified individual? The short-lived Departmental Vacancy Information System would have allowed the latter, with enthusiasm for a particular position, to have entered the selection process. I see signs of repetitive lists of names being circulated—to the exclusion of others.

The special treatment that the GS-025 Series continues to receive may not be in the interest of the majority of employees in these positions. Many of us continue to view the empire of BEE as a smothering guardian.

Elaine A. Hounsell
Supervisory Park Interpreter
Lake Mead National Recreation Area

Dear Editor:

I have noted with a great deal of interest recently that we've quietly gone over to a new system of advertising our personnel openings for the benefit of all employees at the GS-9 and above level. This is like a breath of fresh air. Whether one is interested in moving or not, it removes a lot of the mystery from our old system by bringing out into the open what types of positions are vacant and where they're located.

The U.S. Fish and Wildlife Service has used this method successfully for years and I hope it works for us and can be continued indefinitely. It should raise morale by allowing our employees to apply only for positions and locations they like. I hope some of our more experienced personnel people will comment in *The Newsletter* on this new system.

Don Carney
Coulee Dam NRA
Washington

Letter to the Editor:

On behalf of my family, I want to thank all who managed to make our visit to Philadelphia in early June an unqualified success. We came away renewed and restored in spirit and have faith that there will be a Bicentennial.

I meant to write this letter years ago, but now let me add that the National Park Service has given us the true sense of our heritage wherever we've been. Acadia—Fort Frederica—Lake Erie. Whenever we get discouraged about our taxes and "the Government" the saving thought is always the National Park Service. Carry on!

Thank you,
Jacqueline L. Harter
Athens, Ga.

People on the move

New faces

AVERY, Margie H., Clerk-DMT, Assoc Reg Dir Planning & Assist, SERO

BARDON, Donald A., Electrician, Everglades NP

BARTLETT, Bonnie D., Concessions Clerk, Assoc Reg Dir Park System Mgmt, RMRO

BATHURST, Dale A., Admin Clerk, Minute Man HSP

BISSON, Eleanor M., Fiscal Clerk, Mesa Verde NP

BURGE, Robert W., Laborer, Fort Vancouver NHS

CAMPBELL, Ruth A., Occupational Health Nurse, Personnel Div, WASO

CARTER, Henry S., Maintenance Helper, Golden Gate NRA

CHASON, J. Wendell, Supply Tech, Imm Off Assoc Reg Dir Admin, SERO

CHENEY, John R., Pipefitter, Yellowstone NP

FORREST, Larry E., Pipefitter, Div Maintenance, NCP

GARRISON, Raymond A., Motor Vehicle Operator, Golden Gate NRA

GUISE, Donald H., Maintenance Worker, Blue Ridge Pkwy

HALL, Gilbert R., Park Ranger, Voyageurs NP

HOBBS, Terri B., Clerk-DMT, Imm Off Assoc Reg Dir Park Operations, SERO

KOVACH, Alan L., Computer Oper, Imm Off Assoc Reg Dir Admin, SERO

LE DOUX, Clark E., Warehouseman, Yellowstone NP

LEE, Prudie H., Clerk-Typist, Cumberland Gap NHP

PARKER, Raymond P., Concessions Analyst, Assoc Reg Dir Mgmt Oper, PNRO

POWELL, William, Laborer, Independence NHP

WARNOCK, Sandra L., Clerk-DMT, Imm Off Assoc Reg Dir Park Oper, SERO

ANGUS, Jack E., Administrative Assistant, Curecanti RA

CARTER, Charles A., Janitor, Independence NHP

DeSISTO, Salvatore C., Laborer, Minute Man NHP

DILLARD, Michael E., Park Tech, Fredericksburg & Spotsylvania BTFLD Mem NMP

GODARD, Mildred J., Clerk-Typist, Tuzigoot NM

GOLDTHORPE, Frederick W., Park Tech, Shenandoah NP

GREENBERG, William E., Electrician, Gateway NRA

HAGNER, James F., Pipefitter, Independence NHP

HALKA, Theodore M., Carpenter, Gateway NRA

HARRISON, James A., Laborer, Petersburg NB

HILL, Leroy, Jr., Laborer, Independence NHP

HUGHSTON, Calvin C., Janitor, Independence NHP

KASSMAN, Eugene B., Supv Cultural Arts Spec, Roads & Trails Section, NCP

KEEL, Bennie C., Supv Archeologist, Interagency Archeological Services, Atlanta

KIRMS, George, Mason, Gateway NRA

KOCH, Evelyn R., Sec, Whiskeytown NRA

KOPACK, Peter J., Maintenance Worker, Gateway NRA

KORNISH, John J., Janitor, Independence NHP

KURPISZ, Stanley, Heavy Mobile Equipm't Mechanic, Gateway NRA

LYON, Clarence, Laborer, Independence NHP

MACH, Stephen J., Clerk-Typist, Golden Gate NRA

MADDOCK, Stephen J., Park Ranger, Imm Off Assoc Reg Dir Coop Act, NARO

MARKOWITZ, Martin, Mail & File Clerk, Gateway NRA

MARRAZZO, Patricia A., Clerk-Typist, Gateway NRA

NILSON, Helen M., Clerk-Typist, Voyageurs NP

OXENDINE, Diane V., Realty Clerk, Assoc Reg Dir Coop Act, MARO

PENFOLD, Alma K., Clerk-Typist, Land Acquisition, MWRO

RIVERA, Ruben B., Accounts Maintenance Clerk, Gateway NRA

SCOTT, Randolph R., Laborer, Independence NHP

SMITH, Thomas J., Park Tech, Fredericksburg & Spotsylvania BTFLD MEM NMP

SMITH, William Edward, Gardener, John Muir NHS

STEWART, John R., Laborer, Independence NHP

TARLETON, Elaine S., Computer Operator, Imm Off Assoc Reg Dir Admin, SERO

AMUNDSON, Georgia R., Procurement Clerk, Bighorn Canyon NRA

BRERETON, Thomas B., Concessions Mgmt Spec, Lake Mead NRA

BURNS, Barbara J., Realty Clerk, Grand Teton NP

BUTLER, William B., Archeologist, Zion NP

CAREY, Theodore R., Automotive Mechanic, Biscanyone NM

CARTER, Henry S., Maintenance Helper, Golden Gate NRA

CHILES, Paul V., Park Ranger, Badlands NM

CUMISKEY, James M., Concessions Analyst, Assoc Reg Dir Park System Mgmt, RMRO

DE LA ROSA, Stephen C., Park Tech, Saratoga NHP

DECKER, Larry J., Park Ranger, Capitol Reef NP

DI GIOVANNI, Emma, Clerk, Home of FDR NHS

FIRME, Victor L., Motor Vehicle Operator, Golden Gate NRA

FRATINO, Lois G., Clerk-Typist, Everglades NP

HENSLEY, Jonathan E., Janitor, Mount Rainier NP

JOHNSON, Kathryn B., Data Transcriber, Assoc Reg Dir Admin, RMRO

KULM, Shirley A., Clerk-Typist, Personnel, MWRO

LAMB, Bridgett L., Clerk, Big Cypress Land Acquisition Office

MANNION, Francis J., Air Conditioning Equipment Mechanic, Independence NHP

O'MARY, Patrick J., Concessions Mgmt Spec, Glacier NP

SMITH, Dwight, Laborer, Div Maintenance, GW Mem Pkwy

SUNDLES, Tracy, Clerk, Assoc Reg Dir Mgmt & Operations, PNRO

THAYER, Beverly M., Clerk-Typist, Big Cypress Land Acquisition Office

THIMAS, Jake, Engineering Equipm't Oper, Gateway NRA

VINSON, Charlene B., Cardpunch Oper, Finance Div, PNRO

VOORHEES, Kathleen A., Payroll Clerk, Assoc Reg Dir Admin, RMRO
 WARD, Mary A., Clerk-Typist, Interagency Archeological Services-Atlanta
 WOOD, Cornelius E., Motor Vehicle Oper, Golden Gate NRA
 ZIMMERLING, William M., Concessions Financial Analyst, Assoc Reg Dir Oper, WRO

New places

ALDERSTEIN, Architect, Asst Mrg MA/NA Regions Team, DSC, to Same, Gateway NRA
 ALDORFER, Ronald E., Supv Park Ranger, Cape Cod NS, to Same, Saint Croix NSR
 ANDRESS, Crystal L., Park Tech, Yosemite NP, to Park Ranger, Yosemite NP
 BERG, Dean E., Park Tech, Olympic NP, to Same, Fort Necessity NB
 BRADLEY, Thomas A., Park Ranger, Chesapeake & Ohio Canal NHP, to Supv Park Ranger, Cape Cod NS
 BRUNET, Delber L., Roads Foreman, Rocky Mountain NP, to Roads & Trails Maintenance Foreman, Death Valley NM
 CHAPMAN, Dennis F., Park Ranger, Pea Ridge NMP, to Supv Park Ranger, Bent's Old Fort NHS
 CLARKE, Marion L., Education Spec, International Park Affairs Div, to Same, Special Resource Staffs, WASO
 COLE, Glen F., Yellowstone NP, to Research Biologist, Voyageurs NP
 DONATI, William F., Supv Park Ranger, Mount Rainier NP, to Same, Lava Beds NM
 ENNIS, Delbert H., Building Engineer, Kennedy Center Support Group, to Maintenance Mechanic Foreman, Div Maintenance, NCP
 HINCKLEY, Calvin W., Maintenance Worker, Greenbelt Park, to Maintenance Mechanic, Independence NHP
 HOLMES, Robert F., Supv Park Ranger, Gateway NRA, to Mgmt Assist, Cuyahoga Valley NRA
 JOHNSON, Einar L., Park Mgr, Special Resource Staffs, to Park Ranger, Redwood NP
 JONES, Walter W., Engineer Equip'mt Oper, Gateway NRA, to Automotive Mechanic Foreman, Gateway NRA
 KESSEL, Arden L., Motor Vehicle Operator, Div Maintenance, Grand Canyon, to Job Coordinator, Div Vis Serv, Grand Canyon
 KIMPEL, Raymond A., Supv Park Ranger, Virgin Islands NP, to Same, Sleeping Bear Dunes NL
 KING, John H., Jr., Admin Ofc, Chickamauga & Chattanooga NMP, to Same, Ile Royale NP
 KLUKAS, Richard W., Park Ranger, Imm Off Assoc Reg Dir Park Operations, SERO, to Research Biologist, Wind Cave NP
 LAPIERRE, Raymond R., Admin Ofc, Independence NHP, to Same, Boston NHP
 MONHEISER, James L., Park Ranger, Lake Mead NRA, to Park Mgr, NCP
 MONTFORD, Franklin V., Park Ranger, Imm Off Assoc Reg Dir Park System Mgr, NARO, to Same, Boston NHP
 POPE, Randall R., Park Mgr, Ozark NSR, to Same, MWR
 RINKER, Mary J., Personnel Staffing Spec, Branch Employ & Placement, NCP, to Same, Branch Personnel Operations, WASO
 SINK, Jonathan, Concessions Financial Analyst, Assoc Reg Dir Park System Mgmt, RMRO, to Same, Glen Canyon NRA

SMITH, William D., Civil Engineer, Assist Mgr MA/NA Regions Team, DSC, to Same, Assist Mgr RM/MW Regions Team, DSC
 SPALDING, Donald M., Park Mgr, Buffalo NR, to Same, Death Valley NM
 SPENCER, Donald L., Park Ranger, Branch Resource Mgmt Protection, Grand Wash District, Lake Mead NRA, to Same, Fire Island NS
 TAKENAKA, Debra L., Clerk, Yellowstone NP, to Admin Clerk, Craters of the Moon NM
 WALKER, James R., Mgmt Assist, Voyageurs NP, to Park Ranger, Assoc Reg Dir Operations, MWRO
 WHALEN, James I., Ground Maintenance Foreman, Grounds & Mainte Crew, NCP, to Maintenance Worker Foreman, Assoc Dir Park System Mgmt, NCP
 WHITE, Christopher M., Park Tech, Manassas NBP, to Park Ranger, Perry's Victory & Int Peace Mem
 WORKMAN, James D., Personnel Mgmt Spec, Branch Labor Relations, WASO, to Personnel Div, MWRO
 BOGOZZI, David L., Admin Assist, Yosemite NP, to Admin Tech, Lehman Caves NM
 CALHOUN, Audrey F., Park Ranger, Greenbelt Park, to Same, Prince William Forest Park
 GAILLIOT, Theresa A., Clerk-Steno, Concessions Mgmt, NCP, to Voucher Examiner, Div Finance, NCP
 HEDREN, Paul L., Park L., Park Tech, Fort Laramie NHS, to Historian, Big Hole NB
 HELTON, Erika K., Mail & File Clerk, Special Operations Force, NCP, to Clerk-Typist, Special Operations Force, NCP
 MOORE, Michael M., Laborer, Div Maintenance, GW Parkway, Motor Vehicle Oper, NCP
 YOUNG, Edwin B., Jr., Park Ranger, Assist Mgr NCP Team, DSC, to Interpretive Planner, Div Interpretive Planning, HFC
 BRAITHWAITE, Kay, Admin Ofc, Branch Training & Devel, WASO, to Same, Mount Rainier NP
 CALDARELLI, Patricia S., Sec, Zion NP, to Same, Professional Support Div, DSC
 CHAPMAN, Barbara, Clerk-Typist, Yellowstone NP, to Supply Clerk, Yellowstone NP
 COLEY, David M., Sr., Maintenance Worker Leader, Special Events Support Group, NCP to Grounds Maintenance Foreman, Horticultural Group, GW Mem Pkwy
 DINKEL, Ted Richard, Geologist, Zion NP, to Same, Professional Support Group, DSC
 ENGLE, Richard L., Civil Engineer, Point Reyes NS, to Facility Mgr, Canaveral NS
 ESCALANTE, Ernestine V., Park Ranger, Cabrillo NM, to Same, Christiansted NHS
 FERRARO, William J., Park Ranger, Olympic NP, to Supv Park Ranger, Ozark NSR
 HAWKINS, Albert A., Park Mgr, Cumberland Gap NHP, to Same, Mammoth Cave NP
 HERRMANN, Raymond, Hydrologist, Assoc Reg Dir Plan & Assist, SERO, to Same, Everglades NP
 MAYO, Charles W., Park Tech, Div Interp Recreation & Resource Mgmt, GW Mem Pkwy, to Park Ranger, Div Interp Recreation & Resource Mgmt, GW Mem Pkwy
 OAKES, Yvonne M., Admin Ofc, Lake Mead NRA, to Staffing Spec, Assoc Reg Dir Admin, NARO
 PURMAN, Sylvester, Park Mgr, Booker T. Washington NM, to Same, Richmond NBP

QUICK, William C., Program & Budget Ofc, Program & Budget Div, WASO, to Admin Ofc, Assoc Reg Dir Admin, PNRO
 REO, Stephen C., Voucher Examiner, Assoc Reg Dir Admin, to Concessions Analyst, Assoc Reg Dir Park System Mgmt, RMRO
 SANDOVAL, Frances L., Clerk, Assoc Reg Dir Planning & Resource Pres, PNRO, to Sec, Finance Div, PNRO
 STEELE, Peter C., Museum Curator, Sagamore Hill NHS, to Same, Boston NHP
 SUAREZ, Rod M., Park Tech, Fire Island NS, to Supv Park Ranger, Joshua Tree NM
 TAYLOR, Beatrice, Clerk-Typist, National Visitor Center, to Same, Office of Public Affairs, NCP
 WOODWARD, Minerva W., Clerk, International Park Affairs Div, WASO, to Sec, Land Acquisition Div, WASO
 WORTHINGTON, Diane C., Sec, DSC, to Mgmt Assist, Prof Support Div, DSC

Out of the traces

BABLER, Robert E., Mechanic, Coulee Dam NRA
 BAFFREY, Michael E., Park Ranger, Resource Staff, WASO
 BAKE, William A., Writer-Editor, Div Publications, HFC
 BARNHART, Michael D., Cartographer, Antetam Land Acquisition Office
 BESSINGER, Michele L., Park Tech, Grand Canyon NP
 BRATLIEN, Ellen M., Mail & File Clerk, Grand Teton NP
 BROAD, Gary R., Laborer, Independence NHP
 CARBAUGH, Glenn F., Maintenance Worker, Gettysburg NMP
 CELLO, Mary Ann, Park Ranger, Gateway NRA
 CHINN, Evelyn H., Information Receptionist, Sequoia NP
 COTTON, Karen S., Realty Spec, Antietam Land Acquisition Ofc
 DAWSON, Barbara A., Sec, Assist Mgr MA/NA Regions Team, DSC
 FOREMAN, William C., Jr., Supv Park Ranger, Yellowstone NP
 GREER, Cecil W., Engineer Equip'mt Operator, Natchez Trace Pkwy
 HALL, Robert C., Maintenance Worker Leader, Castillo De San Marcos NM
 HAMMOND, Robert T., Park Tech, Colonial NHP
 HUDSON, Jean M., Admin Clerk, Horticulture & Grounds Section, NCP
 KING, Phyllis L., Clerk-Steno, North Cascades NP
 LAYTON, Odette, Clerk-Typist, Dinosaur NM
 LEACH, Pansy L., Clerk-Typist, Cumberland Gap NHP
 McLAURIN, Ernest, Maintenance Work Foreman, Statue of Liberty NM
 MIZRAHI, Victor, Personnel Staffing Spec, Personnel, NCP
 POPPEN, Clarence D., Maintenance Worker, Branch Rds Trails & Grounds, NCP
 REINHART, Duwayne D., Signmaker, Branch Maintenance Buildings & Utilities, Grand Canyon
 RITTER, Parker M., Supv Park Ranger, Mammoth Cave NP
 ROBERTS, James D., Boiler Plant Operator, Yellowstone NP
 ROMERO, Henry Jr., Supv Position Classification Spec, Branch Classification & Compensation, NCP

SEABERG, Yvonne Ann, Admin Clerk, Perry's Victory & Int Peace Mm
 STARR, James F., Park Aid, Tumacacori NM
 STEWART, John C., General Supply Spec, Shenandoah NP
 SUTHARD, Raymond E., Jr., Laborer, Independence NHP
 SUMNER, Georgia S., Admin Clerk, Grant-Kohrs Ranch NHS
 SWIECONEK, Melanie A., Realty Clerk, Land Acquisition Div, WASO
 THURING, Melvin A., Civil Engineer, Professional Support Div, DSC
 WEBB, William E., Electrician, Great Smoky Mountains NP
 WOMACK, Eddie R., Engineering Equipm't Operator Foreman, Grand Teton NP
 YOST, Greg P., Cartographic Tech, De Soto NM

ANDERSON, Carl V., Supv Park Ranger, Whiskeytown NRA
 BRAZILL, George M., Procurement Agent, Death Valley NM
 BROWN, Edward P., Museum Spec, Div Museum Serv, HFC
 COFFEY, Michael J., Private, US Park Police
 COLLINS, David J., Maintenance Worker, Cumberland Gap NHP
 DALEY, John T., Supv Park Tech, Fort McHenry NM & Hist Shrine
 DAVIDSON, Ernest, Maintenance Worker, Apomattox Court House NHP
 DEL ROSSI, Dorothy S., Clerk, Minute Man NHP
 DIEHL, Robert J., Sec, Jefferson National Expansion Mem NHS
 DILTS, Abby A., Sec, Cape Cod NS
 DUROCHER, Jo Lynn, Purchasing Agent, Gettysburg NMP
 FULLER, Kent L., Civil Engineer, Assist Mgr RM/MW Regions Team, DSC
 HANSEN, Kathryn E., Clerk, Mesa Verde NP
 JAMES, James E., Tractor Operator, Metal Craft Shop, NCP
 KAISER, Lola V., Park Tech, Lake Mead NRA
 KELLY, Joseph Michael, Park Tech, Lake Mead NRA
 LOW, Roger R., Engineer Equipm't Mechanic, Rocky Mountain NP
 McKNIGHT, Eric D., Private, US Park Police
 NEWMAN, Joan M., Clerk-Typist, Gateway NRA
 PENNYMON, Waulene E., Payroll Clerk, Finance Div, WASO
 PHILLIPS, Frank, Interpretive Projects Spec, Jefferson National Expansion Mem NHS
 PIPER, Dennis L., Landscape Architect, Assist Mgr RM/MW Regions Team, DSC
 REED, Beverly P., Personnel Clerk, Mammoth Cave NP
 REED, John V., Automotive Mechanic Leader, Colonial NHP
 ROSS, Lester A., Museum Spec, Fort Vancouver NHS
 SHECKELLS, Martha E., Sec, Protection Div, WASO
 STEWART, John R., Laborer, Independence NHP
 THUNEM, Mary K., Voucher Examiner, Finance, Div, PNRO
 WINFORD, Roy K.C., Motor Vehicle Oper, Metal Craft Shop, NCP
 WOELBING, N. Louise, Sec, Yosemite NP
 WOLFE, Richard E., Architect, Historic Pres Div, DSC
 YARBROUGH, Peggy E., Motor Vehicle Oper, Point Reyes NS



Redwood float features park families

Atop Redwood National Park's (Calif.) 4th of July parade float, which won second place at Crescent City, Calif., a miner panned for gold, an explorer stood ready with his rifle, a Native American relaxed in front of her home and a pioneer family worked busily at daily chores. Native American Geneva Mattz (right) wore an authentic Indian ceremonial costume and sat in front of an Indian family house built in fine detail by park craftsmen. The pioneer family (above) was composed of members of four different park families. Children were Kirk Rose, Hillary Dimont and Courtney Blair. The pioneer father and mother were Norm Blair and Christie Fairchild. All props were authentic and borrowed from individuals or the local historical society.

A "freezing river story"

By Arne Long
 District Ranger
 St. Croix National Scenic Riverway, Wisc.

Small ice clusters can first be observed in mid-December in the Namekagon riverbed. They lie stationary on the sandy bottom. As the water temperature drops, the crystalline masses increase in size and number. When the critical size and buoyancy is reached, they float to the surface. Adhering to the frozen particles are substantial quantities of sand and gravel that might cause one to conclude that the entire riverbed was rising to the surface.

Soon the floating mass congeals into increasingly larger floating ice-islands until the entire river is a slow-moving ribbon of slush. Later, ice-dams are created and surface movement ceases as the ice is compacted, causing sub-surface channels to be formed.

Standing mid-way along the Namekagon, the sound of the scraping and grinding—first detected downstream—becomes intense, and as the ice mass moves steadily upstream, passing before the viewer, there is a thundering sound, which fades again as the mass continues on upstream. The silence following is as dramatic as the preceding crescendo.

The river will rise several feet within an hour, causing mink, otter, and muskrat dens to be quickly flooded. Animals, temporarily displaced, add to an already spectacular scene.

And this is how the Namekago freezes from the bottom.

(The above article is in response to a request for a "freezing river story," following publication of Bill Brown's story on Alaska in a February issue of the NPS Newsletter.)

U.S. Department of the Interior

Secretary Thomas S. Kleppe

National Park Service

Director Gary Everhardt

Deputy Director William J. Briggie



Issued monthly for Service employees through the Office of the Director. Edited and published by the Office of Public Affairs.

Tom Wilson
 Acting Assistant to the Director,
 Public Affairs

Grant W. Midgley
 Chief,
 Publications and Public Inquiries

Naomi L. Hunt
 Daniel S. Hughes
 Ronnie Spiewak
 Glenn Snyder

Editor
 Assistant Editor
 Staff Writer
 Art Editor

Department of the Interior, National Park Service, Wash., D.C. 20240
 Room 3416, Interior Bldg. Tel. (202) 343-4481

Park pix



Washington Army Natl. Guard crew load litter gathered on the beach at Olympic NP.

Great Falls Park, Va., recently received a gift wheelchair from Great Falls Home and Community Club. (From left) Park Ranger Colleen Spicka, and Club President and Secretary, Bea Fitzsimmons and Ruth Spittler.



Magician Don Arthur Dramatizes "The Magic of America" to Seattle area school-children.

"Fifes and Drums of Old Calaveras" entertain with 1860 martial music at Fort Point NHS, Calif.



Ida Geary identifies bit of seaweed in environmental class at Fort Point NHS, Calif.

