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REFERENCE
DEPARTMENT

May/June 1977

New Jersey
OUTDOORS

SOUTH JERSEY SAFARI

*By Boat from Millville
to Mays Landing*

BY ROBERT B. CAMPBELL

The South Jersey area is one of the few really natural areas for environmental study remaining on the East Coast. The flat land, most of it barely above sea level, has produced recreational, occupational, and educational opportunities both for local residents and for the thousands of tourists who flock to this area each year. Slow, meandering rivers, miles of Pine Barrens, ecologically rich marshlands, and the sea-coast combine to make South Jersey a paradise for the outdoorsman.

I felt that an ideal way to study a segment of this part of the country would be to travel by boat from Millville to Mays Landing. This would involve traveling from Millville down the Maurice River to the Delaware Bay, across the Bay to Cape May, through Cape May Canal, up the Intracoastal Waterway to Ocean City, and finally along the Great Egg Harbor River to Mays Landing. My goal was to take photographs illustrating the aforementioned recreational, occupational, and educational opportunities. So, with my father Clarence B. Campbell along to serve as photographer, at 8:00 a.m. on June 15, 1976, we departed from Millville on our South Jersey Safari.

From the air, one can see the typical flat farming country of southern New Jersey. It is here that small creeks and springs flow together to form the Maurice River, which winds 20 miles downstream from Malaga to Millville. These first miles of river are narrow and extremely overgrown but provide a challenge to the hardy and adventuresome canoeist. In Millville, a dam built in the 1890's to provide power for a large cotton mill formed Union Lake, which was then the largest manmade lake in the United States. This dam marks the furthest point upstream at which large power boats can be safely maneuvered, as it was here that we began our safari.

Traveling downstream, we passed through the city of Millville and noted the senior-citizen high-rise apartment, which is the tallest building in the

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PHOTOS BY CLARENCE B. CAMPBELL

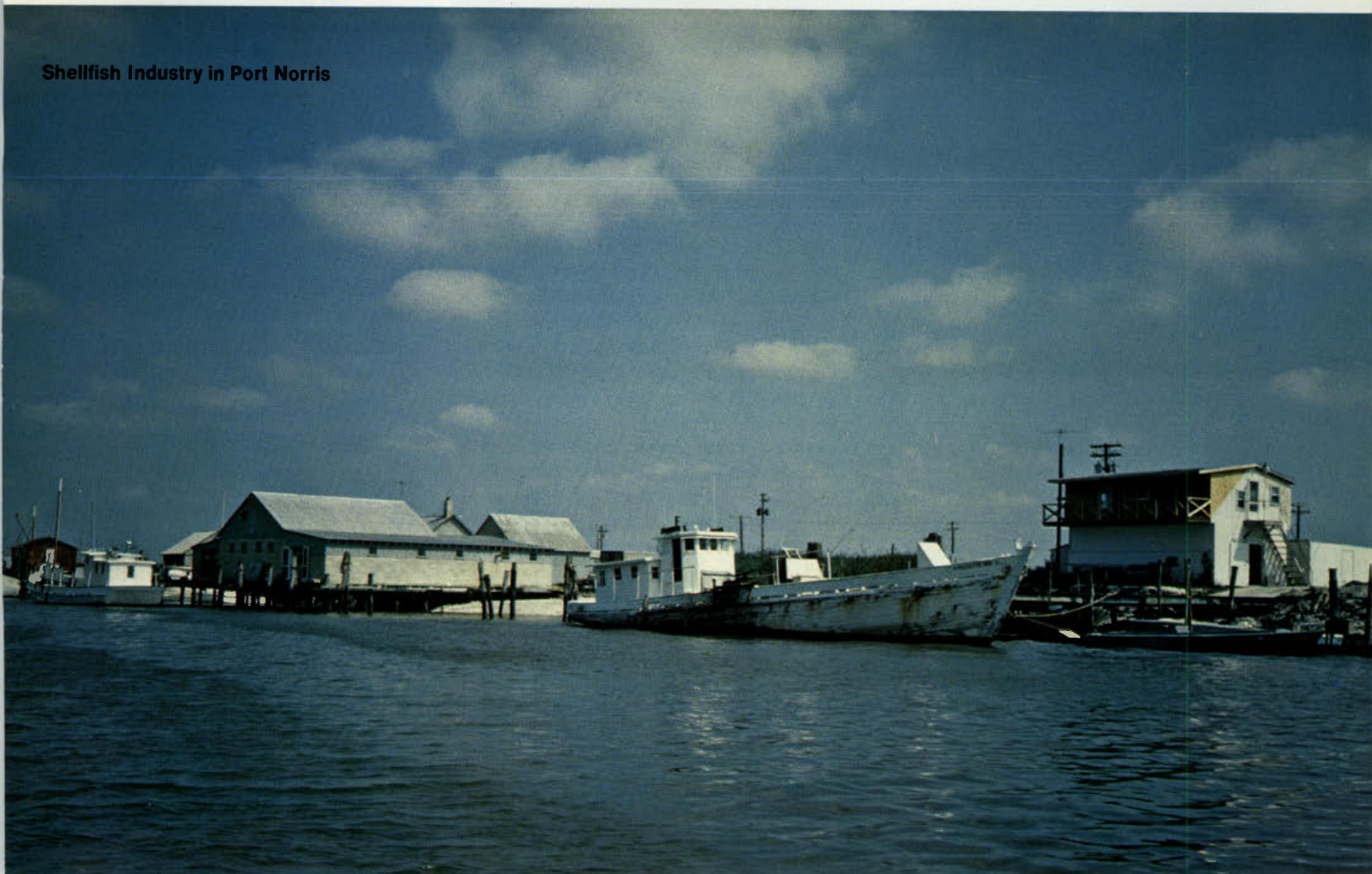
Skiing on Great Egg Harbor River



Shell "Light" — Wildwood Yacht Basin



Shellfish Industry in Port Norris





A rainbow of colors from which to choose for students dyeing swatches of wool as part of the Pioneer Ways program at the Great Swamp Outdoor Education Center.

JOSEPH HOVANCE

colors from nature

dyes from native plants

BY ANNE GALLI

Morris County Park Commission

For the person who enjoys creating with natural materials as well as being outdoors, working with dyes from native plants can be challenging and exciting. The procedures are relatively simple. The equipment can be scrounged from kitchen cabinets or bought at nominal cost.

No two dye lots are ever exactly the same because many factors, both natural and man made, can influence the resultant color. Experimentation is always in order. You'll find that the dyebath is full of surprises, satisfaction, and occasionally disaster.

GATHERING THE DYESTUFF

The general rule is to gather berries and fleshy fruits when they are fully ripe; nuts, hulls, and seeds when mature (usually after they have fallen to the ground); stems, twigs, leaves, and grasses late in the growing season; and roots in the fall.

It is a good idea to record the condition (fresh or dried), season, and location in which plant material is collected, as these factors affect dye color. Never gather on private or park property without permission and *never* gather protected or rare plants.

MAKING THE DYEBATH

To extract the color from the plant part, first chop or break it up. "Hard" parts such as roots, bark, and seeds

should be soaked in water overnight and later simmered in the same water.

Next, gently simmer the dyestuff in enough water to cover. Check for evaporation loss and add water as necessary to maintain the proper proportion of dyestuff to water. It is advisable to use enamel or glass containers because iron, copper, or aluminium pots will alter colors.

Simmer until all the color has been removed from the plant, usually three-quarters to one hour. Caution — overcooking produces muddy colors.

Remember that plant dyes are simply plant juices and spoil quickly at room temperature. To maintain freshness store dyes in glass or plastic containers in the refrigerator or freezer. Dyes stored in the refrigerator will remain good for several days. Those in the freezer can be stored almost indefinitely with little color loss.

PREPARING THE WOOL

Wool is the fiber most commonly used with native plant dyes. Linen, cotton, jute, and sisal will also take dyes but the variety of colors which can be achieved is somewhat limited.

Unbleached, 100 percent wool yarn, raw fleece, or wool fabric will take dyes well. The first step is always to wash the yarn or fleece thoroughly in mild soap and hot water. Washing removes the natural oils which would interfere with the absorption of the dye. It is advisable to wet the wool thoroughly prior to each step to allow for complete penetration of the soap, mordant, or dye. The wool need not be dried out between each step. Wet wool may be stored in a plastic bag in the refrigerator for a few days.

MORDANTING THE WOOL

Because natural dyes are not as color fast as their commercial counterparts the wool should be mordanted prior to dyeing. A mordant is simply a special chemical which causes the dye to penetrate and become "fixed" to the wool.

There are several mordants which the dyer may use. Each mordant and the quantity used will affect the color of the yarn. The metallic salts of the mordant produce colors inherent in the kind of metal from which the chemical is made.

Alum (aluminium potassium sulfate) is perhaps the easiest mordant to use and to obtain. It is fairly inexpensive and can be purchased at the pharmacy. Alum mordanted wool when dyed with natural dyes usually has good color affinity and intensity.

Another fairly easy mordant to use is copper sulfate or blue vitriol. It is available in chunks or crystals, is inexpensive and three ounces will mordant three to four pounds of wool. Copper sulfate gives greenish tones to colors.

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Members of the Outdoor Education Center Natural Dye Seminar identifying and collecting native dye plants.

PHOTOS BY AUTHOR



getting started in fly fishing

BY MARY S. MATLACK

"I don't know which is the most exciting; the thud when a fish takes the wet fly under water, the 'sip' as some big fish will turn and take a dry fly down — just before you hit him — or the last moments when you are, anxiously, about to land him. All of them of course surpass anything that a spinning bait can give you. There is nothing like the fly, or the pleasure of casting it."

Going Fishing
Negley Farson

There has been a great upsurge in the popularity of fly fishing in the past few years, and with good reason. In general, both the challenges and rewards of fly fishing are much greater than those of other forms of angling. Many offshoot activities are available, including fly tying, and delving into the tremendous volume of quality literature associated with the sport. Thus, fly fishing has the potential to become a complete, year round activity.

Fly fishing is also gaining in popularity with fisheries biologists as a management tool. As the number of

fisherman continues to increase, it becomes more and more difficult to provide "quality fishing"—however one chooses to define that term. Part of the solution to this problem may be the increased use of lower creel limits, no-kill areas, and other such "special regulations" on some of our waters, particularly as regards trout. Such special regulations are usually coupled with a fly-fishing-only stipulation. Since fly-caught fish are much less likely to be fatally injured than fish caught on bait or lures with treble hooks, these fish can be released to be caught again. If we choose to fish for recreation rather than for meat, this is obviously the way to get the most for our money. Trout really are too valuable to be used only once.

Getting into fly fishing is not without its difficulties, however. The beginning flyfisher may meet discouragement from a number of sources. He may have heard that fly fishing is extremely difficult, that the equipment costs a small fortune, or that the technique is good only for trout. These popular misconceptions alone may prevent the prospective fly fisherman from going beyond the "thinking about it" stage. Beginners who do make it past this point are often defeated by their equipment. They are frequently given, or find lying around the basement, or even buy, an outfit that is so hopelessly unbalanced that even a "pro" couldn't cast with it. Even if he surmounts these first two barriers, our novice is likely to head straight for the local trout stream, where success, though not impossible, is rather unlikely. The sight of other anglers hauling in fish by dunking worms and salmon eggs is sure to send all but the most dedicated beginner scurrying for the old reliable spinning rod. Hopefully the following discussion will help a few of the readers of this article to overcome these difficulties.

Although using flies is a bit harder to become proficient at than are most other forms of fishing, any per-

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A wonderful spot to get started in Fly Fishing

PHOTOS BY DAVE WOLVERTON





Success!

Author trying her luck







ART PANZER

RICHARD EIGENBROOD

NESTING HABITS OF THE GREAT BLUE HERON

BY

GARY S. SAWHILL

Assistant Professor of Wildlife Ecology, Stockton State College

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The Great Blue Heron (*Ardea herodias*), the largest of the dark herons, is one of New Jersey's most interesting avian inhabitants. It has been described by several researchers, including Audubon in 1840, as being extremely suspicious, shy, and ever on the lookout. The bird is gifted with acute sight and hearing, and is therefore difficult to observe except from a distance.

This past spring, observations of the nesting behavior of the Great Blue Heron were initiated to determine what measures must be taken in our urbanizing environment to protect known, but threatened, breeding areas. In New Jersey, the Blue Heron generally commences breeding activities in a rookery, or nesting area, from mid-May to mid-June. The rookery generally occupies a site featuring mature, relatively tall trees; however, in remote areas or on unoccupied islands these herons may occasionally nest on the ground.

The nesting area pictured in the above illustration was located in pine-oak forests in the Coastal Plain

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ART PANZER



GREAT BLUE HERON

Continued from preceding page

area of New Jersey. In the areas under observation, large flat platform nests, only slightly hollowed out, were generally constructed of dead twigs and small branches. These nests were located in or near the tops of the tallest trees, and were usually placed far out in the main branches rather than close to the tree trunks. Most of the nests were located in pine trees, with only three observed in oaks.

Observations of the breeding and nesting activities of the Great Blue Heron were conducted from a fully enclosed blind constructed on a portable tree stand. Three sides of the blind had closeable observation windows to further assure that once in the stand, no movement could be detected by the birds. The entire blind, large enough for only a single person, was completely camouflaged with colors appropriate to the area.

The blind was situated in a pitch pine approximately 50 to 55 feet above ground. This height was determined to be slightly above the average height of the nests, which allowed (with the assistance of binoculars) observation of nesting activities. We selected a tree located on the margin of the rookery to minimize disturbance while assuring observation of at least six nests.

The first stage in the nesting behavior of the Great Blue Heron involved construction or repair of the selected nest. Presumably, courtship and mate selection had taken place prior to nest selection, or perhaps before the birds had moved into the rookery. However, during the initial period of observation at dawn and dusk, flight activity was substantially increased to include small flocks of up to six birds. It was assumed and later observed that once pair-bonds were formed and as the incubation period approached, large flocks were less characteristic and flights generally consisted of only single birds.

There appeared to be no special behavioral display necessary for the recognition of the arriving mate by the bird already occupying the nest. The arriving mate often circled the rookery before gliding to the appropriate nesting site. Initially the nests were often left with no occupant. However, as the spring progressed, this was the exception rather than the rule.

Breeding rituals observed for one pair of herons involved the performance of a variety of courtship displays. One individual arriving to its awaiting mate carrying nest-building materials. The pair then

assumed a variety of neck, head, and bill postures before walking around the nest and positioning themselves for copulation. After copulation, a stick-transferring ceremony was again performed.

Great Blue Herons, which are monogamous during a single breeding season, lay an average of four eggs. The nesting behavior of Great Blue Herons, as described by Audubon, involves alternate periods of incubation for both the male and female. While one mate is sitting, the other is procuring food for itself and its partner. Following an incubation period of about 28 days, the parents begin alternately obtaining food and feeding the young birds. The adults obtain fishes of all kinds, but also, frogs, snakes, small quadrupeds, birds, and other such food items, and return them to the nest in various stages of digestion. This feeding continues for six to seven weeks, when the young are able to fly and obtain their own food.

The nesting activity of any wildlife species is important to its survival. Recorded information at Brigantine National Wildlife Refuge indicates a decline in the breeding success of the Great Blue Heron in that area and an increasing rarity of rookeries. It should be noted that during observations of a specific rookery that is currently declining in total number of nests, vehicular traffic and off-the-road motorcycles were observed utilizing the area. The complexities of the problem are evident. Generally, the rookeries are located on vacant privately owned land with little or no control of access. The resultant intrusions are obviously disruptive to the sensitive Great Blue Heron.

On the other hand, public awareness of the location of the rookeries would result in an increased number of human visitors to the area. Purchasing of the land by organizations interested in the protection of the herons is generally beyond their fiscal capabilities.

Other alternatives require the cooperation of local government. By providing a conservation easement to the area of land which contains the rookery, the municipality can buy or lease the development rights to preserve the area in its present condition. The area may also be zoned for conservation, which would prevent development and lower taxes for the present owners. These methods have obvious ramifications for the owner and the tax structure of the local government.

We are therefore confronted with the problem that plagues many of our valuable wildlife populations. The protection and preservation of wildlife habitat must become a part of our way of thinking and of our governmental decision making. We must continue to develop the concern, respect, and appreciation of our wildlife which will ensure its existence. □

A **WILDLIFE** **MANAGEMENT** **GUIDE**

A revised and expanded edition of the "Guide to Wildlife Management Areas" will be available in early July.

The new guide, comprising over 110 pages of articles and maps in three colors, will be priced at \$3 per copy.

Descriptions of the 53 wildlife management areas include locations, hunting and fishing information, as

well as data on parking and access roads.

The maps illustrate the boundaries, wooded areas, fields, lakes, streams and marshlands. Also depicted are the roads and highways leading into each management area.

The guides may be purchased by sending a check or money order for \$3 to:

WILDLIFE MANAGEMENT GUIDE, Division of Fish, Game and Shellfisheries P.O. Box 1809 Trenton, N.J. 08625



Environmental News

PHOTOS SUPPLIED BY DEP



'OLD BARNEY.' Climbing the 217-step spiral staircase of the Barnegat Lighthouse is a feat worth mentioning by anyone over the age of 10. Once at the top, the platform offers a magnificent view of the Island Beach State Park to the north, Long Beach Island to the south, mainland Ocean County to the west, and the "Barnegat Shoals"—once called the "Graveyard of the Atlantic," to the east. For 93 years, from 1834 to 1927, the lighthouse beam warned mariners of the treacherous waters nearby. "Old Barney" is an historic site, and its park is the state's smallest. The lighthouse has been repaired and repainted, and a new bathhouse built nearby. (The bathhouse contains public toilets, changing rooms and showers, and a first aid room.)

Governor Byrne petitions EPA

NATIONAL AIR POLLUTION STANDARD NEEDED TO AID GLASS INDUSTRY

Governor Byrne in mid March petitioned the federal Environmental Protection Agency (EPA) to develop a nationwide air pollution emission standard for glass furnaces, pointing out that New Jersey has recently adopted new standards for its glass plants. Byrne noted that the glass manufacturing industry is highly competitive and mobile. Furnaces must be completely rebuilt every three to seven years, and production capacity can be shifted from one location to another.

"The glass industry should have a uniform national standard so that wherever a plant or new furnace is built, the costs of controlling air pollution are the same so as to avoid one state being pitted against the other," said the governor in a letter to the new EPA Administrator, Douglas M. Costle.

Byrne told Costle the regulation adopted by New Jersey follows an extensive study of the glass manufacturing industry and the effects the new standards would have both on the state's air quality and the industry's economic situation. "Our standards recognize the competitiveness of glass manufac-

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CURBING EXCESSIVE MOTORBOAT NOISE

Regulations aimed at eliminating excessive noise created by motorboats were proposed by DEP in late March. The regulations are consistent with those adopted by other states, and closely parallel those recommended by the National Association of State Boating Law Administrators.

Studies show that 95 percent of the boats using New Jersey waterways should be able to meet the noise level requirements. The remaining five percent—the boats causing the most annoyance—will need engine modification. Boats equipped with proper mufflers should have no problem with the regulation.

According to the new regulations, the total noise produced by any boat is not to exceed 86 decibels, measured 50 feet from the craft. Engines manufactured after January 1, 1979 will be required to meet an 84 decibels limit and by 1982 the limit drops to 82 decibels.

—Noise level measurements will be made by Marine Police and other law enforcement officers certified by DEP, using state-approved equipment.

—Suspected violators will be required to run their boats over a 100-yard straight course at full throttle past the measuring device located 50 feet from midcourse.

—Any boat operator failing to comply with a directive to undergo the test will be subject to prosecution, or at the discretion of the officer, ordered to return to mooring and cease operation.

—The regulations do not apply to boats participating in approved racing events.

The problem of excessive noise from motorboats is not unique to New Jersey, but complaints have been increasing in recent years. Most of the complaints have come from residents of the Lake Hopatcong area, but many also came from the areas of Rancocas Creek, Toms River and the Navesink and Shrewsbury rivers.

The regulations were developed following extensive study by DEP's Office of Noise Control, the Marine Police, the state Noise Control Council and the Boat Regulation Commission. Public hearings were held on the subject. Copies of the proposed regulations are available from Edward J. DiPolvere, chief of DEP's Office of Noise Control, 380 Scotch Road, Trenton 08628. □



SADAT CHOSEN TO DIRECT SLUDGE MANAGEMENT OFFICE

Dr. Marwan Sadat, a supervising engineer with DEP for two years, has been named program director of the department's new Office of Sludge Management and Industrial Pre-Treatment within the Division of Water Resources. Dr. Sadat, 41, of Montgomery Township (Somerset County), received his Ph.D. degree in civil engineering from Rutgers College of Civil and Environmental Engineering. Prior to joining DEP he was an engineering manager for Research-Cotrell in Bound Brook and Interpace Corporation in Parsippany-Troy Hills.

The new office will be responsible for developing alternatives to ocean dumping through a statewide disposal plan that recognizes sludge as a recoverable resource. The office also will develop and implement strategies for the pre-treatment of industrial wastes as required by state and federal law. □

CAFRA action

SENIOR CITIZEN MOBILE HOME PROJECT APPROVED

The department conditionally approved a Coastal Area Facility Review Act (CAFRA) permit application for Sunny Pine Contracting Corporation to construct 332 senior citizen mobile homes in Manchester Township (Ocean County). The project will be located on a 65-acre tract north of the existing Pine Ridge section at Crestwood Mobile Home Park. The mobile homes, averaging \$17,000 each, will be owned by the occupants and the lots leased from Pine Ridge. The total projected value of the development is approximately \$1.3 million. Pine Ridge will be required to submit a revised open space plan for DEP approval and must preserve trees and vegetation to protect natural features. Potential buyers are to be informed of possible delays in finding a physician and gaining hospital admission in the area. □

DEP 1976 ANNUAL REPORT AVAILABLE

The Annual Report of the New Jersey Department of Environmental Protection for fiscal year 1976 has been published. To obtain a copy please write to Eric Pearl, DEP Commissioner's Office, Box 1390, Trenton 08625. □

HOW WOULD OFFSHORE DRILLING AFFECT THE JERSEY COAST?

In keeping with Governor Byrne's insistence on environmental safeguards and protection of the seashore and tourist economy, DEP has engaged a Rutgers group to study the impacts of onshore support facilities expected to be needed as the result of drilling for natural gas and oil on the Outer Continental Shelf (OCS) off the coast of New Jersey. The department has contracted with the Rutgers Center for Coastal and Environmental Studies (CCES) to do the five-month study for \$35,000. The work will be funded in part by a federal grant to DEP by the National Oceanic and Atmospheric Administration.

Sponsored by DEP's Office of Coastal Zone Management (OCZM), the study will evaluate the physical, environmental, social, economic, and institutional impacts of such land-based facilities. The effects of temporary and permanent service bases, support bases for the offshore drilling platforms, pipelines, maintenance and repair yards and pipe coating yards will be specially considered. OCZM chief, Dr. David N. Kinsey, has been named administrator of the project. □

NEW ENVIRONMENTAL MAPS COVER OCS AND FISH AREAS

Two environmental maps of New Jersey which pay special attention to the Outer Continental Shelf (OCS) have been prepared and published by DEP. Both maps cover the land area from Newark to Trenton, and seaward cover the whole outer continental shelf. Both maps show potential lease areas for natural gas and oil exploration. But that's where the similarity ends as each was designed to serve a different purpose.

Map A—Bathymetry and Geology shows what is found at the different depth levels of the ocean off the New Jersey coast (this includes shipping lanes, shoals, explosive dumping sites, oyster beds) and also shows the features of the earth's crust in the area. The map gives the onshore and offshore environmental factors that the President's Council on Environmental Quality says must be considered with respect to offshore drilling for oil and natural gas.

Map B—Fisheries Resources tells where some 15 varieties of finfish live—their winter and summer grounds, migration routes and spawning sites. Among the fishes found in this ocean area are perch, flounder, bluefish, herring and cod. Also shown are near shore concentrations of five types of shell-

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CHIPPING IN TO HELP SUFFERING WILDLIFE. The "books are closed" on the harsh winter of '77, but the compassion shown by hundreds of New Jersey's citizens for wildlife threatened by starvation will long be remembered. For example, students of Fisher Junior High school in Ewing Township (Mercer County) donated close to \$150 to help buy grain to feed wild ducks, geese, and brant along the Jersey coast. In the photo above, Marie Taylor (center) presents the check to Fred Carlson, representing DEP's Division of Fish, Game and Shellfisheries. Looking on proudly are other members of the class in 'Problems of Modern Man' who made the collection. From left, Alex Holtzman, Greg Sullivan, Carlson, Taylor, Robert Nagy (teacher), Steve Kwalick and Amy Applebaum. (The division coordinated the overall emergency feeding program to save thousands of waterfowl kept from their normal food supplies by the heavy ice on the bays and marshes. More than 150 tons of grain were distributed by numerous organizations and volunteers at selected feeding stations from Sandy Hook to the Delaware River.)



Flowers for planting

URBAN FARM—MINIPARK IN NEWARK

By Nancy Stark

Public Relations Assistant
New Jersey Bell

It was one year ago that a group of ambitious Explorer Scouts, assisted by a concerned business community, set out to make a greener Newark. Together, they sowed the seeds that sprouted into the city's first "urban farm-minipark."

The project caught the eye of the State Department of Environmental Protection and several Newark community action groups. With their help, the young ecologists this year hope to plant these little "Edens" throughout the city.

Last March, Newark's Boy Scout Explorer Post 540 chose a plot of ground in the city's South Ward for a prototype "urban farm-minipark." After weeks of cleaning, clearing, tilling and nurturing, the debris-strewn lot on the corner of Bergen Street and Avon Avenue was transformed into a colorful vegetable patch.

But it wasn't until one hot, muggy morning last July that the project gained public acclaim. On that day, Environmental Protection Commissioner David Bardin stood in the garden spot and addressed a group gathered there to mark the dedication of this urban farm.

The group included the proud scouts, city officials, members of the Newark Board of Education and the Greater Newark Chamber of Commerce. Also on hand were representatives of New Jersey Bell, which sponsors the Explorer Post, and representatives of Sears Roebuck and Company, which donated the gardening tools.

The original plans of the 12-member Explorer Post, which specializes in environmental sciences, called for a 5,000 square-foot vegetable garden. When the scouts finished, their corner plot also held a "mini-park"—a sitting area for the nearby senior citizens complex and a small playground.

After the dedication ceremony, the day-to-day care of the garden and surrounding grounds was turned over to Progress In Action, a community group funded by the United Community Corporation. The facilities and crops were used by neighborhood residents.



Planting time



Looking over the crops

This spring, the scouts will aim to muster that type of localized participation all over the city. They have prepared a "how-to" brochure and an 11-minute film for schools, community and neighborhood groups interested in starting an "urban farm-minipark" of their own. The scouts will act as "consultants" to anyone willing to give it a try.

The Trust for Public Land also has offered a helping hand to the project. The Trust is a non-profit corporation here in Newark which identifies and buys vacant land for community use. Together, the Trust and the scouts have worked with the Department of Environmental Protection to secure fund allocations for grants to assist in establishing these park areas.

"The purpose of our Explorer Post is to expose our members to careers available in the environmental sciences," said Stephen Heller, New Jersey Bell urban affairs supervisor and advisor to the Post. "The scouts gain experience by working with and improving the environment at hand—their own community."

Heller said the Post's membership is derived through a career interest survey conducted citywide in Newark's high schools each fall. The survey identifies students with a high interest in ecology. These students are invited to join the Post.

"The garden was our first major hands-on project in the three years the Post has been in existence," Heller said.

"We're really excited that it has received so much support and encouragement. Now we're going to concentrate on making the second phase of the project as successful as the first." □

State Parks

SWIMMING AND CAMPING FACILITIES

LET'S GO SWIMMING! Bathing areas in the publicly owned inland recreation facilities will open on May 28 and in the two oceanfront parks on June 18. The approximately 120 young men and women serving as lifeguards at the swim sites had to pass a difficult series of performance tests given at the various facilities. In addition, the lifeguards participate in a summer-long organized program of physical conditioning, first aid and water safety.

Here's a list, by county, of state-operated facilities with swimming areas:

Inland Facilities: BURLINGTON—Bass River State Forest (SF), Lebanon SF; CAPE MAY—Belleplain SF; HUNTERDON—Round Valley State Park (SP), Spruce Run SP; MIDDLESEX—Cheesequake SP; MONMOUTH—Prosperity Recreation Area; MORRIS—Hopatcong SP; PASSAIC—Shepherd Lake in Ringwood SP; SALEM—Parvin SP; SUSSEX—Stokes SF, High Point SP, Swartswood SP, and Wawayanda SP.

Oceanfront Facilities: OCEAN—Barnegat Lighthouse SP and Island Beach SP.

CAMPING RESERVATION PROCEDURES.

The first thing to remember is that NO reservations are handled by the Trenton parks office. All arrangements should be made through the forest, park or recreation area office. (A list of addresses appears at the end of this section.) **Cabin reservations:** During the summer (June 15 through Labor Day) cabins are rented for either one week (seven nights) or two weeks (14 nights)—no part weeks, no weekends only. The same time limits apply to **Lean-To** reservations. **Family campsite reservations:** Family campsites are designated by numbers. For the June 15 through Labor Day period, one-third of the campsites may be reserved for either one week or two, as explained above. (Exception: Campsites at Round Valley may be reserved throughout the year for one or more nights not to exceed 14.) **Advance payment:** Payment in full in addition to Reservation Fee MUST accompany the application for reservation. Money order or check is to be made payable to Treasurer, State of New Jersey. PAYMENT IS NOT REFUNDABLE. However, if the facility is not available, the remittance will be returned promptly. Reservation fee: \$3 (Nonreturnable). NO TELEPHONE RESERVATIONS ACCEPTED.

For specific information about cabins, campsites, lean-to's, group camping and application forms for reservations at a particular campground, write directly to that park, forest or recreation area office, as follows:

Northern New Jersey Locations: Bull's Island Recreation Area (RA), R.D. 2, Box 417, Stockton 06559; High Point State Park (SP), R.R. #4, Box 287, Sussex 07461; Jenny Jump State Forest (SF), Box 150, Hope 07844; Round Valley SP, R.D. #1, Round Valley Rd., Lebanon 08833; Spruce Run SP, Box 289-A Van Sycckels Rd., Clinton 08809; Stephens SP, Hackensack 07840; Stokes SF, R.R. 2,

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SWIMMING & CAMPING

Box 260, Branchville 07826; Swartswood SP, R.R. 5, Box 548, Newton 07860, Voorhees SP, R.D. Glen Gardner 08826; and Worthington SF, c/o Jenny Jump SF, Box 150, Hope 07844.

Southern New Jersey: Allaire SP, Box 220, Farmingdale 07727; Bass River SF, New Gretna, 08824; Belleplain SF, R.D. 2, Woodbine 08270; Cheesequake SP, Matawan 07747; Lebanon SF, New Lisbon 08064; Parvin SP, R.D. 1, Elmer 08318; and Wharton SF, Batsto, R.D. 1, Hammononton 08037.

All state parks, forests, recreation areas and historic sites are administered by DEP's Division of Parks and Forestry. General camping information booklets are available from the Bureau of Parks, P.O. Box 1420, Trenton 08625. □

HOW TO FOIL BOAT THIEVES

Losing your boat or outboard engine to thieves is expensive. There were 504 reported thefts in 1976: The dollar value of stolen boats/engines/equipment totaled more than \$680,000. Captain B. Russell Henry, Chief of DEP's Bureau of Marine Law Enforcement, said that the major portion of those thefts are believed to be the spur-of-the moment type, and probably could have been prevented.

Captain Henry recommends the following precautionary measures be taken by boat-owners:

1. Chain and padlock small boats to a pier, tree or other solid object.
2. Chain and padlock outboard engines to the hull.
3. On larger boats, install a hidden master switch to cut off all electrical supply, or install a hidden shut-off valve to cut off fuel supply, or remove the rotor from the distributor.
4. Keep boats in a well lighted area.
5. Take key out of ignition.
6. Keep a written record of the hull serial number, and the serial number of outboard engines. (Even if a boat is stripped and painted over, it still can be identified by the hull number, and the outboard engine serial number is usually the only way to identify an engine suspected of being stolen.) □

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ENVIRONMENTAL MAPS

fish (American lobster, surf clam, blue crab, oyster and scallop).

Both maps are the same size, 36 inches by 50 inches. Both maps are printed on semi-transparent paper. As such, they can be used as overlays to state geologic or county/municipal maps. The Environmental Maps cost \$3 each and can be ordered from DEP's Bureau of Geology and Topography, Publication Sales, Box 2809, Trenton 08625. Please make check or money order payable to General Treasury, State of New Jersey (or G.T. of N.J.) □

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AIR POLLUTION STANDARDS

turing and promote solutions which conserve energy and spur recycling through efficient process changes rather than add-on devices," he said.

The new statewide standard adopted by New Jersey will improve air quality by reducing particulate emissions by about 1,000 tons per year. Glass furnace emissions now total 2,800 tons per year.

Commenting on the statewide standard, Environmental Protection Commissioner Bardin noted that the glass industry requested a higher emission rate than the one finally adopted by DEP. "We met them part way," he said. "We have adopted a variance procedure that will allow higher emission rates for furnaces that use significant amounts of recycled glass in their operation. In this way, a glass operation may be allowed a higher emission rate, but they have to do something for the environment in return," Bardin said. By using more recycled glass the industry will help the state's overloaded landfills and at the same time cut energy costs and air pollution. □

HISTORIC SITES WILL OPEN WEDNESDAY EVES FOR SUMMER

A combination of requests from the public and study of attendance records has brought about a revised visitation schedule for historic sites administered by DEP. The heaviest visiting days during the summer months are those between Wednesday and Sunday. Therefore the sites will remain open longer on those days and close on Mondays and Tuesdays. Also, the historic sites will be open Wednesday evenings from 6 p.m. to 8 p.m.

Here's the schedule in effect from May 1 through August 31:

Saturday—9 a.m. to 12 noon, 1 p.m. to 6 p.m.
Sunday—1 p.m. to 6 p.m.
Monday—CLOSED
Tuesday—CLOSED
Wednesday—12 noon to 5 p.m., 6 p.m. to 8 p.m.
Thursday and Friday—9 a.m. to 12 noon, 1 p.m. to 6 p.m.

From September 1 through April 30, the schedule will be the same except for Wednesdays. During these eight months, the Wednesday hours will be 9 a.m. to 12 noon, 1 p.m. to 5 p.m.

Historic sites are closed on Thanksgiving, Christmas and New Years days.

The new visitation schedule applies to the following historic sites: Boxwood Hall, Clark House, Edison Tower, Grover Cleveland Birthplace, Hancock House, Indian King Tavern, Lawrence House, McKonkey Ferry Museum, Old Dutch Parsonage, Rockingham, Somers Mansion, Trenton Battle Monument, Von Steuben House, Wallace House, and Walt Whitman House. □

FREE PASS PROGRAMS

Senior Citizen Pass. New Jersey residents, age 65 or over, may obtain a Senior Citizen Pass entitling them to free admission and free parking by presenting proof of age and social security card at any state park or forest field office, or historic site. Other fees are not covered by the passes.

Totally Disabled Persons Pass. Any resident of New Jersey who is totally disabled may obtain a Totally Disabled Persons Pass which provides the same privileges as the Senior Citizen Pass. Applications are available from DEP's Bureau of Parks, P.O. Box 1420, Trenton 08625, or at any state park or forest field office, or historic site. Both of the above programs are administered by the Division of Parks and Forestry.

Free Clamming and Oystering Licenses. New Jersey residents, age 62 or older, are eligible for free clamming and oystering licenses. (One license is issued for both activities.) Applications are available from DEP's Division of Fish, Game and Shellfisheries, Box 1809, Trenton 08625. □

BOAT REGISTRATION

Boaters are reminded that motorboat registrations are issued by the Division of Motor Vehicles (DMV). The DMV also issues motorboat Operators Licenses, which are required on New Jersey's non-tidal waters. These documents can be secured at any Motor Vehicle Agency in the state, or by mailing the applications to DMV, Motorboat Registration, P.O. Box 250, Trenton 08625.

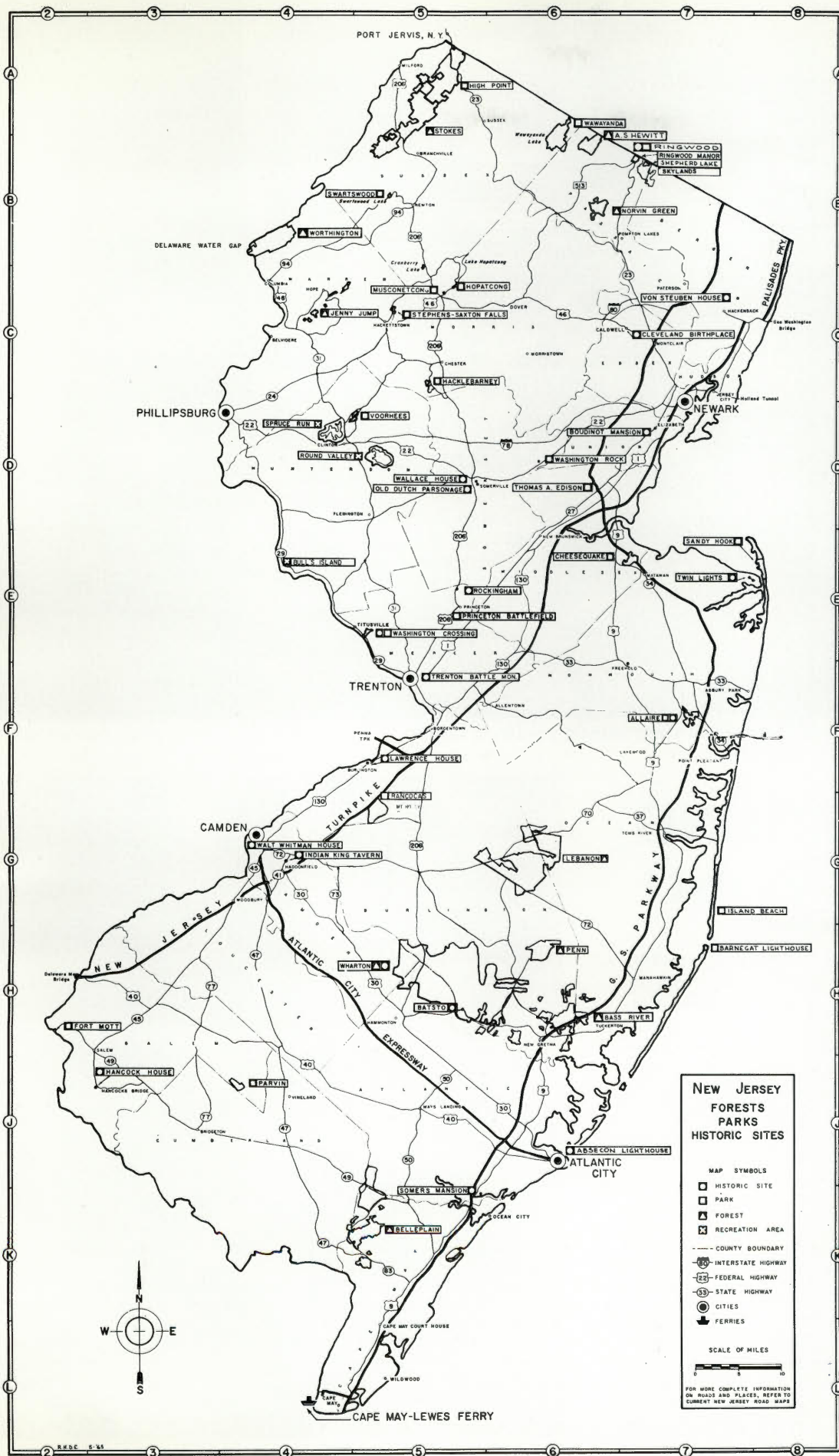
There are approximately 126,000 boats registered in New Jersey, and, according to federal studies, about one-third that number of nonregistered unpowered craft such as rowboats, sailboats, canoes etc., operate in the state. It is estimated that over one-half million New Jersey residents will engage in some form of boating this year, and about 30,000 out-of-state boats will use or pass through New Jersey waters. □

LANDFILL CLOSES

The Mac Sanitary Landfill in Deptford Township (Gloucester County) stopped operations in early February in compliance with an order issued by DEP in August 1976 giving the facility six months in which to close. The landfill had reached its maximum capacity in accordance with engineering plans and had a number of outstanding violations. □

MEMO TO ANGLERS

A reminder to anglers from the Division of Fish, Game and Shellfisheries: Be sure to get a free copy of the New Jersey Summary of 1977 Fishing Laws when you buy your license. And be sure to wear the fishing license in a conspicuous place on your clothes while fishing—this is a MUST. □



Almost Everything You Wanted To Know About State Parks, Forests, And Historic Sites

Welcome to the wide open spaces of New Jersey! There are lots of them, you know — mountain vistas, sparkling lakes, woodlands, ocean beaches, The Pine Barrens. Whether you seek pristine wilderness or developed recreational facilities, hunting or fishing or undisturbed nature study, there are places in New Jersey's State Parks, Forests, Recreation Areas and Natural Areas where you'll find what you're looking for. In addition to New Jersey's outdoors, you can also explore her fascinating historical heritage, preserved and interpreted in an impressive array of Historic Sites. There's probably a state-owned area within an hour's driving time of where you live — so whether you'd enjoy an afternoon's visit, an all-day picnic, or a week's camping trip — why not discover it this season.

Continued on page 20



Beaver pond habitat in Stokes State Forest which supports many species of wildlife.

PHOTOS BY ROY DECKER

SPRING AROUND A BEAVER POND

By Roy and Carol Decker

We are outdoor enthusiasts, specializing in wildlife art and photography. Our efforts take us out of doors at every opportunity, to spend many hours in the forests and swamps of Sussex County. We have been interested in one particular beaver pond in Stokes State Forest for several years. The five-acre pond, with its beaver in residence, is about ten years old, and its many dead and decaying trees make natural nesting sites for a variety of birds such as pileated woodpeckers and wood ducks. We have counted more than 50 bird species in the vicinity.

To sketch and photograph the various species of wildlife around this pond, we set up a small tent as a photo blind, so that every day, rain or shine, we could view the wildlife undetected. Trudging through mud and waist-high stands of cinnamon fern did not diminish our enthusiasm, for once settled inside we'd be likely to see an interesting array of wildlife activities. Sitting within the blind for long periods is not easy, but the rewards are great when the area's residents reveal some of their natural behavior patterns.



The beaver maintaining his dam.



The male wood duck in all his spring finery.



As the red-bellied woodpecker parent looks on, a fledgling peers out of the nest cavity opening.



The green heron is a frequently seen inhabitant of the beaver pond. Its bill is dark only during the breeding season.



Also nesting in the pond area, this pileated woodpecker parent arrives at the nest tree to feed the hungry youngsters.

Almost Everything You Wanted To Know

Continued from page 17



Opening Day Trout at Spruce Run

State Parks

Allaire Park. F-7. Located at Allaire, in Monmouth County, this park of 2,029 acres includes the historic Howell Works. Facilities provide for picnicking, hiking, nature study, horseback riding, fishing, camping, and old-time narrow gauge train rides.

Barnegat Lighthouse Park. H-7. The majestic 172-foot lighthouse with a 217-step spiral staircase is an irresistible subject for the camera fan or the artist. From the top of Barnegat Lighthouse one enjoys a breathtaking view of bay and ocean. Bathing, picnicking, and fishing are permitted.

Cheesequake Park. E-7. This area of 1,001 acres in Middlesex County affords forest-park conditions in a heavily industrialized area. Facilities provide for bathing, picnicking, fishing, camping, and hiking. Its varied flora makes this park of interest to students of botany.

Edison Park. D-6. This park of 36 acres at Edison, Middlesex County, includes the Edison Memorial Tower, on the site where Thomas Edison developed the electric light.

Fort Mott Park. H-2. This park of 104 acres at Finns Point, in Salem County, provides an excellent view of the lower Delaware River. The park is of scenic and historic interest and fishing and picnicking facilities are available.

Hacklebarney Park. C-5. This 569-acre park in Morris County is situated in a gorge of unusual beauty along the Black River. Facilities provide for picnicking, hiking, and fishing.

High Point Park. A-5. Located in extreme northwest corner of the State along the Kittatinny ridge in Sussex County, this

park of 12,396 acres includes the highest point in New Jersey (1,803 feet above sea level). Facilities provide for bathing, picnicking, hiking, fishing, camping, and nature study (lodge with sleeping accommodations, refreshment stands). Scenic views include the Kuser Swamp Natural Area.

Hopatcong Park. C-5. Located at Hopatcong Dam, Morris County, 108 acres in area. Facilities provide for picnicking, bathing and fishing. A public dock is available at Landing, Morris County.

Island Beach Park. G-7. Located in Ocean County. A 3,002-acre, 10-mile strip of sand dunes bounded by the Atlantic Ocean on the east and Barnegat Bay along the west shore. The area is divided into a botanical zone, a recreational zone, and a wildlife sanctuary. First three miles is designated as a Natural Area. There is ocean bathing and surf fishing. Picnicking is confined to the ocean beach; no picnic tables or fireplaces are provided.

Parvin Park. J-4. Situated in Salem County, this 1,125-acre tract contains woodland facilities, a great abundance of flora, and a wide variety of bird life. Facilities have been developed for bathing, boating, canoeing, hiking, picnicking, camping, and fishing. Cabins are available on Thundergust Pond, campsites on Parvin Lake. Boats and canoes can be rented.

Rancocas Park. G-5. This 1,056-acre park in Burlington County is undeveloped, but excellent boating may be enjoyed in both the North Branch and South Branch of the Rancocas Creek which meanders through the area. The Park offers opportunities for nature study.

Ringwood Park. B-7. This 3,112-acre park, in Passaic County, includes both

historic and recreation interests. It is divided into three Sections: Ringwood Manor, Shepherd Lake and Skylands.

Ringwood Manor Section. The old 78-room Ringwood Manor House is open as a museum, and the formal gardens are being restored. Picnic facilities in other parts of the park. Fishing in Ringwood River. Manor House open daily, except Mondays, May through October.

Shepherd Lake Section. An attractive wooded area of 541 acres in the heart of the Ramapo Mountains. Shepherd Lake is the center of recreation activities, with facilities for bathing, boating, fishing, hiking, picnicking, trap and skeet shooting, and ice skating. A lodge offers cafeteria and snack bar services. Boats and canoes can be rented.

Skylands Section. This 1,117-acre park, features a 44-room Jacobean Manor House and extensive botanical gardens. The gardens are open daily. Manor House tours daily, except Mondays, May through October.

Sandy Hook Section. E-8. Now a part of Gateway National Recreation Area. Occupies the southern 795 acres of the barrier peninsula known as Sandy Hook, reaching northward into New York Harbor. Offers bathing, picnicking, fishing and tour service through the natural area.

The Spermaceti Cove area and the nearby holly forest will remain as Natural Areas.

The Stephens Section of the Allamuchy Mountain State Park. C-5. This 222-acre park in Warren and Morris Counties includes more than a mile of the Musconetcong River, where fishing may be enjoyed. Facilities have been developed for picnicking and camping. A guard lock of the former Morris Canal at Saxton Falls has been developed to provide bathing.

Swartwood Park. B-5. Much of this 1,253-acre State Park in Sussex County is contained in Swartwood Lake, well-known for excellent fishing. Facilities include bathing, boating, picnicking, nature study, camping, hunting, and fishing. Boats can be rented.

Voorhees Park. D-5. Situated in the hills of Hunterdon County, this 437-acre park offers a striking view of rural countryside. Facilities have been developed for picnicking, camping and nature study.

Washington Crossing Park. E-5. This 785-acre park, 8 miles north of Trenton in Mercer County, was established to commemorate General Washington's famous crossing of the Delaware River on Christmas night, 1776, prior to the Battle of Trenton. The State Forest Nursery is located on the park. Picnic facilities available.

Washington Rock Park. D-6. This 36-acre park is situated on a vantage point on the First Watchung Mountain, in Somerset County, near Dunellen. It was from this natural lookout that General Washington watched the movements of the British Troops during the Revolution. Picnicking facilities have been provided.

Wawayanda Park. A-6. Located in Sussex County 11 miles northeast of Hamburg, this 6,025-acre mountain woodland tract is underdeveloped but offers excellent fishing in its 265-acre lake. Rowboat rentals available. Hunting permitted.

State Forests

Abram S. Hewitt Forest. B-6. Located in Passaic County. This 1,890-acre forest is undeveloped except for hiking and hunting.

Bass River Forest. H-6. This forest of 9,100 acres is located in Burlington and Ocean Counties and is the oldest State Forest in New Jersey. Long established forest plantations are of interest here. Recreational facilities provide for bathing, picnicking, hiking, nature study, hunting, and fishing. Beautiful Lake Absegami affords excellent bathing (cabins, campsites, and camp shelters are available).

Belleplain Forest. K-5. This forest in Cape May and Cumberland Counties, is 11,223 acres in area. Lake Nummy is the principal recreational area. Facilities provide for bathing, picnicking, camping, hunting and fishing.

Jenny Jump Forest. C-4. Situated on Jenny Jump Mountain in Warren County, this 1,118-acre forest affords beautiful panoramas of the famous Delaware Water Gap. Facilities provide for picnicking, camping, nature study, hiking, and hunting. Camping shelters are available.

Lebanon Forest. G-6. This State Forest, located in Burlington County, is 26,996 acres in area. Situated in the Pine Barrens, this forest is a favorite mecca of the hunter. Facilities provide for bathing, picnicking, hiking, hunting, and camping. Cabins available on the shore of Pakim Pond.

Norvin Green Forest. B-6. Located in Passaic County, this 2,296-acre forest is undeveloped except for hiking trails. Hunting is permitted.

Penn Forest. H-6. Located in the heart of the Pine Barrens in Burlington County, this 3,666-acre forest is an example of New Jersey's "wilderness." There are facilities for bathing, picnicking, hiking, hunting, and fishing.

Stokes Forest. A-5. Located on the famous Kittatinny Ridge in Sussex County, this 14,843-acre forest is typical of the finest mountain country in New Jersey. There are facilities for bathing, picnicking, hiking, camping, fishing, and hunting. Cabins and trailer sites are available at Lake Ocquittunk. Tillman Ravine, a beautiful natural gorge, is maintained as a Natural Area to be undisturbed by man. Scenic views from Sunrise Mountain.

Wharton Forest. H-5. Located in Atlantic, Burlington, and Camden Counties, this forest is traversed by routes 206, 542, and 563 and has offices at Atsion and Batsto. This largest State property contains over 150 square miles. There are facilities for bathing, boating, camping (also cabins), fishing, hiking, hunting, and picnicking. Guided tours are conducted through the Batsto nature area and the Batsto Village restoration; the latter covers the period 1766 to 1850 when this part of New Jersey was an active iron and glass producing center. Miles of winding streams afford exciting wilderness canoe trips.

Worthington Forest. B-4. Can be reached by Route 80 at the Delaware Water Gap. This 5,830-acre tract has 4 miles of frontage along the Delaware River and provides hunting, fishing, hiking,

picnicking, and camping. Approximately 6 miles of Appalachian Trail follows the Kittatinny Mountain ridge, passing Sunfish Pond at a point 4 miles northeast of the Delaware Water Gap.

Recreation Areas

Bull's Island: Section of the D&R Canal State Park. E-4. This 78-acre recreation area is situated in Hunterdon County 7 miles north of Lambertville. It is bounded on the West by the Delaware River and on the East by the Delaware and Raritan Canal. Facilities provide for picnicking, boating, fishing, and camping. The island offers excellent nature study opportunities.

Palisades Interstate Park. This park is located in the states of New York and New Jersey and is operated by the Palisades Interstate Park Commission. With offices at Alpine, the New Jersey section contains 2,500 acres and extends 13 miles along the Hudson River from Fort Lee, in Bergen County, to the New York State line. Regarded as one of the scenic features of America, the lands were acquired to preserve the skyline of the Palisades of the Hudson. Facilities are provided for boating, fishing, hiking, nature study, and picnicking.

Round Valley. D-5. This 4,000-acre tract near Clinton, Hunterdon County, lies in the crater of Cushtunk Mountain. The 2,350 acres of water surface, second in the State only to Lake Hopatcong, offers excellent fishing. Small boats, with or without motors, may be launched at specific locations. Campsites have been provided.

Spruce Run. D-4. Located in Hunterdon County 3 miles north of Clinton. The reservoir offers excellent fishing and small boats with or without motors may be launched at specific locations. There are facilities for bathing and picnicking.

Historic Sites

Absecon Lighthouse. J-6. In Atlantic City on Pacific and Rhode Island Avenues is historic Absecon Lighthouse, a sentinel, that once guarded the Atlantic coast. On clear days the visitor may view a breathtaking seascape panorama. Admission charge. Open daily except Mondays. Memorial Day through September.

Barnegat Lighthouse. H-7. In Barnegat Lighthouse Park. Open daily May 30 thru Labor Day; Saturdays and Sundays in May and from Labor Day thru October. Admission charge.

Batsto Village. H-5. In Wharton Forest, this restored village is an excellent example of early American industrial life. Guide Service charge. Open daily.

Boxwood Hall. D-7. 1073 East Jersey Street, Elizabeth, Union County. Also known as "Boudinot Mansion." It was erected about 1750 and later became the home of Elias Boudinot, a President of the United States Continental Congress and signer of the peace treaty with Great Britain. Admission charge.

Edison National Historic Site. This unit of the National Park Service is located in West Orange and includes the laboratory and home of Thomas Alva Edison. Samples of Edison's multitude of inventions are on display in the museum. Services for visitors include interpretive

tours and early movies. Reservations to see the Edison home must be made at the laboratory. Telephone: (201) 736-0550.

Grover Cleveland Birthplace. C-7. 207 Bloomfield Avenue, Caldwell, Essex County. The 22nd and 24th President of the United States was born in this house in 1837 when it was a church manse. Contains furnishings and mementos of Grover Cleveland and the period in which he lived. Admission charge.

Hancock House. J-3. Hancock's Bridge near Salem, Salem County. Built in 1734, blue glazed header bricks were laid in patterns forming the date and initials of the builder. The house contains an extensive collection of antiques, curios, etc. Adjacent is a cedar plank house built by the Swedes over two hundred years ago. Admission charge.

Historic Howell Works. F-7. In Allaire Park. The buildings on exhibit are largely the original structures and are significant in our industrial history of iron products. Entrance charge. Open daily—May thru Labor Day. Closed Mondays, September thru April. Winter schedule subject to change.

Indian King Tavern. G-4. 233 East Kings Highway, Haddonfield, Camden County. The State Legislature held frequent meetings in this tavern, built in 1750. Within its walls the Council of Safety for New Jersey organized on March 18, 1777; the bill was passed substituting the word "State" for "Colony" in all State papers, and the Great Seal of New Jersey was received. Admission charge.

Lawrence House. F-5. 459 High Street, Burlington, Burlington County. Captain James Lawrence, a celebrated American naval hero, was born here October 1, 1781. His dying words—"Don't Give Up the Ship"—became a motto of the U.S. Navy.

McKonkey Ferry House. E-5. In Washington Crossing Park, open as a Museum. This well-preserved building served the public as a tavern in Revolutionary days. Admission charge.

Morristown National Historical Park. This national historical park, established and maintained by the federal government, lies in Morristown and environs and includes three units: the Ford Mansion and museum, Fort Mifflin, and the Jockey Hollow section. The Ford Mansion is one of Washington's most celebrated headquarters and the entire park area is of great historical importance.

Old Dutch Parsonage. D-5. Nearly opposite the Wallace House on Washington Place in Somerville, stands the Old Dutch Parsonage, built in 1751 by the Congregation of the First Reformed Dutch Church, for Rev. John Frelinghuysen and his bride, Dinah Van Bergh. Admission charge.

Ringwood Manor House. B-7. In Ringwood Park, open as a Museum. This spacious mansion illustrates the living conditions of the Ryersons, Coopers, and Hewitts from about 1810 to 1930. Admission charge. Open daily—May through October.

Rockingham. E-5. At Rocky Hill in Somerset County. It is also known as Washington's Headquarters at Rocky Hill and the Berrien Mansion. Here Washington wrote and delivered his "Farewell Address to his troops." The

house contains a large collection of furnishings. Admission charge.

Somers Mansion. K-5. On the Mays Landing Road at Somers Point, Atlantic County. It was built in 1720-30 by Richard Somers I, the son of John Somers, who established a ferry from Job's Point to Beasley's Point in 1693. Now headquarters for the Atlantic County Historical Society, it is furnished with antiques. Admission charge.

Trenton Battle Monument. F-5. Built in 1893 at the intersection of North Broad Street and Pennington Avenue, it marks the site of the main gun emplacement at the Battle of Trenton in the celebrated surprise attack on December 26, 1776. An observation platform 125 feet above street level can be reached by elevator. Admission charge.

Twin Lights. E-8. On the bluff overlooking Sandy Hook, Highlands, New Jersey, it has been a beacon for ship safety since 1828. A part of the building is open as a Marine Museum. Open daily May 30

thru Labor Day. Closed Mondays.

Von Steuben House. C-7. Located on Main Street, River Edge, Bergen County. Erected in 1752, it was owned by Isaac Zabriskie, a Loyalist during the Revolutionary War. Now headquarters for the Bergen County Historical Society, it is furnished with antiques. Admission charge.

Wallace House. D-5. Washington Place, Somerville, in Somerset County. It was erected in 1778 by John Wallace, and Washington occupied it during the winter of 1778-1779 while the army was stationed at Camp Middlebrook, now Somerville. The house contains a valuable collection of period furniture. Admission charge.

Walt Whitman House. G-4. Located at 330 Mickle Street, Camden. Walt Whitman, the celebrated poet, lived in this house from 1884 until his death on March 26, 1892. It is maintained as a State historic shrine and contains original furnishings and many Whitman mementos. Admission charge.

STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF PARKS PARKING FEE SCHEDULE APRIL 1977											
AREAS	WALK-IN FEE	MEMORIAL DAY WEEKEND TO LABOR DAY WEEKEND INCLUSIVE								WEEKENDS ONLY	
		Weekdays				Weekends and Holidays				May	Sept.
		\$2	\$3	\$4		\$2	\$3	\$4	\$5	\$2	\$2
Allaire		X					X			Note 1	
Barnegat Lighthouse	X		X				X				
Bass River	X		X					X		X	X
Batsto						X					X
Belleplain		X					X			X	
Cheesequake		X					X			X	X
Hacklebarney						X					
High Point			X					X		X	X
Hopatcong	X		X					X		X	X
Island Beach				X					X	Note 2	
Lebanon		X					X				
Parvin	X	NO PARKING FEE									
Ringwood		X				X				X	X
Skylands		X				X				X	X
Combination Ringwood & Skylands			X				X			Combination \$3 \$3	
Shepherd Lake			X					X		X	X
Round Valley	X		X						X	X	X
Spruce Run	X		X						X	X	X
Stokes (Stony Lake)		X					X				
Swartswood	X		X					X		X	X
Washington Crossing						X				X	X
Wawayanda		X					X				

Note 1 - Allaire State Park - Daily \$2 fee in effect May and September.

Note 2 - Island Beach State Park - Daily \$2 fee in effect day after Labor Day to day before Memorial Day weekend.

Under the new fee schedule effective April 1, summer parking rates will be reduced Monday through Friday to encourage weekday use of the parks.

For example, the weekday parking rate at Island Beach State Park will be \$4 per car and the holiday and weekend rate will remain at \$5. At Round Valley and Spruce Run recreation areas the weekday rate drops from \$5 to \$3. The off-season rate for all three parks will be \$2. To encourage car pooling, the parking fee covers the driver and all passengers.

Similar parking fee reductions, averaging about one dollar, will go into effect at all other state parks.

Walk-in charges have been eliminated at 13 parks. A 50-cent walk-in fee for those age 12 and over will remain at Barnegat Lighthouse, Bass River State Forest, Lake Hopatcong State Park, Round Valley, Spruce Run, Swartswood, and Parvin. The parking fee at Parvin has been eliminated.

No fee is charged for New Jersey residents age 65 or over. No fee will be charged for bicyclists.

Overnight camping and cabin fees are not affected by the new schedule. Last year's overnight fees remain unchanged. □



THE PASSAIC RIVER: All of our surface waters are threatened — can we keep them from becoming sterile canals?

PHOTOS PROVIDED BY AUTHOR



YES members being introduced to the Pine Barrens by A. Morton Cooper, of the Pinelands Environmental Council.

A New Approach for Students:

YES

YOUTH ENVIRONMENTAL SOCIETY, INC.

BY DANIEL J. VAN ABS

Between six and eight years ago, students were in the news. Burying cars, putting bricks in toilet tanks, recycling, Earth Day celebrations — the start of the Ecology Movement. Now that the “Ecology Movement” has become the “Environmental Movement,” where are the students?

Although you don't often see it in the news, the students are still working. Those who were high-school students back at Earth Day '70 are in college, or have just graduated. Things have changed a lot, though. You just don't see anybody burying automobiles these days. What you do see is a new professional attitude among the students. Much of the activism of the early '70's was a fad—one that died quickly. What is left is the core of the movement.

Students are now involved in water and air pollution, land use, solid waste management, energy and energy conservation, law and legislation, and almost every other category of environmental activism. Many of the easier problems have

already been dealt with in some fashion. It once was easy to identify water polluters, but now it involves chemical tests; NPDES permits; a mountain of laws, rules, and regulations; and a lot of work, rather than just spotting a pile of foam at the end of a pipe. This is a rather severe baptism for a student looking to "get involved."

In addition, it has become recognized that many environmental problems demand *regional* solutions—by watershed, geographical region, air quality zone, state, etc. How does a student group from a single town deal with an area that size? One answer is to join an adult organization already working on the problem. This often doesn't work, because the students need a lot of help in learning about the problem, and teaching them, takes time that most organizations don't have. Another method is to find other student groups in the region that are interested in the same problem. This usually is hard to do, since most students lack the necessary mobility. Even if other groups are found, the coalitions usually do not last long because of the lack of any overall structure.

Faced with such obstacles, can students really accomplish anything? The answer is a loud and definite "Yes!" Actions against polluters, proposals for parks, recycling and antilitter campaigns, educational programs, and energy conservation programs are a few of the many student projects successfully undertaken. Most of the successful groups have one thing in common—some sort of stable leadership. Be it a student who runs the program for several years, a teacher, a sponsoring adult organization, or hired staff members, someone must provide leadership for the group to last.

New Jersey students are active, but in general they also have been isolated, with little contact between high schools or colleges. Now, however, there is a new organization in motion—the first of its kind in the nation, to our knowledge. Youth Environmental Society, Inc. (YES) is a statewide organization of high school and college students, working together on many of the state's environmental problems.

YES got its start in 1970, when nine Camden County high school groups got together and formed the "Ecological Communications Committee." It was this coalition that initiated the "Brick in the Tank" project in Cherry Hill that gained national attention when 17,000 homes were supplied with 34,000 bricks for water conservation. Three years ago, Maurice Sampson and Michael Skelly wrote a rough proposal for expanding the program to a statewide organization, changing the name to Youth Environmental Society.

The idea behind YES is simple. We feel that student environmental groups have a better chance of surviving and growing if they can work and have contact with other groups. Already our college groups have seen an encouraging expansion in the number of projects we are working on. Five of the seven original college affiliates have groups that have been active for more than one year. Ramapo Environmental Group, Montclair Conservation Club, Princeton Environmental Action, Environmental Political Action (EPA) from Rutgers-New Brunswick, and Stockton Action Volunteers for the Environment (SAVE) are active, with Glassboro State College and Rutgers-Camden forming their organizations now. EPA and SAVE are the largest and most active of

the organizations, but all are growing.

Although YES is education-oriented, we also emphasize practical work. Education that can be done in the school is best done there by qualified teachers, but we can help students put their knowledge to use and gain new knowledge in the process. We work with high school (and some few junior high school) students, student groups, and teachers, the older Girl Scout and Boy Scout troops, and many others. Professionals in the field work with YES as advisors to our Board of Directors and colleges, making their knowledge and experience available to us. As of January, Dr. John J. Kirk of the New Jersey School of Conservation and Professor Marshall Stalley of Cook College had accepted invitations from the Board of Directors to serve as advisors for the Board.

Environmental Communications Centers

Statewide, YES is operated by a Coordinating Office, located at Rutgers-New Brunswick in the Rutgers Student Center. The Board of Directors votes on all policy and financial matters, and is elected yearly, in April. The individual college groups, though, are the ones that actually run the programs. Each group has set up an Environmental Communications Center that works with any interested groups in its region of the state. Help can involve a number of things, including setting up regional meetings between groups interested in the same things, getting groups involved in new projects or expanding old ones, supplying information on environmental subjects, having college students advise groups, and a number of other things, but no Center will try to run another

Continued on the next page

WATER POLLUTION CONTROL: Students need to know the reasons and economics behind it.



YES

Continued from preceding page

organization. Presently, a number of projects are established, and more are on the way.

Energy Conservation

One of the immediate sources of energy for New Jersey is energy conservation. Every barrel of oil saved is a barrel that doesn't need to be produced. The State Energy Office is working to involve students in energy conservation projects, along with the help of industries, civic groups, professional societies, and environmental organizations, including YES. We have been involved in this program, called the Youth Energy Conservation Program, since its inception in 1975, and are presently one of the prime movers among the private organizations. On March 1 the state's first Energy Conservation Contest, for grade school students, was concluded. Along with this short-term program, we, with the help of the Energy Office and other members, help supply information materials, ideas for projects, and assistance in setting them up.

Pine Barrens

The Pine Barrens of South Jersey have become a major issue in the past year, involving major decisions in water resources and land-use planning. YES has study teams working to help design plans for saving the valuable million-acre area, and to help make sure that decisions already made are carried out properly. The Pine Barrens cannot be developed the way North Jersey has been. Its ground-water supply is too easily polluted, and the natural system too easily destroyed. There will always be work to do to make sure that the Pinelands remain in their natural condition.

Clean Water Action Project

Water pollution in our urbanized state is of major concern to us all. CWAP has been working for years in providing citizen input into the National Pollutant Discharge Elimination System (NPDES), receiving every draft permit for the state, filing comments on the

proposed standards, and maintaining files on the final permits (possibly the most complete set outside of USEPA). In addition, project members have spent years walking the streams of Middlesex County, looking for illegal sources of pollution and preparing reports on the various watersheds. This year CWAP is expanding its streamwalking activities statewide, partly through YES. The project is involving both college and high school students. There aren't many better ways of getting to know our area than by walking its streams.

See "Clean Water Action Project" *New Jersey Outdoors*, January/February 1977.

Community ID Program

When the proposal for YES as a statewide organization was written, the ID program was formulated as the perfect project. We feel that the key to understanding the problems of the state and its regions lies in the communities. Also, students are more aware of their own towns, and find it easier to get involved in familiar surroundings.

In doing a community ID, the students seek to detail what environmental problems and assets exist in their town. The easiest way to start is by walking the stream corridors and the major highways to get all overall view. After this, they work on either certain key areas or key issues (parks, solid waste, energy, roads, etc.) in the town, seeking to define the present situation. They keep an account of what they observe, and formulate possible answers to the problems that exist. Whenever the students feel they have enough information, they start looking for solutions, and push for the implementation of these solutions.

The purpose of this program goes far beyond just solving a problem. In going through the ID process, students will pick up a lot of knowledge in many environmental fields, as well as getting to know how their community's government works, how citizens can have an effect on what happens, how to plan solutions, and what running a large project entails. Interested students learn to be leaders, a very useful

trait. Also, knowledge obtained in the communities can be applied to regional problems.

We feel that for the environmental movement to really accomplish its purposes, we will need many more knowledgeable people to become professionals in the field. The Community ID Program can help students become well-rounded generalists who can later specialize if they wish. In a field where "everything is related to everything else," generalists are an important commodity.

How to get in touch

YES is growing, with all the normal growing pains. In our favor is that the need for our type of group has been felt for years, especially by the students, and now is the time to put it all together. We are looking for interest from all quarters; from single students looking to set up an organization to organizations looking to work with our Environmental Communications Centers as an equal partner. Our Centers cover every corner of the state, but as we get larger more Centers will be needed to handle the load. For this reason, we are presently working to get several more college groups actively involved. In addition, we are looking for interested professionals who would serve as advisors to our Centers and our Board of Directors. We also are interested in working with teachers in the public schools, and with college professors who would like some assistance.

As always, it is difficult to find interested groups unless they find us. Finding individual students, teachers, professors, and professionals is even harder. I would urge anyone who is interested in YES to get in touch with: Youth Environmental Society, Inc., Box 50, Rutgers Student Center, Rutgers University, New Brunswick, NJ 08903. As a non-profit organization we do have a membership, and we would be glad to have you join us; although membership is not required to receive assistance from us.

YES is new, but it is a growing idea. We invite you to join us in our work. □



DIVISION OF FISH, GAME, AND SHELLFISHERIES MINI-DIRECTORY

REGIONAL WILDLIFE, FISHERIES, AND MARINE BIOLOGISTS

County	Wildlife Management	County	Wildlife Management	County	Fisheries Management	County	Fisheries Management
Sussex	Russell Spinks	Monmouth	" "	Sussex	Michael Welshko	Monmouth	Hilary Zich
Passaic	" "	Burlington	David Burke	Warren	" "	Ocean	" "
Morris	Pat McConnell	Atlantic	" "	Hunterdon	" "	Atlantic	" "
Somerset	" "	Gloucester	Richard Hall	Hunterdon	" "	Cape May	" "
Warren	Robert Eriksen	Salem	" "	Mercer	" "	Cumberland	Frank Bolton
Hunterdon	" "	Camden	" "	Passaic	Don Jacangelo	Salem	" "
Mercer	" "	Cumberland	Lee Widjeskog	Bergen	" "	Gloucester	" "
Hudson	Steve Toth	Cape May	" "	Hudson	" "	Camden	" "
Union	" "			Essex	" "	Burlington	" "
Essex	" "			Union	Robert Stewart		
Bergen	" "			Morris	" "		
Ocean	Joseph Penkala			Somerset	" "		
Middlesex	" "			Middlesex	" "		

Marine Fisheries Management

Hudson River to Shrewsbury River — Northern Coast
Shrewsbury River to Atlantic City — Central Coast
Atlantic City to Maurice River — Southern Coast
Delaware Bay and Tidal Delaware River
Offshore

Patrick Festa
Peter Himchak
John McClain
John Makai
Bruce Halgren

ADDRESSES

Russell Spinks, Star Route, Layton
07851 — 201-948-3860

Clinton Wildlife Management Area, Box
409, R.D., Hampton 08827 — 201-735-8793
Robert Eriksen Pat McConnell
Steve Toth

Joseph Penkala, Assunpink Wildlife
Management Area, R.D. 3, Robbinsville
08691 — 609-259-7954

Nacote Creek Research Center, Star
Route, Absecon 08201 — 609-652-9589

David Burke John McLain
Patrick Festa John Makai
Peter Himchak Bruce Halgren

Richard Hall, Inskip Tract, Piney
Hollow Road, P.O. Box 388,
Williamstown, 08094 — 609-629-0555

Lee Widjeskog, Tuckahoe Wildlife
Management Area, Tuckahoe 08250
609-628-2103

State Fisheries Lab., Lebanon 08833
201-236-2313

Michael Welshko
Don Jacangelo
Robert Stewart
Hilary Zich
Frank Bolton

LAW ENFORCEMENT

NORTHERN DISTRICT

Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset,
Sussex, Union and Warren
Black River Wildlife Management Areas 201-879-7108
North Road, Chester 07930

CENTRAL DISTRICT

Burlington, Mercer, Middlesex, Monmouth and Ocean
Assunpink Wildlife Management Area 609-259-2120
R.D.#3, Robbinsville 08691

SOUTHERN DISTRICT

Atlantic, Camden, Cape May, Cumberland, Gloucester and
Salem
Inskip Tract 609-629-0555
Piney Hollow Road
P.O. Box 388, Williamstown 08094



A wall hanging being created from sticks, naturally dyed wool and other natural objects such as feathers and seeds.

colors from nature

Continued from page 7

Chrome (potassium dichromate), available at the drugstore, is more difficult to use than either alum or copper. It produces toxic fumes and is sensitive to light. Be sure to keep the mordanting vessel covered and store the mordant in the dark. Chrome characteristically enhances shades of brass or gold.

Tin (stannous chloride) gives bright, clear, fast colors in the red and yellow range. Although expensive, a little goes a long way. Like chrome, tin is poisonous and

should be kept out of the reach of children and pets.

Iron (ferrous sulfate) is also known as copperas or green vitriol. It can be a mordant by itself or can be added at the end of the dyeing bath to "sadden" or darken colors.

In addition to the above mordants the colonists used household items such as salt, vinegar, soda, cream of tartar, "drip lye" (wood ashes) and "chamber lye" (urine). When metal based mordants were not available the colonists used containers made of tin, iron, or copper. Results were comparable to those of the tin, coppers and copper powders used today.

DYEING THE WOOL

Dye the wool by placing it in a lukewarm dyebath and slowly raising the temperature to the simmering point. Simmer for one-half to one hour, depending on the shade desired. Keep in mind that wet wool is always of a darker shade than dry wool. When the desired color is achieved rinse the wool in water of the same temperature as the dyebath. Change the rinse water until it runs clear, lowering the temperature gradually. Drastic fluctuations in temperature will cause wool to shrink and mat.

Allow the wool to dry in the shade. Then sit back and admire the results.

THE RESULTS

PLANT	PART	MORDANT	COLOR RANGE
Beech	leaves	alum chrome	pale buff green, gold
Blackberry	berries	alum tin copper	brown, purple purple blue
Black walnut	nut hulls	alum copperas	brown, tan black, greys
Bracken fern	above ground plant	alum	green
Buttercup	above ground plant	alum	yellow, green
Dandelion	blossom	alum tin	light yellow bright yellow
Dock	blossom	alum	rose, beige
Elderberry	berries	alum chrome	purple blue, grey
Goldenrod	leaves blossom	alum alum chrome	green yellows golds
Hickory	nuts	alum	tans
Jewelweed	above ground plant	alum chrome	bright yellow bright gold
Maple	twigs	alum chrome copper	light tan green, tan medium tan
Mulberry	berries	alum	gray, lavender

Mullein	leaves	alum copper	deep yellow tan, green
Pokeweed	berries (fermented)	alum chrome	red, maroon rusts
	berries (dried)	tin copper	red brown
	berries (fresh)	alum	salmon, pink
Queen Anne's Lace	above ground plant	copper alum chrome	green, yellow pale yellow tan, golds
Sassafras	bark	alum	red, tan
Sedge	above ground plant	alum chrome copperas	yellow, green golds gray, greens
Staghorn sumac	berries	alum copper	tans greens
Viburnum	berries	alum chrome copper	tans, gray deep green gray, green
Wild grapes	berries	alum	lavenders

The entire process can be shortened by combining the making of the dyebath and the dyeing of the wool into one step. Dyestuff and wool can be simmered together in the same pot. Invariably some of the plant material will become emmeshed in the yarn. In my opinion the presence of small plant parts adds charm to the finished product.

Working with natural plant dyes is a good way to introduce children to the plant world. The routine washing and mordanting can be done by an adult; the fun steps — collecting, watching the dyes form, and dyeing — by the youngsters.

Dyed yarns can be used in wall hangings, string paintings, tapestries, macrame, knitting, embroidery — the list is endless! Additionally, various plant dyes can be used for sketching and painting.

Mordant and dye recipes are available upon request from:

Great Swamp Outdoor Education Center
Morris County Park Commission
247 Southern Boulevard
Chatham, N.J. 07928



Sumac—The leaves of this common roadside plant produce lovely tan dyes—the berries are an excellent source of vitamin C.

fly fishing

Continued from page 11

son who has sufficient coordination to drive a car with a manual transmission should have no trouble at all. The basic fly casting motion is simply an acquired reflex. It may seem difficult at first, but with practice it soon becomes automatic.

Flyfishing *can* be a very expensive hobby, but it doesn't *have* to be. A complete outfit can be purchased for under \$20—or you can easily spend several hundred dollars. Once you make the initial expenditure for major equipment (rod, reel, and line), your single greatest cost will be in maintaining a stock of flies. This expense can be drastically cut if the angler ties his own. The cost of materials in a fly-shop fly priced at 90 cents is actually only about three or four cents; most of that high price is for the skilled labor of the fly tyer.

Before purchasing fly tackle, it's a good idea to understand how a fly rod works, and what is meant by a "balanced outfit." In all other forms of casting, the weight of a lure, sinker, or other terminal tackle pulls a very light line directly from the reel. In fly casting, the weight of the *line* is cast—the fly simply goes along for the ride. The reel is not involved in the casting process at all. Fly rods come in varying degrees of stiffness, fly lines in different weights. In order for the rod and line

to work well together, the weight of the line must be matched to the stiffness of the rod. The stiffer the rod, the heavier the line necessary to bring out the rod's action. It is always best to buy a rod that specifies a particular line weight; you'll find this information printed on the rod just above the grip. Fly line weights have been standardized by the American Fishing Tackle Manufacturers' Association (AFTMA). Commonly available sizes range from a very light Weight #3, for the most delicate trout fishing, to Weight #11, used for casting heavy bucktails to large saltwater gamefish.

For average fly fishing for trout and panfish, a rod seven or seven and a half feet long with a line of Weight 5 or 6 is ideal. Longer rods are becoming more and more popular; and they do have definite advantages in some situations, but your first fly rod should be for general use, rather than specialized.

Try to keep your reel as light as possible; this will help to minimize fatigue during a long day of fishing. The reel should be no larger in diameter than necessary to accommodate a coil of the proper weight line for your rod, plus backing. The average trout fisherman never even sees his backing while fishing, but it's nice to know it's there just in case a fish capable of running out the entire coil of fly line is hooked. Single-action reels are best. Automatic fly reels are unnecessarily heavy and their relatively complex design often causes mechanical problems.

Author ties her own flies

ROBERT S. KUSS, JR.



Fly lines are available in both level and tapered varieties, and your choice will depend on the kind of fishing you plan to do and how much money you wish to spend. Level lines, of the same diameter throughout, are least expensive. They are fine for panfishing and most trouting, using short to medium length casts (20-40 ft.). Double tapered lines taper at each end to a diameter smaller than that of the rest of the line. They allow a more delicate presentation, and are economical in that when one end is worn out the line can be reversed on the reel and the other end used. Double tapered lines are the traditional choice of the trout fisherman. Weight forward lines have a taper at the front end, followed by a heavy section in which most of the weight is centered, followed by a second taper. The remainder of the line is of a smaller, level diameter. Weight forward lines have no advantage over double tapered lines unless long casts (over 40 ft.) are frequently made.

Fly lines also come in floating models, sink-tip models, and full-sinking models of various densities. A full-floating line is the best choice for the beginner. When buying a line, it is useful to be familiar with the system of abbreviations used to designate fly line types. The abbreviation describing a given line consists of three parts: taper, weight, and floating or sinking, in that order. A line designated DT6F, for instance, is a double-tapered, Weight 6, floating model. A L7S would be a level, Weight 7, sinking model; and a WF5F a weight-forward, Weight 5, floater.

Fly leaders are usually between 7½ and 12 feet in length, and taper from a thick butt section which is attached to the fly line, to a thin tippet to which the fly is attached. Modern fly leaders are made of nylon monofilament and are available in knotted or knotless forms. Knotted leaders are made by blood-knotting together lengths of nylon of various diameters gradually tapering from butt to tippet. Knotless leaders are manufactured of a continuous tapered strand of nylon. Knotted leaders usually have better "turnover," meaning that they are more likely to straighten out completely on your presentation. Another advantage of knotted leaders is that the length and diameter of the tippet is always known. With a knotless leader the leader point becomes gradually heavier as flies are changed, often without the angler noticing it. The chief disadvantage of knotted leaders is that they tend to pick up weeds and algae on the knots. But unless you regularly fish very weedy waters, knotted leaders are your best bet. You can buy leader-tying kits which enable you to tie your own leaders for much less than buying them ready made. Such a kit also makes it possible to experiment with nonstandard lengths and taper designs.

There are several methods for attaching your leader to the fly line. One of the best is the nail knot. Many fly line manufacturers include instructions for tying the nail knot and other useful knots in a pamphlet packaged with the line. This pamphlet also gives suggestions for the care and use of the fly line, and sometimes even basic casting instructions. For those unable to master the intricacies of the nail knot, there are simpler methods; Eagle Claw manufactures a small plastic

sleeve-type connector that requires only a couple of simple overhand knots. Or you can use metal eyelets having a barbed shaft which is inserted into the fly-line core. The nail knot is preferred, however. It provides a smooth, compact, reliable connection which will pass easily through the fly-rod guides, especially when it is coated with Pliobond or epoxy.

For most trout and panfishing your leader should taper to a tippet of no larger than 4X (0.007 inches). Depending on the sizes of flies used, and water clarity, it may be necessary to go to 5X (0.006) or even 6X (0.005). It is not wise to use a very large fly on a too-light tippet, since the tippet will become weakened during casting. Conversely, a small fly on a too-heavy tippet will not be able to move naturally in the water. A general guideline is:

FLY SIZE	TIPPET SIZE
8-10	3X
10-12	4X
12-14	5X
16-20	6X
20-28	7X

Remember to strike gently and play fish carefully when using smaller tippet diameters. Pound-test ratings vary between manufacturers, but 5X usually has a breaking strength of about two pounds, so easy does it.

Flies are, in the long run, the most expensive item of tackle, since they must be replaced so often. Top-quality trout flies are now ranging in price from seventy-five cents to one dollar and more each. Most fly fishermen eventually end up tying their own flies, either for economy, because they cannot obtain the patterns they want commercially, or just for the fun and satisfaction of it. Fortunately for the beginning fly fisherman who is not ready to get into fly tying and not willing to spend a fortune on expensive flies, the good old "dollar a dozen" variety of flies are still available in most tackle and hardware stores. Crude though they may be by some standards, these flies will sometimes take fresh-from-the-hatchery trout, and are usually quite effective on panfish.

Panfish are without a doubt the best quarry for the novice fly fisher. They are usually not fussy about fly patterns, or presentation (within reason). The beginner can often have a panfish pond all to himself, so that he need not feel self-conscious about his efforts, which may be less than flawlessly graceful at first. Time spent panfishing will give valuable experience in casting to, striking, and playing fish, and will do so much more quickly than time spent trouting, since panfish are more plentiful and more cooperative than trout. Try small (size 12 and smaller) wet or dry flies, cast to visible nests, or around weed beds. Try a slow retrieve, keeping your fly in sight if possible. Strike quickly to the rise.

Once you have gained some prowess with the long rod by practicing on panfish, give the trout a try. If they snub you, the panfish are always there. Panfish in New Jersey are a vastly underrated and underused resource. One of the greatest advantages of fly fishing is that it seems to magnify the fish caught. So panfish and the fly rod are a natural together. Why not give it a try? □

SOUTH JERSEY SAFARI

Continued from page 3

immediate area. On the western shore just south of the high-rise stands the Silverton Boat Works; the hull molds which are used to form the fiberglass boat bodies are visible from the river.

The river is used in many different ways for recreation by local residents. At one point we noted that youngsters had constructed a rope swing and would run off the high bank, swing out, and drop into the water. Other persons make use of the many public and private boat ramps, including the free ramp just off Fowser Street in Millville. Many wrecks in various stages of decay dot the bank clear down to the Delaware Bay. On another occasion when traveling the river at dead low tide, I counted 48 abandoned hulks, although many were little more than wooden skeletons of the ships they once were. Often seen anchored on the river is the yacht *Framar*, owned by the Wheaton Glass Industry, which provides employment for thousands of persons residing in South Jersey.

Employment is offered to others by the Dorchester Shipbuilding Company in Dorchester. This old company has long provided vessels for many seagoing occupations as well as repairs to luxury yachts such as the *Framar*.

Traveling down the river, one can see many different types of birds. Thousands of terns nest near these waters and one will often find a buoy to be a comfortable resting spot from which to observe boaters.

Public and private organizations are constantly working to improve the river. As we traveled downriver, one of the signs we saw was a bulldozer working in the early morning sun to improve a jetty. The river is dotted by shacks and shanties, most of which are accessible only by boat. People are always friendly on the river and the occupants of these stilt-legged dwellings are quick to wave and flash a cheery smile to river travelers. Of course, the noisiest inhabitants



Moore's Beach

of the river need no shanties—as they are seagulls, which we saw by the thousands as we made our journey.

Approximately ten miles south of Millville lies Mauricetown, which was a prominent seaport from the Revolutionary period to the early 1900's. The many sea captains' homes here are worth seeing for their Victorian architecture. We saw the church spire rise above Mauricetown bridge, the last spot for a car to cross before the river empties into Delaware Bay.

From Mauricetown, we wended our way almost directly southward along a meandering river that passes through virtually uninhabited marshlands and flows finally into the Bay. An aerial view of the river flowing from Mauricetown to the Bay impresses one with how great the sea and land are compared to the frailty of mankind. The land is so close to sea level that man must desperately clutch to any tiny spot of land that can be torn from the sea. Matt's Landing, the last outpost of humanity before reaching the Bay, is an example of man carving life from a minute sandbar. We stopped at Matt's Landing to refuel and noted that many boating and fishing enthusiasts dock their vessels here to take advantage of the recreational

Sunshine Park Nudist Colony





Maurice River Upstream

opportunities afforded by the close proximity to the Bay.

Although not as valuable a source of employment as it once was, the shellfishing industry in Port Norris, directly across the river, still provides some jobs for local residents. As we cruised by the oyster- and clam-chucking houses, we noted little signs of industry. Further along we turned the final bend in the river and found ourselves out into the wide expanse of Delaware Bay.

Bearing to the port side as we entered the Bay, we sighted a beached wreck which looked interesting, so we maneuvered in to shore. A local resident told us that the 120-foot ship, a former commercial fishing vessel, was purchased by a rich Philadelphia man who intended to remodel it into a floating restaurant. He had the boat towed up the Bay until it ran aground at the mouth of the Maurice River. The man's interest (and money, probably) waned, so the vessel rots here today, mute testimony to a vanished American dream.

About 100 feet down the shore from the wreck, we investigated the famous East Point Lighthouse (See *East Point Light, The Lone Survivor, New Jersey*

Outdoors: January/February 1976). We had arranged earlier for Mr. Everett Turner, an officer in the Maurice River Historical Society, to meet us and guide us through this historic landmark. The Society is currently engaged in an enthusiastic project to restore the lighthouse to actual operation. Originally built in 1849 as a navigational aid, the light was closed on Pearl Harbor Day, December 7, 1941, never to reopen. A fire completely gutted the building in 1972 as the Society was beginning its restoration efforts. It would be well worthwhile to have this site designated as a State Park because of the historical and ecological values of East Point Lighthouse and the surrounding area. From the cupola of the lighthouse, we could see the few remaining houses of Thompson's Beach. There had been more than 200 cottages here in the 1950's, but a gigantic storm washed away all but ten. Today, only 15 residents mark the lonely coastline. One or two miles southward along the coast lies Moore's Beach, where homes on stilts and a few secluded cottages gallantly try to withstand the colossal force of the sea. Efforts by residents to persuade local, state, or federal agencies to construct breakwaters or make improvements of any type have been in vain.

Boarding our power boat again, we set out across the Delaware Bay almost directly south to Cape May. The Bay was extremely rough with swells reaching as high as six feet, but our boat, a 17-foot Wellcraft equipped with a 105-horsepower Chrysler engine, handled the two-hour Bay trip nicely, taking in only a little spray over the bow.

As we approached Cape May, our plan was to travel through the Cape May Canal, but before we arrived there, we sighted the remains of a concrete ship. The vessel, the *Atlantis*, was one of seven constructed during World War I as a transport. When the ships proved too slow and awkward, the *Atlantis* was towed to Cape May to serve as a dock. This was never to be, however, so the ship sits offshore today, serving only as a tourist attraction.

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Beached Wreck



SOUTH JERSEY SAFARI

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Leaving the Atlantis, we entered the inlet into the Cape May Canal, passing a Canadian sailboat. Inside the canal, we viewed the port of the Cape May-Lewes Ferry. Each summer, the ferries carry thousands of tourists and their cars across the Delaware Bay. Further into the canal, the New Jersey Marine Police were on the job, checking a small craft for safety violations.

Before entering Cape May Harbor, we docked the boat for a side visit to several sites on Cape May Point. The first was a World War II observation tower, which overlooks the Bay. Originally on the waterfront, this tower, like several others up and down the Jersey coast, is now about a half-mile from the sea because of the ever-changing sands. We then entered Cape May Point State Park, on the narrow strip of land where the Delaware Bay and Atlantic Ocean meet. The most significant landmark is, of course, the famous Cape May Lighthouse, which guides ocean and bay travelers. Also included in the State Park is a now-abandoned World War II pillbox and gun emplacement which once guarded the Jersey coast. In early fall, thousands of migratory birds are funneled into Cape May Point, and concentrate here awaiting favorable winds to continue their journey south.

Returning to our boat, we continued eastward through the canal into Cape May Harbor, where we viewed the United States Coast Guard Base and its cutter. We then turned northward into the Intracoastal Waterway and cruised toward Wildwood, where we stopped to refuel (over the entire trip, we used approximately 26 gallons of fuel).

Passing by Wildwood, we entered Stone Harbor, one of the most beautiful seaside towns anywhere on the East Coast. We encountered multitudes of pleasure and fishing boats in the channel between Stone Harbor and the mainland. Certainly land is at a premium here, for houses rise on pilings far out into the waterway.

Further north we passed Townsend's Inlet, which forms the southern end of Sea Isle City. Many people were enjoying the sun, sand, and fishing near the bridge over the inlet. The Coast Guard maintains a small emergency base here to serve the needs of

thousands of boating enthusiasts.

We continued northward on the Intracoastal Waterway and entered Ocean City, passing under the Thirty-Fourth Street Bridge and by many large pleasure craft. Ocean City is a boater's paradise, with enough miles of waterways, bays, and ocean to satisfy the desires of any vacationer. As we passed Ocean City, we made a turn to the west to locate the Great Egg Harbor River. We crossed Great Egg Harbor Bay, which provides excellent fishing and crabbing, noticing at one point that the Bay was being dredged by the *Mike Thomas* to improve conditions for deeper-draft vessels.

Nearing home now, we continued our northwesterly route toward Mays Landing. Since the Great Egg Harbor River offers perfect water skiing, I happily donned my skis and skied for several miles along the clean, placid water. I skied past an area which appeals to the recreational interests of some—the Sunshine Park Nudist Resort; I assume that the fishing is very good in the river by the nudist colony as large numbers of boats are always moored directly in front of the sunbathing dock. Leaving Sunshine Park behind, I continued skiing for another mile until the river narrowed. Stowing my skis, we cruised into Mays Landing and came ashore at Spoony's Marine at 6:00 p.m.

We had been on the water for seven hours spending an additional three hours on side trips ashore and had traveled more than 120 miles. The weather had been beautiful and, except for our Delaware Bay Crossing, the waters had been generally calm. I would advise anyone wishing to duplicate our trip to check the weather report before crossing Delaware Bay, to have adequate supplies and water on board, and to carry all Coast Guard required gear. I would also recommend that the trip not be tried in too small a boat, although our 17-footer handled the trip excellently. We did not try for speed and generally cruised at about 17 to 18 miles per hour so we could take pictures. Although we shot about 140 slides, we could easily have shot 500 because there were so many interesting things to see.

Anyone wishing additional information about my South Jersey safari or who might like to duplicate the trip please contact me. The trip was absolutely one of the most enjoyable experiences of my life and I would positively recommend it to anyone interested in touring by boat. □

FRONT COVER

Two Fawns in an open field. If you are tempted to adopt a wild creature that seems to have been abandoned — DON'T — the parents are nearby. — Photographed by Joseph Lomax

INSIDE BACK COVER

Nesting Red-Bellied Woodpecker in Stokes Forest — Illustration by Carol Decker. (Read article on page 18.)

BACK COVER

A view of three states is possible from High Point State Park — Photographed by David A. Bast. (Read article on page 17.)



Carol Decker g

