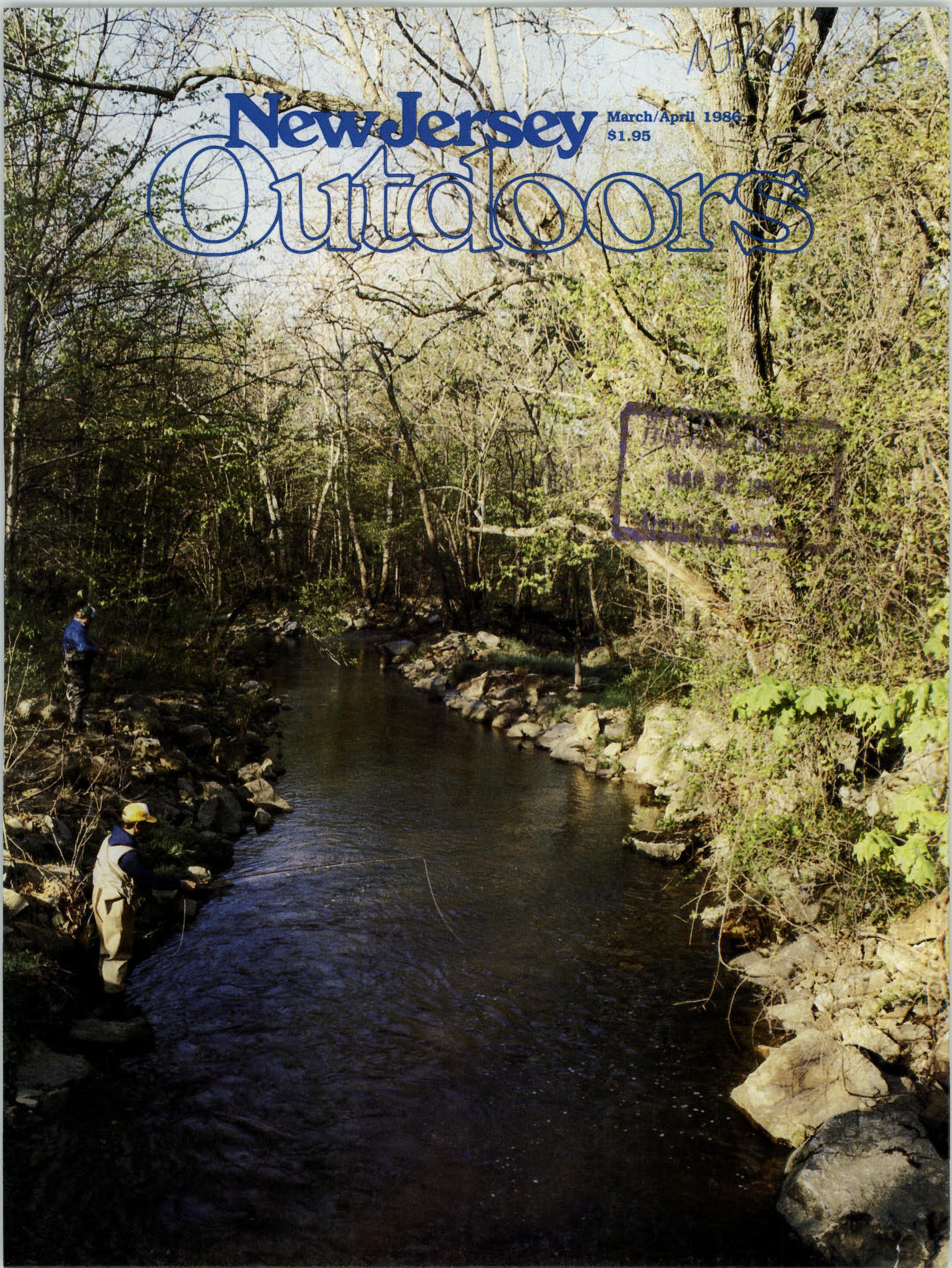


NTF 3

New Jersey Outdoors

March/April 1986
\$1.95



New Jersey Outdoors

- 2 Greenspace • Steven K. Brush**
How our parks and recreation areas were created
- 6 Trout Prospectus • Robert Soldwedel**
If you thought 1985 was great, get set for
Opening Day 1986 (weather permitting)
- 9 Boat Accesses of the Delaware • J.B. Kasper**
Where they are and what's there.
- 12 A Park for all People • Patricia Reardon**
About Lincoln Park in Jersey City
- 16 All Seasons at Holmdel Park • Gary Ann Lewis**
A Year 'Round Park in Monmouth County
- 18 There are Still Wildflowers • Cornelius Hogenbirk**
How, when, and where to enjoy wildflowers
- 21 Evolution of Spruce Run • William S. Kane**
What's there and how it all came about
- 24 Why Wait for May? • Tom Pagliaroli**
Try early spring bass fishing if you're interested in trophy size bass
- 26 Trail Etiquette • Douglas W. Smith**
Mind your manners when out on the trail
- 28 World Series of Birding • Pete Dunne**
New Jersey Audubon Society's Annual Birdathon
- 30 Training Versatile Dogs • Andrew Heyl**
North America Versatile Hunting Dog Association training sessions
- 32 Marquand's Trees • Douglas G. Kiovsky**
Unique and historical trees in Princeton's Marquand Park

DEPARTMENTS

- 35 Letters to the Editor**
35 Calendar of Events

MINI FEATURES

- 15 Recreation: The Second Time Around**
20 New Jersey Outdoors Writing and Photography Contest
34 Wildlife Weekend for Teachers
36 Wildlife in New Jersey/Barred Owl • Mike Valent

(Note: Costs of publishing the magazine not covered by subscriptions are met from general revenues available to the Department of Environmental Protection.)

The views and opinions of authors do not necessarily represent the opinion or policies of the Department of Environmental Protection or the State of New Jersey.

New Jersey Outdoors (USPS 380-520) is published bi-monthly (six times a year) by the N.J. Department of Environmental Protection. Second-class postage is paid at Trenton, N.J. and additional mailing offices. Subscriptions are \$6.50 for one year, \$11.95 for two years, and \$15.95 for three years payable by check or money order to New Jersey Outdoors Mailing Office, CN 402, Trenton, N.J. 08625. Single copies, if available, cost \$1.50. POSTMASTER: Send address changes to *New Jersey Outdoors* mailing office. Send old and new addresses and the zip code numbers. The Post Office will not forward copies unless forwarding postage is provided by the subscriber. Allow eight weeks for new subscriptions and change of address to take effect. *New Jersey Outdoors* welcomes photographs and articles, but will not be responsible for loss or damage. Permission granted to reprint with credit to *New Jersey Outdoors*. Telephone: Circulation (609) 292-1281 or 292-1939; Editor's Office, (609) 292-2477 or 633-2102. Toll free number, 1-800-345-8122 for subscription information.

State of New Jersey



Thomas H. Kean
Governor

Department of Environmental Protection

Richard T. Dewling
Commissioner

Natural Resources Group

Helen C. Fenske
Assistant Commissioner

Resources Interpretive Services

Howard J. Wolf, Director
CN 402, Trenton, NJ 08625
Telephone: (609) 633-2102

New Jersey Outdoors Magazine Staff

Steve Perrone
Editor

Sally Dudley
Special Projects Editor

Contributing Editors
Sharon Ann Wander
Cathie Cush
Carolyn Bevis

Circulation
Lucy Brennan
Jackie Fisher
Margaret Scott

Art Director
John Moceri

Graphic Design
Paul J. Kraml

Editorial Advisory Board

Jacqueline Berke
Charles Coffin
John T. Cunningham
Patricia Haughey
Gene Hill
Robert Lick
Scott McGonigle
Jim Naylor
Thomas M. O'Neill
Karen Reeds
Richard J. Sullivan

NEW JERSEY OUTDOORS CREDO

This publication is dedicated to the wise management and conservation of our natural resources and to the fostering of greater appreciation of the outdoors. The purpose of this publication is to promote proper use and appreciation of our natural, cultural, and recreational resources, and to provide information that will help protect and improve the environment of New Jersey.

Guest Editorial

There's a crisis facing New Jersey today—a crisis that you aren't reading about in your daily paper or hearing about on the nightly news. This crisis threatens the Federal Land and Water Conservation Fund (LWCF) and its chances for survival into the next decade.

Now virtually every federal, state and local official involved with public recreation would agree that the LWCF is one of the federal government's major successes in the past 20 years. They would also agree that the Land and Water Conservation Fund's disappearance—for that is what will happen if Congress does not reauthorize the Fund before it expires in 1989—will create great hardships for everyone who values the outdoors and open space. On the other hand, probably not one out of a hundred people who are otherwise well-informed about the environment have ever heard of LWCF, much less have any idea of its importance and great contribution to the quality of life in New Jersey. And therein lies the core of a quiet crisis.

No state has benefitted more than New Jersey from the LWCF. Between 1967 and 1984, more than \$125 million federal dollars were invested in scores of parks, wildlife management areas, and local recreational facilities. These projects range from the preservation of the Pinelands, and the Appalachian Trail to Seven Presidents Park in Monmouth County, and Veterans Park in Hamilton Township. In New Jersey, LWCF stretched our Green Acres bonds, making it possible for us to buy half again the open space and build many more park facilities than we could have done on our own. New Jersey's citizens have repeatedly reflected their support of this kind of public expenditure through the passage of five Green Acres bonds over the past 25 years.

In retrospect, it was a grave mistake not to have done more to identify the importance of the federal LWCF to New Jersey's citizens. The Fund's survival is now at stake and New Jersey—and the nation—cannot afford to lose it.

As I write this, I have before me a 10-page computer printout of all the parks and facilities created or assisted throughout the state with money from the LWCF. I am struggling at this late date to know how to arouse you, our outdoor and recreation constituency to help us address this quiet crisis.

It is not too late. This issue of *New Jersey Outdoors* features articles about the Land and Water Conservation Fund and some of its projects in New Jersey—fishing access sites along the Delaware River; Spruce Run and Round

Valley in Hunterdon County; Leonardo Marina at Leonardo on the Raritan Bay; Monmouth County's Holmdel Park and Hudson County's Lincoln Park in Jersey City. And this summer, the nation will be made aware of one great Land and Water Conservation Fund project, Liberty State Park, the remarkable 1,100-acre park which forms a historic trilogy in New York harbor with the Statue of Liberty and Ellis Island, just 500 feet off its shores. Many of the centennial festivities for the Statue will take place at New Jersey's Liberty Park.

The President's Commission on Americans Outdoors is studying how to address our nation's recreation needs through the year 2000. One of the most important subjects being considered by the Commission is how to pay for the open space and recreational facilities that are so important for the health and well-being of our nation's citizens.

Governor Kean is creating the Governor's Council on Recreational Resources as New Jersey's counterpart to the President's Commission. The Governor's Council provides an organized way for New Jersey's citizens to address this quiet crisis. In the near future, the Council will be sharing its views with you and seeking your involvement as a partner in shaping the future open space character of New Jersey.

Your letters on the importance of the continued funding of park and recreation needs can be addressed to the President, your Congressmen, Governor Kean, and the President's Commission on Americans Outdoors. Write today!

The President
The White House
Pennsylvania Avenue
Washington, DC 20500

Honorable Thomas H. Kean
Governor of New Jersey
The State House
West State Street
Trenton, NJ 08625

President's Commission on Americans Outdoors
1111 20th Street, NW
Washington, DC 20036

For names and addresses of your Congressmen, contact your municipal clerk.

Helen C. Fenske
Asst. Comm. Natural Resources



Building New Jersey's

Greenspace

STEVEN K. BRUSH

PHOTOS BY GREEN ACRES

N.J.'s county and local parks have used LWCF for a variety of facilities from chess boards (top) to swimming pools (bottom).

In the United States Treasury, \$900 million collects annually in the Land and Water Conservation Fund (LWCF). The money is generated predominantly by the sale of mineral leases on the federally-owned Outer Continental Shelf to oil companies. Each year Congress makes allocations from LWCF for federal parkland acquisition and to the states for park and recreation projects. Thus by the establishment of public "greenspace," the Fund, which is derived from the depletion of natural resources, enables us to have our cake and eat it too.

And New Jersey has gotten some nice pieces of cake. Since 1965, LWCF allocations to the state have reached as high as \$11.3 million in fiscal 1979, with a total of \$90.2 million over the 20 years of the program. Recently however, the "New Federalism" and concern about the federal deficit have severely cut the Fund's appropriations. New Jersey received zero dollars in 1982 (no allocation was made to any state that year) and \$1.7 million in 1985.

LWCF grants have been used in combina-

200,000 acres of greenspace added to public domain

tion with New Jersey's Green Acres money to create much of our park and recreation system. Prior to these two programs there had been no systematic approach to the provision of lands for natural resource protection or for outdoor recreation facility development. Municipalities and counties funded their own parks, while state parks and forests were established through special appropriations (Island Beach State Park and Wharton State Forest, for example), gifts (such as High Point State Park) or tax delinquency.

It is not hard to tell what we would have missed had it not been for LWCF. The federal and the state funding programs have worked in a symbiotic relationship. Up until 1984, all Green Acres funds were devoted to parkland acquisition. This was possible only because LWCF was available to provide for development of facilities in the parks. Together, the two funding sources have added more than 200,000 acres of greenspace to the public domain and more than 400 state and local facilities from backboards to boat ramps and from picnic gazebos to golf courses.

Mercer County's 2,700-acre Central Park, straddles the Assunpink Creek. The boat-





Senior citizens make good use of this LWCF bocce court in Essex County.

house and marina, the rowing course, ballfield and ice rink complex, bike trails and many other features have been situated in an attractive landscape of field, forest and waterfront. Only with LWCF assistance was Central Park made possible.

More familiar are two other facilities—Round Valley and Spruce Run Recreation Areas in Hunterdon County. Established for water supply purposes both reservoirs served that function upon their completion in 1965. It was the Land and Water Conservation Fund, however, that provided the money for beaches, bathhouses, boat launches, roads, parking areas and other facilities and transformed these two reservoirs into major recreational attractions. The immediate popularity of Spruce Run and Round Valley illustrates their great value in answering pent-up demand. Both are often closed by mid-morning on busy weekends and holidays when their capacity is reached. Superintendent Dave Ecklewein of Spruce Run observed that swimming, boating and fishing comprise the great majority of the use. It is obvious that the demand for such water-based uses is greater than its supply, at least during the most popular times from late June to mid-August.

Great Demand for Water Access

Public demand for water access facilities on the Jersey shore is possible even greater than that on the inland lakes. John Collins, Superintendent of Leonardo State Marina on Raritan Bay, said that his 182 rental berths

are completely booked and the waiting list for a summer berth is six years. He believes that three times the present number of berths could be filled with boats. (The municipal marina in nearby Atlantic Highlands, he said, has a waiting list comparable to that of the State Marina.) Some 8,000 boats were launched last year at Leonardo's new ramp, mostly for access to the popular Raritan Bay—Sandy Hook fishing grounds. The State Marina's remaining capital needs include work on a new maintenance shop, restrooms and a concessionaire's facility.

The demand upon public marinas is raised because, increasingly, private marinas are being converted to condominiums with the berths reserved for condo owners. Public marinas are the only way to provide permanent boating access to the water. The Land and Water Conservation Fund was established to provide for just this kind of facility.

Frank Guidotti has seen the impact the Land and Water Conservation Fund has made over the years for the State Park Service which he directs. The combined monies of Green Acres and LWCF have "really been a boost for New Jersey Parks," with Land and Water serving as a "tremendous additional resource." In the sixties and seventies, the Park Service concentrated on two types of facilities—day use and campground improvement. Guidotti could build such projects because of LWCF. Almost every camping area in the State Park system received improvements such as bathhouses and laundry rooms during this time. Wawayands and Ringwood State Parks received funding for bathing beaches and other day use needs. Facility development would have been probably 40 percent less without this federal funding source, Guidotti estimated.

Guidotti said that to meet future demands, the State Park Service needs further expansion in day use facilities, improvement of different kinds of trails and an increase in the number of cabins for overnight use. With the LWCF cutbacks of the eighties, however, many projects on the Service's "wish list" have been put on "hold."

In 1958, President Eisenhower appointed the Outdoor Recreation Resources Review Commission (ORRRC) to examine the state of outdoor recreation. The changes in postwar America made such an assessment necessary. There was a trend towards a suburban lifestyle with population, commerce and industry dispersed across the countryside. On one hand people became more affluent with more leisure time—outdoor recreation was undergoing an explosion. People camped, swam,



hiked more than ever before. On the other hand, park and recreation resources were no longer adequate to do the job. People were living on what had been de facto open space—former forest or farmland. Whereas a rural person could just walk down a country lane and find recreation in a neighbor's pond or woods, the now-more-typical suburbanite or urbanite depended upon government to provide that recreation land for him.

Released in 1962, the ORRRC Report recommended establishment of a grants-in-aid program to help fund the states' park and recreation programs. The idea took hold in Congress and the Land and Water Conservation Fund was born.

More Greenspace Needed

In the nation and in this state, we seem to have come to a point at which another evaluation of the adequacy of the provisions for parks and recreation is necessary. New Jersey's population is still increasing; the spread of development across the landscape is continuing. Green Acres planners say we need another 400,000 acres of protected open space to meet the state's future needs. It certainly will be more difficult to attain that goal if New Jersey does not receive continued help from the federal government in the form of a renewed Land and Water Conservation Fund.

The fate of the Fund is being discussed at present by a federal panel called the President's Commission on Americans in the Outdoors. Chaired by Tennessee Governor Lamar

Alexander, the Commission's task is to "study present outdoor recreation policies, programs and opportunities at all levels of government and in the private sector and to make recommendations to meet the future needs of the American public." The Commission is to release its findings by December 31, 1986.

Dennis Davidson, Deputy Administrator of Green Acres, recently attended a Commission information-gathering hearing. While it is "too early" to predict the Commission's findings, Davidson noted that support of the Land and Water Conservation Fund was widespread. All state officials testifying before the Commission spoke of the value of LWCF in the past and expressed the need for a continued grants-in-aid program. Especially important is for outdoor recreation funding to be stable, a characteristic not true of the program in the past, Davidson said.

A quarter-century ago, the Outdoor Recreation Resources Review Commission initiated many benefits, including the Land and Water Conservation Fund. We can expect the current President's Commission to have comparably significant impact in the decades to come.

What can you do? Let New Jersey Outdoors know what you think the recreational needs of the future are and how they should be financed. We'll see that the President's Commission on Americans Outdoors receives your recommendations. Write Americans Outdoors, c/o New Jersey Outdoors, CN 402, Trenton, N.J. 08625.

Recreation for the whole family at these LWCF projects: a merry-go-round in Hamilton Township (left) and a lake and beach for swimming in Morris County (right).

trout prospectus

ROBERT SOLDWEDEL

If you didn't catch a trout on opening day in April, 1985 you can only blame yourself. After what seemed to be an endless series of frigid, flooded trout season openers, opening day, 1985 was relatively warm and sunny "bluebird" weather and stream conditions were more like mid-May than early April. In short, the day was perfect for trout fishing. And the trout ... in 30 years of fishing I can't remember a better looking bunch of brook trout being available for opening day. The average "run-of-the-mill" brookies were good enough, nice plump 10 to 11-inch fish, but the others ... the ones that ran up to 20 inches or more ... they were the best ever seen since the "glory days" of Hackettstown, which most of us are too young to recall. One of the beauties of the opening day brookies is that nearly everyone of them seems to have gotten caught—which is just what you want for a stocking program like ours. The only people that were happier than the fishermen and the Division of Fish, Game and Wildlife were the taxidermists. Many caught the largest brook trout of their lives during the spring of 1985, yours truly included.

After a glorious start, the spring trout fishery seemed headed for disaster, as New Jersey's drought conditions worsened and water

bite. Some fishermen, "lost their heads" and attempted to snag or net them—both actions being rather unsportsman-like and totally illegal. What the problem was had to do with the change in water temperatures between the cold hatchery spring water aboard the distribution trucks and the warmer waters in the streams. Normally this isn't a big problem in a stream situation, but last year, because of the abnormally dry and warm April, it was. All of our stocking crews are trained to check the temperatures of the waters being stocked and compare them to the water temperature on the hatchery truck so that there will be no mortality of stocked trout due to the thermal stress which might result if the difference between the two temperatures is too great. In this case, the difference was within the tolerance limits of the trout and mortality did not occur. However, the difference was great enough to cause the trout to slow down and "catch their breath" while they adjusted to their new environment. In the overall analysis, this all worked out to the benefit of the more dedicated "year-round" anglers as few of these trout were caught immediately following stocking with most surviving to provide quality fishing through the summer. I knew of several "bridge" pools that were still full of last

May's stocked trout when we commenced the fall stocking program.

Since we in the Division work on a fiscal year running from July through June and considering our trout production schedule, last fall's trout stockings are actually part of this year's program. About 40,000 trout of the year's production are earmarked for fall stocking when the

full year's program is set-up. This number is augmented by the hatchery's over-production, as it trims down its stock in the fall so that the remaining trout might make more efficient use of space and food. Last year over 100,000 trout were added to the 40,000 originally planned for. Topping it off were nearly 2,500 excess breeders which really were *BIG* trout, most of which were over 20 inches and weighed four pounds or more.

Round Valley Reservoir is routinely stocked in the fall and, if anything, the trout which

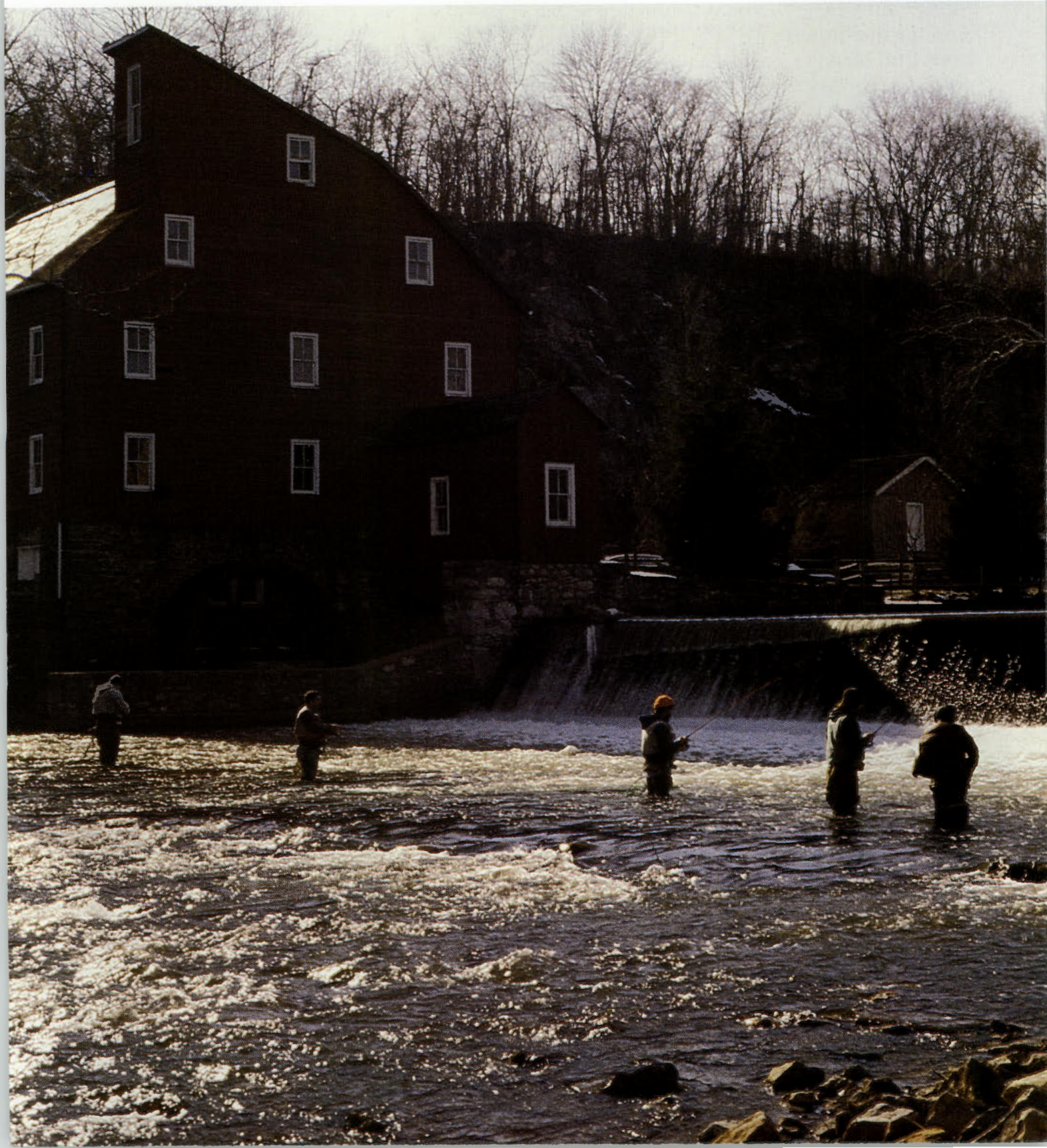


Fishing the Flatbrook
ALLEN G. EASTBY

Opening Day anglers on the South Branch of the Raritan below the Clinton Mill —>

temperatures rose rapidly as sunny days predominated and little in the way of leaves had developed to shade the streams. The situation was saved in the nick of time by several substantial rains and cooler temperatures in early May. The warmer than normal water temperatures that existed during the final few weeks of in-season stocking created a situation that totally frustrated many anglers, and the truck followers in particular. You could see dozens of trout in the pools, but there was absolutely nothing you could do to make them

BILL VIBBERT



And it's the brown trout that turns to gold and lurks in the best cover...

went in last fall were too big, at least in the strategic sense of the Trophy Trout Management concept. The idea behind the program is that the freshly stocked trout, which generally are the most easily caught, would be protected by the 13-inch size limit (on browns and rainbows) and would roam and feed in the reservoir getting big and fat before they were caught. However, the Pequest Trout Hatchery is so perfectly geared for trout production that when Round Valley's fall quota went out half of the trout were already over the size limit. Even though this situation really didn't satisfy our conceptual notion of how the program should run up there, it did satisfy many a fishermen and encouraged them to fish the impoundment right through January. From the number of fishermen I see over at the "Valley" on days when the weather can best be termed as "nasty" it's pretty obvious that fishing's good. Our fall population surveys in 1985 suggested that we're getting quite a few more larger browns swimming around in Round Valley (and a special "Thank You" should go to the Round Valley Trout Association for their contribution to the reservoir's population) so the "trophy" trout regulations seem to be working.

Although not considered as part of our "recreational" trout stocking program, lake trout stockings continue at Round Valley. Last year's "slot" size limit accomplished its purpose of thinning out a dominant year class which had been stifling the growth of the reservoir's trout population, and will be replaced with a minimum size limit of 24 inches in 1986 (one lake trout daily bag limit). We also had our first indications that natural reproduction of lake trout may have taken place, which would be a first for New Jersey. However, even though we proved there's lots of bigger ones around, the record for lakers is still 10 pounds, 15 ounces.

Normally, I point out any major problems or other negative happenings which may have occurred during the past year, in an attempt to establish credibility but for the 1985 season I'm hard-pressed to find any (at least, that which was within our ability to control—so don't count the stockings which were skipped because of the drought).

It would seem hard to match last year's stockings, but with the Pequest Trout Hatchery doing all that is asked of it, such high quality trout production has come to be expected as "normal" operation. We are getting our "money's worth" out of this installation. Come opening day in 1986 (April 5) New Jersey anglers can once again expect to find another fine crop of fat brook trout, eager to bite on anything they throw at them in all of

our trout-stocked waters. A substantial number of trophy-sized trout will also be on hand, including some of the biggest trout you've ever seen come out of the hatchery. And if you should tie into one of these excess breeders, all I can say is that I hope you've checked your fishing line for nicks or frays, because if you haven't you may lose the biggest trout of your life and nobody will believe your "fish" story.

We will be running a little low on brown trout this year, although we still will be stocking about the same number of trout with the missing browns being made up by brooks and rainbows. How will this change affect the fishing? Well, it probably means that more trout will be caught by the average angler. Historically brown trout have proven to be the hardest of the three species to catch. So you may ask, "if brown trout are so hard to catch and give poorer returns than brooks and rainbows, why bother with them at all?" Well even though browns are hard to catch they do offer some important benefits which you don't get from brooks and rainbows. You see the brown trout is a "survivor." He can "cut it" long after the brookies and 'bows have given up the "ghost." Therefore, it's the brown trout that holds over in the "Trout Maintenance" lakes and grows big. And it's the brown trout that turns to gold and lurks in the best cover in our trout streams to challenge the best of us ... and generally beating the challenge. Yup, the brown's got some good things going for him. Don't worry, he'll be back bigger and better in '87.

Some regulatory points of interest would include, at the top of the list, that opening day, April 5, will be on the first Saturday in April this year rather than the traditional second Saturday. Make a note of that! Also you will be allowed to fish in Spruce Run Reservoir, Swartwood Lake, Lake Hopatcong and Wawayanda Lake right through March, as these waters will not be closed for trout stockings; however, any trout taken between March 16 and 8:00 A.M. on April 5 must be released. The Delaware-Raritan Canal and its feeder will be stocked this year, as the dredging operation has been completed and Hook's Creek Lake in Cheesequake State Park, Middlesex County has also been added to the list of waters to be stocked in 1986.

You may be able to find more pleasing places to do your trout fishing, but for the average angler, and the expert, you'd be very hard pressed to do any better than you're going to do on New Jersey's trout-stocked waters in 1986 and, with some qualifications (the weather and your skill), that's a promise. As the man on TV says, "It doesn't get any better than this!"



ALLEN G. EASTBY



Yardley area is a popular fishing spot for muskies.

Boat Accesses of the Delaware

Having been a fishing guide on the Delaware River for the past five years, I frequently speak to clubs and other organizations on the fishing to be found in the river. A good many of the people who fish the Delaware do so from boats and they often ask the locations of some of the better boat-launch sites and the kind of fishing that can be expected in the areas close to these launches. Many anglers feel that there aren't enough launch sites on the river and their point does have some validity. What you have to take into consideration about the Delaware, however, is that it is basically a shallow-water river above Trenton, and during the summer months much of the river is too shallow for power boats. Nevertheless, there is ample access on both sides of the river, especially near the deep-water stretches.

There are two basic types of launch areas on the river—primitive and modern. Primitive sites have no concrete ramps and usually no sanitary facilities. Modern sites usually have concrete ramps, ample parking, and other facilities.

Mercer County Access

Let's start on the lower river at Trenton. If you have a good-sized boat, the tidal waters in the Trenton area are a hotbed for small mouth and largemouth bass, stripers and channel cats; the principal access point is the Mercer County Access. Located on the New Jersey side of the river off Lamberton Road, this facility offers a well-kept concrete ramp, along with plenty of parking. Maintained by the Mercer County Park Commission, it gives you access to miles of fish-producing water. A floating dock makes it easy to load your boat after you have launched it. To the north of the launch the fishermen can find some good finger, bridge and eddy structures where stripers, smallmouth, and channel cats provide the bulk of the action on jig combos and plugs.

The river also has a 35-foot channel for the angler who prefers deep water. To the south of the ramp, the river is navigable all the way to Delaware Bay. Along the many good flats, islands, and bars in this section stripers, largemouths and channel cats are the primary fish. Plenty of back washes offer good surface plugging for largemouths during the summer months. Good-sized muskies have also been taken in this region.

The next launch site upriver from Trenton is the Yardley Access. Maintained and operated by the Pennsylvania Fish Commission, it has a paved launch ramp, ample parking, and sanitary facilities. Well-known to the shad fisherman, this facility also gives you access to the good fishing for smallmouths and walleyes that can be found in the area of the Scudders Falls wing dam. The Yardley area is also a popular fishing spot for muskies and is well stocked with these bruisers. Even during the summer months when the river is on the low side, the ramp will give you ample water to fish downstream. Upstream from the launch ramp the summer's low waters can pose some navigation problems, but with a little extra care you can make it to the water above the old wing dam.

There are two access points in the Lambertville areas. The first is the Belle Mountain Access, the ramp is for cartop boats only. This site gives you access to the water below the wing dam at Lambertville and is a favorite spot for muskie and walleye fishermen in the early spring. Limited parking is available and the site is well managed by the New Jersey Division of Parks and Forestry as a part of the Delaware and Raritan Canal State Park.

The other launch site, the Lambertville Access, puts you in the water above the wing dam. The ramp is downstream from the bridge and has ample parking. Largemouths, small-

J.B. KASPER

PHOTOS BY AUTHOR

Mercer County's boat launch area in Trenton is a joint Green Acres-LWCF project.



mouths and muskies are the prime targets in this area, where there are about three miles of navigable water to fish. Two small streams enter the river and a pair of bridges crossing it are the major fishholding structures above the dam. Even during low water the river in the area is navigable.

Next come a pair of launch ramps located in the middle of some prime fishing country. Bull's Island and Byram Access are well-kept launch sites operated by the New Jersey Division of Parks and Forestry. They are part of the Delaware and Raritan Canal State Park and provide the fisherman with concrete ramps, sanitary facilities and plenty of parking. Bull's Island Access is located below the footbridge, downstream from the wing dam. The Byram Access is located about a half mile above the wing dam. The area that these ramps service is well-known to the shad fisherman and in the spring, even with the ample parking that is available, launch time is at a premium. Shad are not the only fish that can be found near these ramps; the lower ramp has about two miles of boatable water with good dropoff structures on the Pennsylvania side and some pockets and eddies that make good haunts for smallmouths, walleyes, and muskies. The upper ramp gives you access to more than five miles of boatable water. The park system includes a well maintained campground so this may be the place for that weekend fishing trip you've been promising yourself.

Kingwood launch

South of Frenchtown are two small but well kept launch ramps; Kingwood on the New Jersey side, and Tinicum Park on the Pennsylvania side. Both have paved ramps, and the Tinicum Access also has sanitary facilities and a pay phone. These access sites give the

fisherman an opportunity to fish about three miles of boatable water during the summer months, and about twice as much when the water is on the high side. The river in this area is generally flat but there is some good fishing around the mouth of Frenchtown Creek and the bridge piers north of the ramp. As the river around these ramps is heavily used by tubers during the warm water season, the fishing for large and smallmouths is best during the early morning and late evening.

The Upper Black Eddy section of the Delaware is well known for its smallmouth and walleye fishing, and the Upper Black Eddy Access, located on the Pennsylvania side of the river below the Milford bridge, will put you on the water in this area. Operated by the Pennsylvania Fish Commission, it has very limited parking. The ramp is paved, and sanitary facilities are provided during the summer. Good fishholding structures can be found both up and down stream with finger structures, bridge piers and eddies giving the fisherman some fine opportunities for a variety of gamefish and panfish. The bluegill fishing here is some of the best on the river and Pennsylvania stocks a good number of muskies and walleyes in this area.

The Riegelsville Access is owned and operated by the Riegel Paper Company and public use is free. Located below the Riegelsville Bridge, it has a paved ramp and plenty of parking. No sanitary facilities are available, however. Since the ramp is located at the mouth of the Musconetcong, the river around the launch site may provide the fisherman with some trout as a bonus to the excellent smallmouth fishing to be had in the area.

Nowhere on the river will the angler find more access ramps than in the Phillipsburg/Easton area. Five launch sites give you ample

opportunity to enjoy the excellent fishing in this section. Just about every type of structure that can be found on the river occurs here. Of the five launch sites in this area, there are three prime sites. The first is the Easton Front Street Park Access, which offers a paved ramp, sanitary facilities, and limited parking and is one of the three launch sites operated by the city of Easton. The other two are Eddy Side Park Access and Easton Beach Front Access. Both have concrete ramps and limited parking; Eddy Side provides sanitary facilities during the summer months. On the Jersey side of the river, the Phillipsburg Access offers the boat fisherman a concrete ramp, but limited parking.

The first launch site north of the Phillipsburg/Easton area is one of the best sites on the river and is well-maintained by the Pennsylvania Fish Commission. Stant's Eddy Access is located close to some prime shad, walleye, and smallmouth water. It has sanitary facilities and ample parking plus a paved ramp from which to launch. During the spring there is about five miles of fishable water here; during the summer months, considerably less. The ramp is located off Route 611, about seven miles north of Easton, PA.

Martin's Creek Access, owned and operated by the Pennsylvania Power and Light Company is open to the public and provides access to some prime water for shad during the spring. The concrete ramp itself is very old and not in the best shape. A gravel road leads up to the ramp and during high spring waters the road itself often serves as the launch. Access to the water around the power plant can be had when the water is high making Martin's Creek one of the more popular ramps during the cold water season. During the summer the amount of boatable water around the ramp is reduced because of rapids both up and down stream. Located close to the ramp is some good deep water and some bridge pier structure created by a railroad bridge. Crank baits and jig combinations produce some good walleyes from the deep hole, and some nice muskies are also taken from this area.

Delaware Water Gap

The next two ramps bring us into the area around the Delaware Water Gap, one of the most scenic areas in the East. Three good ramps are located in this area, two on the New Jersey side and one on the Pennsylvania side. The Kittatinny Access will give you access to the water of the Gap itself. Located behind the Visitor's Center on Route 80, this is a popular spot during the summer months and is also a shad-fishing hot spot during May and early June. Its paved ramp, ample parking, and sanitary facilities make it one of the best

ramps along the Delaware. The deep water (55 ft.) with good dropoff structures along the Pennsylvania side provides some fine fishing for smallmouths, walleyes, and channel cats on crank baits and jig combinations. Trolling good sized plugs and live bait combinations will also get you some muskies. North of the Water Gap, Worthington State Park Access is popular launch site with ample parking located right in the midst of a large campground. Good fishing for smallmouths is close at hand.

Good-sized muskies in this region

Poxono Island Access, also known as the Pahaquarry Access, is one of the new sites. It's a modern ramp with good parking and gives you access to the fishing around this famous island hot spot. Muskies, walleyes and smallmouths are the prime targets in this area of the river and it is also a shad hot spot in the spring.

On the Pennsylvania side of the river, the Bushkill Access puts you onto the water of Wallpack Bend. It offers a paved ramp with limited parking. During the summer the waters around this access are limited and smallmouths are the principal fish. Many fishermen who use a canoe launch here and fish their way down the river, with the Water Gap Access as their pick up point.

Dingman's Ferry Access is the ramp from which you can reach the well-known shad fishery on the upper Delaware. June is the prime time and this ramp offers parking on a first come, first served basis. A paved ramp and sanitary facilities are provided. There is also some good smallmouth and walleye fishing, especially around the piers of the old bridge that is now an historic site.

The last site that I'll mention is the Milford Beach Access. It is located on the Pennsylvania side of the river and gives you access to the good smallmouth fishing in the Milford area. One of the best-kept sites on the river, it is maintained by the National Park Service and offers a multitude of services to the fisherman. A paved ramp, sanitary facilities, plenty of parking, and telephones are just a few of the advantages of this site. Surface plugging is great here during the summer and it is also a hot spot during the June.

Well, there you have it—a look at some of the best launch sites on the Delaware River and I hope some insight into the fishing that you'll find nearby.

For an up-to-date list of Delaware River Boat Access Sites, write to Division of Fish, Game and Wildlife, Information and Education, CN400, Trenton, N.J. 08625.

A PARK FOR ALL PEOPLE



PATRICIA REARDON

PHOTOS BY VIRGINIA ROLSTON PARROTT

Backyard and playground to thousands of urban dwellers, Lincoln Park in Jersey City is an oasis—a verdant surprise set in a desert of cement and steel. Bordering the Hackensack River on the west, it is surrounded on the remaining three sides by densely populated neighborhoods, highrise apartments, and busy city avenues. Slashing rudely through the site, Route 1-9 divides it into two sections: Lincoln Park East, 150 acres of developed recreational area; and Lincoln Park West, 123 acres of mostly natural undeveloped land along the river front.

Of the city's 265,000 residents, approximately 10,000 live in direct proximity to the park. An estimated 25,000 visitors per weekend utilize its facilities in summer.

Largest and oldest in the Hudson County park system, Lincoln Park, originally called West Side Park, was designed in 1904 by Charles Lowrie and Daniel Langton, New York landscape architects. The first new tree was planted on April 23, 1907. Among the thousands of American nursery-grown trees and shrubs planted over the next two years were: sorrel, gray birch, dogwood, silver maple, chinquapin chestnut, junberry, azalea, sweet shrub, button bush, and juniper. Exotic varieties were reserved for the formal section of the park while native trees and plantings were grouped and massed to enhance the natural beauties of the informal regions.

A 53-Foot Fountain

The jewel in the crown was to be an elaborate fountain on direct axis with the main approach to the park. The work of New York sculptor, Pierre J. Cheron, it is the largest concrete monument ever attempted, containing 365 tons of concrete and reaching a height of 53 feet. The architectural forms were cast in plaster in molds made from the sculptor's models, and reinforced throughout by iron rods. The work took five months to complete with crews laboring daily under the watchful eye of Cheron himself. On August 24, 1911, brilliantly illuminated by 150 electric lights, the water was turned on, shooting forth from seven allegorical bronze heads and 27 spouts (including small bronze frogs) created in Paris by sculptress, Bernice Francis Langton, wife of the architect.

Nearly 20 years elapsed before the fountain was to encounter a rival—the magnificent

brooding statue of Abraham Lincoln erected in 1930 on a specially designed plaza at the park entrance. Created by sculptor, James Earle Fraser (best known for designing the buffalo nickel), the Lincoln statue rests upon a granite base and is 20 feet in height.

A Lincoln Statue

The Lincoln Association of Jersey City was the motivating force behind erection of the monument. Organized in 1865 shortly after the President's assassination, they remain the oldest Lincoln organization in the country. The area's school children contributed \$3,500 in pennies, nickels and dimes toward the project. Another \$2,500 in 25¢ donations came from blue-collar workers. Gerald Madden, Hudson County Division Chief of Parks and Recreation, sums it up. "This," he says, "was truly a people's tribute to a Man of the People."

Fraser's concept of a beardless Lincoln, shawl-draped and seated upon a huge boulder, came from a discussion with Lincoln's secretary and subsequent biographer, John Hay. According to Hay, it was the President's habit during the Civil War to go at sunset to a high point overlooking Washington. There, seated on a large rock, he would meditate. It was this image of the contemplative, introspective Lincoln that the sculptor captured so appealingly in his work.

The unveiling took place on June 14, "... in the presence of more than 3,000 patriotic and fraternal organizations, and city and state officials," according to the *Jersey Journal* of that day. New Jersey Governor Morgan F. Larson addressed the audience, and the statue was accepted on behalf of the city by Mayor Frank Hague.

And a Place to Play

Monuments and gardens notwithstanding, Lincoln Park was always intended for play. An early report of the Park Commission highlights sports and athletic facilities and notes "... a playground for girls and smaller children, where they may be separated from the rougher sports of the boys. Adjoining it is an especially planned enclosure for little children and mothers ... and a variety of simple amusement features for the former, including swings, see-saws, sand courts ... hedged in so that they cannot wander beyond bounds ..."



Two views of Lincoln Park: the basketball court has the Pulaski Skyway in the background (top) and the baseball field is surrounded by lush greenspace (bottom).

Renovations are in progress at the Cheron fountain.



Lincoln Park's west side is returning to its natural state.

Recreational facilities today include two such children's playgrounds, seven baseball and softball fields in constant use, 21 lighted tennis courts, five basketball courts, four soccer/football fields with combination goals, four handball courts, a quarter-mile running track, one cross country course, and one bocce court, all in the east section.

Opposite, in the park's west section, is a par-three golf course, a miniature golf facility, a baseball batting cage, and four acres of ballfield. The rest of the land is left to nature. Undisturbed are the marshes, fields and footpaths. The area's two lakes are home to golden carp, largemouth bass, pumpkinseed sunfish, frogs, toads, and snapping turtles. Rabbit, squirrel, muskrat, opossum, skunk and raccoon abound. Monarch, cabbage, and silver spotted skipper butterflies float from morning glories to yellow buttercups. Reeds, rushes, salt-march grass, thistle, wild onion, wild turnip, and milkweed grow thick and lush. Birdwatchers may observe the cardinal, mallard, goldfinch, and red-winged blackbird among the 16 different varieties of birds known to frequent the site.

Over the years, Lincoln Park has ex-

perienced some deterioration and has required updating and renovation. Working with New Jersey's Green Acres program, the county completed certain projects prior to 1981. These included improvement in lighting, fencing and landscaping as well as in the running track and field event pits (broad jump, high jump, and pole vault). Additions and renovations encompassed bleachers, bicycle racks, a greenhouse, a maintenance building, and a tennis support building with rest rooms and storage area. The projects were 90 percent federally funded through the Land and Water Conservation Fund. The remaining 10 percent was funded by the county.

Renovations for the Future

Presently undergoing restoration are two major projects: the Cheron fountain, and the five-acre Edgewood Lake, both in the east section. The lake, originally six feet in depth, now contains nearly three feet of sediment resulting from years of land erosion and bird excretion. This residue is being pumped out by a small barge. New retaining walls will be built and all walkways around the lake restored. To enhance the setting, a variety of trees and shrubbery will be planted in early spring. The entire restoration including architectural, survey, and toxic testing fees, is expected to cost \$830,000. Funding assistance is through the Community Development Block Grant Program.

The same program finances phase I of the fountain restoration presently nearing completion. The first phase is mainly concerned with renovating the badly weathered and deteriorated fountain shaft, including its sculptured figures.

Substantial funding cuts over the past few years have adversely affected plans for future improvement and renovation at Lincoln Park. Still the work proceeds, even at a much slower pace. The overwhelming importance of maintaining city parks such as Lincoln seems obvious. They serve a vast number of people who otherwise would have no place to enjoy the outdoors: no grassy knoll on which to spread a picnic blanket, no field in which to throw a ball, no paths to stroll at the twilight of a warm summer afternoon. Parks, after all, are meant for people.



the second
time around:

recreation

A 1270-acre tract rich in wildlife resources and with varied potential recreational opportunities was added to Mad Horse Creek Wildlife Management Area and became part of the State's recreation and open space land reserves last October. Located in Lower Alloways Creek Township in Salem County it is known as Artificial Island. It comes by its name naturally because the "island" was literally "built"—it was formerly a Corps of Engineers dredge spoils disposal site.

Today, the property is primarily a tidal marsh interspersed tidal creeks and some limited high ground areas. The area is prime waterfowl habitat. It has populations of breeding mallards and gadwalls and is used by several species of nongame migrating birds as a breeding, migration and wintering area. It is also an important spot in the Atlantic Flyway where many species—black duck, Canada goose, blue and green winged teal to name a few—stop to rest and feed. Plans for Artificial Island call for limited improvements for public access for hunters, fishermen, wildlife, photographers and others who enjoy the outdoors.

The property which adds a whole new recreation and wildlife area became available to the state at absolutely no cost to the taxpayers. It was surplus federal land.

Surplus lands have been available from the federal government since 1949 under a federal law that allowed a 50 percent purchase discount. It was amended in 1970 to allow 100 percent purchase discount transfers (that means it is free) on federal surplus property that was to be used for park and recreation and fish and wildlife management purposes. The amendment was fortuitous for New Jersey and the state made the most of the opportunities. Since 1970, the state, county and local governments have received 2,216 acres for public park, recreation and fish and wildlife management areas, valued at over \$6.2 million.

In total 29 transfers of federal excess lands were made to N.J. state, county and local rec-

reation and natural resource management agencies. The bulk of the properties—25—went to counties and municipalities and have been converted into recreation areas and facilities ranging from community centers and sports fields and courts to remote trails and picnic areas that are used by hunters, fishermen, hikers, tennis and baseball players and thousands of other citizens young and old alike.

Two surplus properties were formerly NIKE Missile Battery Sites in the Township of Holmdel in Monmouth County. Holmdel was a control center for the New York Region Air Defense System during the 1960's. One site was nine acres and contained numerous administration buildings, platforms and Quonset huts. The land was considered surplus by the Army in 1971 and was deeded to the Township. With a 50 percent, \$100,000 grant from the federal Land and Water Conservation Fund, the Township demolished many of the structures and developed what is now known as Phillips Park with a softball field, basketball courts, a handball court, picnic area, a heavy-timber tot lot, two shuffleboard courts and walkways.

The second NIKE site, about 15 acres, was obtained by Monmouth County in 1972 as an addition to its 300-acre Holmdel Park. The County demolished about 20 buildings which occupied the site and with the assistance of a \$216,875 federal Land and Water Conservation Fund grant developed picnic areas, tennis courts, a physical fitness course and a parking lot on part of the tract. In addition to these facilities, Holmdel Park features an 1890-1900 restored farm, two ponds, a naturalized arboretum, jogging trails and open playfields (an article on the park is on page 16.)

Artificial Island, Phillips Park and Holmdel Park are good examples of how recreational areas in the state have been expanded through local, county and federal government cooperation.

Monmouth County combined federal surplus land and the LWCF for this heavy-timber tot lot.

T & M ASSOCIATES PHOTO

all seasons at *Holmdel Park*

GARY ANN LEWIS



Ice skaters at Holmdel Park may not know that Green Acres issued its first check to Monmouth County for the park in 1963.

William Schnoor demonstrates the art of decoy carving.

"If this isn't the best public park in the state of New Jersey I'd like to know the reason why because, I'll change it to become the best."

Terry Normand, Holmdel Park's enthusiastic park manager spoke those words to me about his outstanding, well-groomed 370-acre county park. Located in Monmouth County its rolling land includes nature trails, an arboretum filled with hundreds of shade trees, specimen plantings and Longstreet Farm which is operated as an 1890's farm.

With over a million visitors every year the park's 11 rangers are kept busy fulfilling their dual roles of patrolling the grounds and caring for the vegetation. Trained in the basics of constitutional and criminal law and CPR, and equipped with portable radios, Holmdel's rangers make it a safe and beautiful place.

In the spring the park is spectacular. Flowering cherry, crabapple and dogwood trees along with azaleas and rhododendrons delight the eye. At ground level there are beds of tulips, daffodils and other colorful plantings. In the woods are a variety of wildflowers such as spring beauties, trailing arbutus, hepatica and asters.



With approximately 10 miles of trails, including one of the best cross-country running trails on the east coast (5 kilometers-3.1 miles) the park is an exciting place for fitness enthusiasts as well as nature lovers. (The park is host to the state championship in cross-country running in mid-November). In winter the trails are used for cross-country skiing and the adjoining hillsides for sleigh-riding.

Keeping the park green and clean is a goal for the rangers. "Having the right people at the right place at the right time is the challenge," Normand noted. Litter is a major problem but the park's neat appearance belies this. To keep the park green Normand has an extensive turf maintenance program.

Summer is a slack time since many people go to nearby beaches. However, the park's picnic tables are popular during the summer months. Outdoor grills are provided.

Fall and spring the park is used heavily and by 1:00 or 1:30 on any Sunday it is usually full. There is room for 750 cars with three to four people per car. This limit prevents overtaxing the facilities and enables everyone to enjoy his stay. After 100 cars leave, which Terry says

PHOTOS BY AUTHOR

usually occurs after an hour, more cars are allowed entry.

The park has six naturalists who have degrees in the life sciences. Mid-April to mid-June is their busiest time. I spoke with Patty Sawyer and Patty O'Rourke, two of the naturalists, to discuss spring activities.

Naturalists' Programs

Both said that local schools participate heavily in their group discovery programs. One such program is the bird awareness program. A naturalist meets with the group at the center and presents a slide show about birds. Then they all walk the trails looking for birds, and finally, they build a bird house or feeder. The day I was there third and fourth graders from Conover School in Colts Neck were building an Indian Longhouse.

Fishing, exploring and canoeing are offered through the park which provides vans to take participants to Round Valley, Spruce Run and shore areas. Pre-registration and a fee are required for those activities.

Wintertime brings frog hunts, raccoon rambles and owl prowls. Many of these activities also take place in the fall.

Programs for parent and child abound—many take place at the Longstreet farm located at the park. "Farm Life for L'il Folks" is an example of this and takes place in the spring. Children ages 3-5, accompanied by an adult, experience milking a cow, bedding down stalls, planting corn and feeding chickens.

Pat Clarke, the farm historian, told me that the goal of these programs is to show how farming generally was done during the 1890's. With a paid full-time staff of six, part-time help of seven and 40 volunteers, farming activities such as plowing, planting, harvesting and threshing can be seen at the appropriate times of the year. These activities are accomplished using farm machinery of the 1890's. Demonstrations of log-splitting, ice-cutting, blacksmithing and sheep shearing are seen throughout the seasons. Draft horses instead of tractors are used at the farm. Some of the barns that house the animals are filled with turn of the century equipment such as a 1901 reaper and corn harvester.

When I met Pat Clarke, a stocky, dark-haired young man he was dressed in ankle-high black leather shoes, black cotton pants (with buttons), button suspenders, billowy long-sleeved white cotton shirt, black vest, and red bandana tied at the neck. A black bowler hat finished the outfit. He was dressed as a late 19th century farmer as does everyone who works at the farm. The women wear traditional dresses minus a few crinolines.



A chance to see how farmers split logs, cut ice and sheared sheep in the 1890's.

There are sunfish, catfish, trout and bass in the pond.

Pat took me through the white two-story homestead located on a corner of the farm property. Its architecture is early Dutch-English: the inside reflects its 300-year history.

Farm House Restoration

The farm house restoration began in 1978 and is now completed. Inside are many antiques from the Longstreet family and of the era. Sepia-toned portraits, waxed flowers and hair art set the tone in one parlor along with a gleaming nickel-plated parlor stove from the 1880's. Period furniture and wallpaper, wide-plank floor boards emphasize the 1890's atmosphere. Volunteers research all new pieces to make sure they reflect the period. Federalist, Empire and Victorian styles are all represented.

Use permits are required for groups of 50 or more persons for the use of park and recreation areas. These must be obtained at least seven days in advance. To obtain further information about the park's programs, services and facilities call 201-842-4000 or write Monmouth County Park System, Newman Springs Road, Lincroft, N.J. 07738.

there are still **Wildflowers**



CORNELIUS HOGENBIRK

Of all the nature subjects still left to enjoy in this bustling state of ours, the wildflower is my favorite. As a young boy I loved to gather violets in the woods, or daisies and black-eyed susans from the fields to bring home to Mom. She would place them in a jar or glass and set them on a windowsill in the kitchen. They looked so cheerful there.

Many years have passed since then. Highways have been built, rail lines laid, woods and fields have been cleared for developments. And yet, there are still the wildflowers.

For the serious study of wildflowers a guidebook is a necessity. My first preference is Newcomb's *Wildflower Guide*. Newcomb has devised a very practical and easy-to-use key system. Identification is first made by flower type (and color), and then by plant type and leaf type. There are eight groups of flower types, starting with irregular flowers, then two, three and on up through seven or more regular parts, then ending with flower parts indistinguishable. The plant type groups number seven, such as wildflowers with alternate leaves. Leaf type groups number four, such as leaves toothed or lobed. The total system is quite easy to master.

As a back-up I also use the Audubon Society's *Field Guide to North American Wildflowers*. This guide has color photographs with individual write-ups for most of the flowers covered, including description, flowering period, habitat, range and comments. Your local library may have one or both of these guidebooks.

A number of science leaflets and booklets are available from Cornell University, Ithaca, N.Y., 14850. Cost is nominal and I believe that a listing is available by mail. One item that I use frequently is Bulletin 1190, "Sequence of Bloom of Perennials, Biennials and Bulbs," which lists a number of flowers that grow in the wild. Another useful item is Science Leaflet Vol. 57, number 4, "Liverworts and Mosses." Either costs 25 cents a copy.

In the field you will need a notebook and pencils. A 2x pocket eye loupe is useful, as is a 10x as well for the study of the parts of very tiny flowers. Handy to have is an envelope of wax paper sleeves for leaf or flower samples, and a small pair of blunt-nosed scissors.

Monk's Hood (left)

*Fringed Gentian
(from top)*

Bull Thistle

Daisy Fleabane

Wild Columbine

PHOTOS BY AUTHOR

A nice thing about wildflower study is their availability. They're everywhere. On the other hand many wildflowers grow only in a limited habitat, where the environment suits their needs. Others are scarce and hard to find.

Where to Learn More

Information on local areas to visit can be obtained by a call to the environmental center in your county. Ask to be placed on their mailing list. It's often free. If there is a park commission in your county or an adjacent county, give them a call, too. For example, Morris County has a really excellent group of outdoors facilities, including the Frelinghuysen Arboretum in Morristown, the Great Swamp Outdoor Education Center in Chatham, the Emilie Hammond wildflower trail in the Tourne, Boonton, as well as others such as Willowood Arboretum, and Bamboo Brook, both on Hacklebarney Road, south of Chester. A few nature areas are city-owned, like the lovely Reeves-Reed Arboretum in Summit. State-operated facilities I have enjoyed are the Rutgers Display Gardens in New Brunswick, Island Beach State Park in Ocean County, the nature trails in Cheesecake State Park in Middlesex County and Allaire State Park in Monmouth County.

Each site has something different to offer. Roam the fields and woods and along the small pond at Rutgers, and see what you can find. The rhododendron and azalea gardens, when in bloom, are spectacular and worth a visit for that sight alone. In addition there is an annuals garden which is replanted each year with several of the latest hybrids.

Island Beach is interesting for the study of the plant life of a barrier island beach. A leaflet listing 292 vascular plants of Island Beach, and a four-page listing of flora by community, and whether common or infrequent, are available. Copies can be obtained by mail from the Resources Interpretive Services, Department of Environmental Protection, CN402, Trenton, N.J. 08625.

Wildflowers are everywhere, and in this state of ours there seems to be everywhere to go to enjoy them. They are an important aspect of our ecology, so important indeed that Mother Nature has assured their survival, no matter what—and that includes the dandelions on

your front lawn that you wish weren't so everywhere.

Wildflowers are for all seasons too. During the winter months, after a period of dull cloudy days, the sun finally pokes through. I check the outdoor thermometer. My camera bag is packed and ready to accompany me, and so I'm off.

Salt marsh grasses, meadow grasses and reeds seem to take on new life as the low winter sun sets them aglow in soft golden tones. They dance in the breeze. I may bring a few seed heads home with me to study and identify. Several members of the heath family are evergreen, such as the wintergreen and bearberry. Each of these has red berries that last through the winter.

Perhaps late in February or early March, in a swampy area, I'll find that plant life is already stirring. There poking up through the muck will be shiny spathes of the skunk cabbage, in mottled purple-brown or red and green.

Try a Walk in the Woods

Many of the old-time wildflower favorites bloom in the woodlands before the trees leaf out, from April through May, and some into June. These include the Dutchman's breeches, bloodroot, columbine, hepatica, jack-in-the-pulpit and the trilliums. These are soon followed by a host of summer flowering plants. Others bloom late in the summer or early fall, like the asters, goldenrods, and the scarce fringed gentian. Some of these will last well into November.

Getting into wildflower study can provide more than just some pleasant moments in the outdoors. You can join with others on nature walks sponsored by environmental centers and aboretums. Other programs delve into edible plants growing in the wild. You can study the fascinating folklore of the use of plants for medicinal purposes. You can gather some of the common wildflowers, the so-called weeds, for dried winter arrangements. The goldenrods, yarrow, meadow rue and joe-pye weed are useful for this purpose, as well as seed heads, seed pods and certain berries.

Then too, among the wildflowers are the bees, colorful butterflies and other insects, each doing its ecological thing.

Some day you may even catch sight of a goldfinch feeding on thistle seeds.





Contest

New Jersey Outdoors



CONTEST DEADLINE:

ALL MATERIAL
MUST
BE RECEIVED BY

MAY 1, 1986.

Awards for writing or photography which contributes to a greater understanding and appreciation of the wise management, proper use and conservation of New Jersey's natural, cultural and recreational resources will be presented by the *New Jersey Outdoors* Editorial Board. Entries must deal primarily with New Jersey subjects and be suitable for publication in *New Jersey Outdoors*.

For rules and entry blanks contact Editorial Board Contest, New Jersey Outdoors, NJDEP, CN 402, Trenton, N.J. 08625.

Entries will be judged in the following categories.

Articles: published writers
Articles: unpublished writers

Photographs, color: published photographers

Photographs, color: unpublished photographers

Photographs, black and white: published photographers

Photographs, black and white: unpublished photographers

"Published" writers and photographers have been paid for the use of their work; "unpublished" have not.

Judges will be appointed by the *New Jersey Outdoors* Editorial Board.

No entry fee.

Not open to employees of NJDEP or their families.

All winners will be notified by June 1, 1986.

PRIZES: Cash prizes for 1st and 2nd place winners in each category

Articles, published writers,

1st place—\$400

2nd place—\$200

Articles, unpublished writers:

1st place—\$200

2nd place—\$100

Photographs, color, published photographers:

1st place—\$200

2nd place—\$100

Photographers, color, unpublished photographers:

1st place—\$100

2nd place—\$50

Photographs, black and white, published photographers:

1st place—\$200

2nd place—\$100

Photographs, black and white, unpublished photographers:

1st place—\$100

2nd place—\$50

All winning material will be published in *New Jersey Outdoors*.

Evolution of Spruce Run

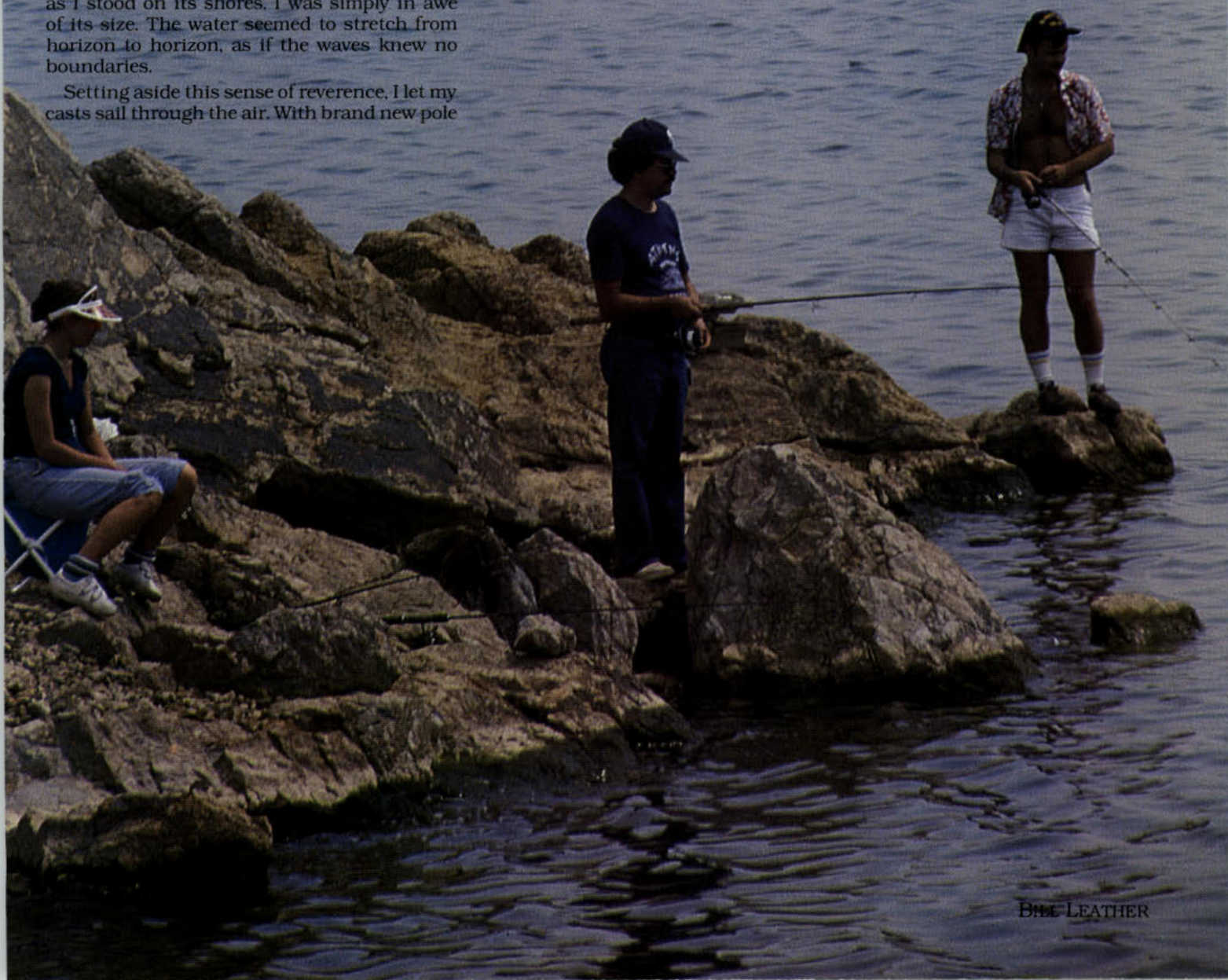
WILLIAM S. KANE

As a sixth-grader, I could hardly be classified as an expert fisherman. I knew little of the techniques used to lure a fish toward the hook, must less capture it. Yet, there was something about the sport that attracted me.

Hoping to test the notion of beginner's luck, I pestered by father to take me fishing. My plea was successful, and off we went on my first fishing excursion. Our destination: Spruce Run Reservoir.

I can recall my first reaction to the huge lake as I stood on its shores. I was simply in awe of its size. The water seemed to stretch from horizon to horizon, as if the waves knew no boundaries.

Setting aside this sense of reverence, I let my casts sail through the air. With brand new pole



BILL LEATHER



It took years to build the dam.

STATE PARK SERVICE

Fishermen come out in force for the opening day of trout season.

STATE PARK SERVICE



fishing, Spruce Run still holds its original fascination.

Since its conception in 1963, Spruce Run has been one of New Jersey's leading water supply and recreation facilities. Located in Hunterdon County, north of Clinton, Spruce Run's 15 miles of shoreline encompass 11 billion gallons of water. At a cost of more than \$13 million, it was one of the largest projects undertaken by the Department of Environmental Protection at the time.

For a Supply of Water

The idea of Spruce Run dates back to the 1930's. The drought of that period prompted concern about the future of New Jersey's natural water resources. However, it took the scare of 1957 to turn concern into action. Continued growth of the state in both population and industry would increase the demand for additional water supply facilities. The 1958 Water Supply law authorized protection of available natural resources and outlined steps for future conservation and development of the facilities, thus enabling Spruce Run to become a reality.

The creation of the reservoir was complicated. Not only did the outlets of the reservoir's tributaries have to be captured, but the effects of an underlying layer of porous limestone had to be minimized. Extensive geologic investigation of the valley basin revealed elements of Kittatinny limestone, which is highly susceptible to erosion. Engineering research of the late 1950's led to the construction of a rolled-earth fill dam with an impervious core across the Spruce Run at its confluence with the Mulhockaway Creek. Its semi-porous foundation of grout had to correct the possible detrimental effects of the limestone.

Spruce Run by itself, and as part of a water supply system, has met all expectations. According to Michael J. Galley, chief engineer of the N.J. Water Supply Authority, "In almost two decades of operation, Spruce Run facility has experienced nothing short of success." Citing the 1980-81 and 1984-85 droughts for evidence, Galley claims, "Without the Spruce Run-Round Valley system, the possible effects of the dry period would have had disastrous potential for the northeast portions of the state." Fortunately, through careful legislative foresight, the severe consequences of a water shortage were minimal.

While New Jersey's water resources have benefitted from the construction of Spruce Run, the reservoir has also proved to be one of the state's prime fishing areas. The reservoir harbors many prized gamefish, as a visit to nearby Dan's Sport Shop will verify.

And a Prime Fishing Area

Dan's, situated on the northbound side of Route 31, is the first stop for many anglers on their way to a day's fishing. The sports shop carries all the top names in fishing equipment, as well as fresh bait supplies including herring, shiners, and nightcrawlers. In addition, Dan's provides canoe rentals for the truly ambitious angler.

Yet Dan's is famous for more than its vast selection of tackle. The shop sponsors a monthly contest for the biggest fish caught of selected species. Thus, it is not uncommon for anglers to stop in and check the catches of fellow sportsmen.

Inside Dan's, any doubts of Spruce Run's validity as a gamefish haven are quickly erased. In addition to the photos of anglers with their bragging catches, trophy fish are mounted throughout the store. On the walls can be found a pair of 10-pound-plus trout and a 1977 state record northern pike that tipped the scales at 30 pounds. These fish not only serve as decoration, but as inspiration to hopeful anglers challenging the waters of Spruce Run.

The proprietor of Dan's, Andy Sharo, is more than helpful for suggesting possible hotspots on the reservoir. "Usually anglers have a great deal of success around the coves," he says, "especially when the bass are hitting. However, fishermen searching for the heavy-poundage trout are best advised to troll the deeper waters of the reservoir." (The reservoir's deepest parts are 70 feet.)

As with any fishing hole, there are preferred times of the year to stalk the water's inhabitants. Spruce Run is no exception. The best fishing period runs from late May through early autumn. Yet, a prized gamefish can strike at any time, even through the ice. Therefore, Spruce Run is accurately referred to as a year-round facility.

Recreation for the Whole Family

Besides action-packed fishing, Spruce Run offers many other recreational activities to keep the both restless and the seeker of relaxation satisfied. At the state recreation area on the northwest shore of the reservoir, a variety of facilities provided through the State Green Acres program and the federal Land and Water Conservation Fund are available.

The Clinton Wildlife Management Area borders most of the shoreline of the western half of the reservoir and offers excellent hunting for waterfowl, deer and stocked pheasants.

Picnickers enjoy the comfortable setting of a pine table with an accompanying grill. Nearby, the playgrounds will help occupy the



attention of the most fidgety child. Also, guests of the park need not worry if the Thermos was forgotten, since refreshments are available.

Truly, the view from the lookout point stirs up a sense of sincere appreciation within the observer. Atop this stone tower, one can watch the sailboats glide effortlessly over the water, witness nature's renewal of life in the spring and the fiery change of seasons as autumn approaches, or gaze at the rolling hills from which the reservoir was carved. This scene is picture perfect.

Spruce Run offers a tempting array of water activities. If the Jersey shore has lost its appeal, there is a seasonal beach at the reservoir. Along this sandy skirt of the park, swimmers may plunge into the refreshing water under lifeguard supervision, and retire to the bathhouse after cooling off.

In addition, owners of small craft will delight at exploring the 1,200 surface acres at Spruce Run. Whether powered by sail, oar, or small motor, boaters have much to enjoy. Access to and from the water is convenient from the many surrounding launch areas.

Spruce Run's attraction extends beyond its variety of water activities. For example, hiking trails encompass the reservoir's picturesque shore, allowing a glimpse at nature's true charm while providing some exercise at the same time. The reservoir and adjacent state lands are also a favorite spot for bird watchers. In addition, the outdoorsman might enjoy pitching a tent at one of the many available campsites. Information about these and other activities at Spruce Run may be obtained by contacting the Recreation Area at Box 289 A, Van Syckel Road, Clinton 08809, telephone 201-638-8572.

There's plenty of room to sail on Spruce Run's 1200 acres of water surface.

STATE PARK SERVICE



PHOTO BY
H. SWAIN

BY TOM PAGLIAROLI

Why wait for May?

Early spring bass fishing is not a game for the casual angler. It is trophy time, when success comes hard, but the rewards in the form of three- to five-pound hawks in the livewell make it all worth the trouble. The bass are now beginning to notice the water's rising temperatures, no matter how slight, and will react accordingly.

Chances are that some lakes and impoundments, especially in the northern counties, will still be ice-locked to a certain degree during February and March. The ice and resulting cold water have a number of effects on a bass's behavior, most noticeably influencing its movements and feeding patterns. Even though largemouths can be caught prior to ice-up by the tenacious angler, feeding at these times of the year is very, very sporadic. Ice can also pose a more serious problem. If there is heavy snow cover on the ice, sunlight cannot penetrate and reach the aquatic plant life, thus reducing oxygen production and stressing the fish to the point where it could be fatal.

Once the ice breaks up, even if only in scattered parts of the lake, things will begin to happen. The water which is exposed to the sun begins to warm almost immediately. This slight rise in temperature stirs the bass into action, and they will display a marked preference for these areas, sometimes moving from their deep-water holding pattern into shallower water. When the mantle of ice has been shed completely and water temperatures really begin to rise, bass behavior does an almost complete turnaround from its sluggish state of the past three months.

Largemouth activity is regulated by temperature more in the cold months than at any other time. These fish just abhor cold water—it is as simple as that. They do not feed often, a careless bluegill or alewife sustaining them a week or more before being wholly digested. The bass hold in preferred structure areas in water as deep as 30 to 40 feet, and keep movement to a minimum.

They begin to move when above-freezing temperatures finally melt the ice and begin to warm the shallows. "Shallows" is a relative term. In waters such as Budd Lake in Morris County, shallows can be defined as four feet, while in Sussex County's Waywayanda Lake it can mean twenty feet—it more or less depends on the structure of the lake itself. No matter where the bass live, the thaw and subsequent rising temperatures result in a definite migration from their deep-water haunts to the warmer shallows.

Weather conditions which spur such movement can vary. The late February-March period is known for its "false spring" days,

when the sun shines in all its glory and the air temperature rises into the 50's or 60's. Such days normally accompanied by gentle winds, which can help push the water temperature of the shallows up as much as five or six degrees. A southerly or southwest wind can really ignite some hot action—the shallows on the northern side of a lake or impoundment will have the warmest readings since the winds push the warmer surface water in that direction. Baitfish, too, are influenced by the more comfortable surroundings and are sure to swarm into the same areas. This is why it is best to fish during the afternoon hours, when the sun and water are the warmest.

While the depths of the shallows will vary from lake to lake, the fact that bass movement does occur is undeniable. Waters rich in submerged structure will have the most pronounced migration routes which bass experts will have pinpointed and which receive their attention once ice-out occurs. Creek channels, dropoffs, sunken islands, humps, foundations, and even hedgerows are utilized as the bass begin to shift into the shallow environments.

Spruce Run Reservoir (and similar impoundments) is a perfect example of the relationship of structure to bass migration. Formerly a farming area, the impoundment bottom is laced with stumpfields, humps, sunken islands, and crumbling foundations in addition to the Black Brook, Spruce Run Creek, and Mulhockaway Creek channels, all of which serve as migratory routes for bass. When the largemouths begin to feel the faint urges of spring, they will follow such structure into shallower areas or—in the case of sunken islands far from shore—they will move upward along the structure, where they will find more hospitable temperatures and the resulting increased food supply.

Normally the larger females migrate first, followed by the smaller females and then the males. Females will be loaded with eggs at this time of year and will feed heavily should the opportunity present itself. Such hens must nourish the soon-to-be-ripe spawn and build themselves up for the rigors of the spawning ritual.

Because the water is still relatively cold (42-54 degrees) during this prespawn period, anglers must refine their tactics accordingly. This means concentrating efforts on areas such as those described above and in the shallower depths bordering them. Retrieves must be slow because the bass, while aggressive, are still hampered by the cold water. Lures designed for "slow" fishing, most notable jigging spoons, plastic worms, and jigs, should provide the bass fisherman with an advantage.

Jigging spoons, employed along the edge of humps and sunken islands or on the edges of channels, are effective; however, the angler has to know the outlines and exact positioning of the structure in order to jig spoon it properly. An Uncle Josh pork frog can be a helpful addition should the single hook spoon be ignored. Jigs and plastic worms are to be fished very slowly: a turn of the reel handle, a nudge, stop, another nudge, another turn.

Tackle need not be shy since most of the fishing will be done around some sort of structure. Whether shallow or deep, structure has a way of eating up lures and line. Either spinning or conventional setups are adequate, but the line should be in the 10 to 14 pound test range, maybe even as high as 17 (if line this heavy must be utilized, conventional tackle gets the nod). The extra beefiness of the heavier mono will give the angler some leeway in wrestling snagged artificials from the grip of the rocks and stumps, not to mention an ornery hawg which is bent on ridding its lip of a barbed annoyance.

Perseverance is a tactic which may need some practice, especially after a winter vacation. Bass fishing after ice-out is tedious work, and the fisherman will labor long and hard for every bass landed. But this will most likely be a big fish, certainly worth the effort. The fishing is picky, but the potential is great. One could always wait until May when the weather is warm and the bass are full of spunk, but this ideal time is two months away. Fishing time is too valuable to be wasted. If there is open water, it is fishable, and if it is fishable, there are indeed bass to be caught.

Zeroing in on producing ice-out waters is simple—just remember the "Shallow Is Best" credo. Shallow lakes and impoundments thaw and warm quickly; therefore anglers should work these waters soon after the ice breaks up. Spruce Run is a prime target, as is Mercer County's Rosedale Lake. Amwell Lake, located off Route 31 in southern Hunterdon County, is a superb location for the hawg hunter of early spring. This is a small lake, its bass-holding areas readily observable, and the fish surprisingly large.

Prosperstown Lake on Rt. 537 in Jackson (one mile down the road from Great Adventure) is perhaps the hottest prospect during the prespawn period. The dropoffs, flooded timber, sunken weeds, and flats make for superior bassin' rivaled by few at this time of year. Those who fish Union Lake (Cumberland) and Farrington Lake (Middlesex) may vehemently disagree with my assertion on Prosperstown. So be it. All the aforementioned waters are ideally suited to ice-out bass fishing. Try them—then you decide!

Bass pro and guide Jerry Vashina of Neshanic with proof of the Ice-out philosophy. Some of Vashina's heaviest largemouths are taken during the months of February and March.

Trail Etiquette

DOUGLAS W. SMITH

With the ever-increasing number of people taking to the trails for dayhikes, overnights, or extended treks these days, trail etiquette has become an issue worth some serious thought. There aren't enough of us using common courtesy, and unless we shape up everyone will suffer the consequences.

Whether you are walking on a trail in a national park, state forest, or local wildlife sanctuary there are certain rules of conduct which should be followed—that is, if you consider yourself a class act. That's right, it's the way you behave in the outdoors that counts; the \$200 pack or brand new Gore-Tex parka or your mileage total don't mean a whole lot if you act like an ignorant dolt.

Perhaps the most visible abuse of trail etiquette is litter. How many times have you contributed to the litter problem with rationalizations like these?

"Ah, how much can a gumwrapper hurt?"

"Everybody else litters, why shouldn't I?"

"It's O.K.—it's biodegradable!"

The fact is that none of these excuses or any of the others are valid reasons to abuse the landscape by littering. Too many of the venerable mottoes like "Take only pictures and leave only footprints," or "Carry out what you carry in," are treated as clichés. Shouldn't they really be the hiker's gospel?

Many well-known trails, including the Appalachian Trail, either cut through or border on private property. Respect for the private landowner is imperative and is a basic element of trail etiquette. Don't destroy or deface fences; heed "No Trespassing" signs and certainly don't rip them down; don't litter, and camp only in designated areas if camping is permitted; generally, treat private property as you would expect others to treat yours. Abuse private property and restrictions are inevitable. It's a fact that more than one landowner has forced a trail to be relocated because of the acts of a handful of irresponsible hikers. Have you ever come across an entry like this in a trail register?

Name: Santa Claus

Number in party: 13 counting the reindeer

Address: North Pole

It certainly isn't the work of a concerned and well-mannered outdoorsman. Fictitious entries in trail registers are worse than stupid—they can be downright dangerous. They hamper statistical studies on trail use and can slow the search for overdue and possibly injured trail users—maybe you yourself. Forest rangers and other authorities rely heavily on trail register entries to help them determine the position of individuals or groups

suspected of being lost or in need of help. Use trail registers for their intended purpose. Make your entry neatly and accurately, then place the register back in the weatherproof protector it's usually found in. You never know—it may be a life saver.

The day was a rainy one. You walked more miles than you should have, but the thought of that shelter and a nice dry evening kept you going. The shelter turned out to be everything you had hoped for. The trail guide was right ... clean, crystal-clear spring, great view ... truly heaven on earth. You're all set up and then—disaster. A group of Boy Scouts and their leader stagger in from the rain just as you're about to have your first of many hot cups of tea. Selfish thoughts go through your mind. You give the Scouts a cold stare and either an insincere greeting or no greeting at all, hoping to scare them away. But they've walked their share of miles today, too, and the shelter is as inviting to them as it is to you. The night in the shared shelter is a total bust. Does the scenario sound familiar?

Had some trail etiquette been demonstrated by either or both groups the evening could have been salvaged and maybe even enjoyed. Have some class. Try to remember that all walkers share a certain kinship. If you're at a shelter first, extend a warm greeting to new arrivals. If the weather is poor and you have some hot water handy, why not offer some tea

*Make room for everyone and
you'll come out ahead.*

or coffee as a token of your goodwill? Make room in the shelter by keeping all of your belongings neat and together. Try not to monopolize the fire if you happen to be using one, and gather your share of the wood. Don't stay up too late and in the morning if you're the first one up, keep the rustling of gear to a minimum in case the others want to sleep in. Try to remember that the shelter is not owned by any one group—it is there for the use of everyone. Also bear in mind that unwritten law about making room for all and everyone in times of inclement weather—no one gets turned away.

Should you choose to spend the night at a primitive or semi-primitive campsite as opposed to an established shelter, there are a few additional elements of trail courtesy worth mentioning. Try to have as little impact on the campsite as possible to preserve its pristine appearance for the enjoyment and pleasure of those to follow. Avoid making knife or axe blazes on trees and don't cut live trees or sap-

ings for any purpose. When you leave, disperse the materials used to make your fireplace if you used one. Be sure that all pieces of rope, string, and other evidences of human habitation have been picked up and packed away. Make a serious attempt to leave the site even better than you found it.

Regardless of where you camp, there will probably be a water source nearby. Treat it with reverence. Whether it is a spring, stream, or other type of water supply, disturb it as little as possible. Under no circumstances should you use soap at or near the water. Avoid stirring up sediment from the bottom of a spring when filling your canteen or cooking pot. Above all, locate your "toilet facilities" well away from the water.

Another way to help out fellow hikers and to show them that you are concerned for their welfare is to communicate with them about trail conditions that they'll be encountering. Diplomacy is the key here. Try to be informative without seeming like a "know-it-all." If you come across like a Colin Fletcher recording you'll probably succeed only in alienating the person you're trying to inform. Items worth particular mention include icy conditions, severe climbs, dried-up springs, washed-out bridges, rerouting of the trail, tricky turns or intersections, and walking time between points on the trail. Generally, if you are an experienced walker yourself you can spot a greenhorn a mile away. Naturally, if there are dangerous conditions down the trail you'll offer more advice about handling them to the rookie than to the person who has obviously worn out a dozen pairs of Vibram soles. Whoever you encounter on the trail, just try and provide the information that you would like to have at your disposal if you were in their shoes. Then if they ask for your help in the decision-making process, feel free to put in your two cents worth. If you do this enough, the chances are greater that someday this same courtesy will be extended to you.

When on the trail, wherever it may be, make an attempt to emulate the hiker who cleans up more than his own garbage and who leaves a stack of firewood at the shelter for the next guy who comes along on a cold, rainy night. This type of person is concerned for the environment and other hikers, not just himself, and he demonstrates his concern.

Whether you are a solo hiker or a member of a trail club, you have a responsibility inherent to all trail users. That responsibility is to use good trail etiquette. Set a positive example and you can make claim to being a walker with character and conscience. Shirk this responsibility and you're just another person with a pack on your back. The choice is yours.



GREEN ACRES PHOTO





World Series of Birding

PETER DUNNE
PHOTOS BY AUTHOR

In front of us was the vastness of the Tuckahoe wetlands; behind us, 500 miles, and almost 24 hours of hard birding. I tried not to look at my watch ticking down toward midnight and I tried not to think about the road back.

"There," Bill Boyle (a research chemist) whispered. I cupped my hands behind my ears, straining to hear.

"There," he said again, jabbing the air with his finger for emphasis and guidance. Somewhere deep in the night, a black rail was calling. Bill and teammates Pete Bacinski and David Sibley had heard it. That left only two of us. And we had to hear it. We *had* to. Our Birdathon team was running into foul trouble. According to the competition rules, 95 percent of all birds recorded had to be seen or heard unanimously. Our count stood at 199 species. Nine of our birds had been missed by at least one member of our team.

"There," Bill hissed again, desperation beginning to creep into his voice. "There."

"I got it," I exclaimed, in tones of mixed relief and elation. We turned as one, regarding the

fifth and final member of the Guerrilla Birding Team. The bird called again.

"Yes," he said, turning, smiling. "Yes," said Roger Tory Peterson, the premier birder of our age, and for the first time in 50 years, a team of birders had cracked the 200 barrier—200 species of birds in 24 hours all within the state of New Jersey. But ... would it be enough? Because somewhere under the cover of darkness, there were 12 other teams of crack field birders in this one-of-a-kind event—the first annual World Series of Birding.

It *was* enough, and two years later, our final total of 201 species still stands—the New Jersey Big Day record. Last year, 23 teams birding in torrential rain and howling winds failed to break it.

Well, quite simply, because New Jersey is one of the best birding states in the country. There are only four states where over 200 species of birds have been recorded in just one day: Texas, California, Alabama ... and little ol' New Jersey. What's more, the Texas and California records were set by teams using aircraft and electronic recordings (both are banned in the New Jersey competition).

But how can a state that is regarded as the Chemical and Macadam Capital of North America possibly be such a birding heavyweight? Simple. The key is habitat. Different birds need different habitats. And New Jersey offers an incredible diversity of habitats.

Thirty teams, boasting some of the finest field birders in North America, will represent some of the most prestigious organizations and corporations in the world—The National Geographic Society, Cornell's Laboratory of Ornithology, Manomet Bird Observatory, *Bird Watcher's Digest* magazine, Bausch and Lomb, Inc., Swift Instruments, Inc., Ziess Optical Inc.

Riding on their efforts will be pledges made by private individuals and businesses on the number of birds each team sees—pledges that in 1985 generated over \$40,000 for conservation groups from Vermont to Mississippi.

The event is part of the New Jersey Audubon Society's Annual Birdathon. On Saturday May 17, in the Third Annual World Series of Birding, the Society's members and friends will take to the field, seeking birds by sight and sound. Some will be experienced birders, some will be beginners. Their purpose: to raise contributions, through pledges generated from friends, work associates and neighbors, *all* for the conservation efforts of NJ Audubon. But most participants will allow, when pressed, that their motives are not wholly altruistic. The Birdathon is a personal challenge, a test

of knowledge and skills—a scavenger hunt for feathered treasure. And, it is FUN.

The competition side of the Birdathon governed by a strict set of rules: ... all birds, for instance, must be seen between midnight and midnight, and all birds must be seen in New Jersey. No birds may be flushed to prevent another team from seeing them. No outside help may be solicited. Ninety-five percent of all birds must be seen by all members of the team, and all teams must consist of between three and six members. A team may start from any point in the state, but all teams *must* finish at Cape May Point State Park.

You can be sure that all of the birders competing in the World Series of Birding are exceptionally skilled—people who can identify birds by sight or song. So, the key to winning will be strategy.

Some teams swear by the full-state sweep—a route that hits the northern highlands of Morris and Sussex for birds that will not be found in the southern part of the state. Other teams eschew thoughts of straying any farther north than Princeton, trading off these northern birds for more birding time.

Strategy is *everything*. Some birds can be found only at night. So at the stroke of midnight, most teams will be deep in swamps or out on the coastal marshes listening for owls,

bitterns, and rails. At dawn, most will be at such birding hotspots as Princeton's Institute Woods, the Great Swamp, or NJ Audubon's Scherman/Hoffman Sanctuary (where they may pick up 90 or more species in less than two hours).

By midday, the teams will be hot-footing it to the coast for herons, egrets, waterfowl, and shorebirds (birds that remain active all day). In the afternoon, the conventional wisdom calls for tracking down "misses" or those tough to get—Kentucky warbler, lesser yellow-legs, red-headed woodpecker, summer tanager. *This* is where lots of Pre-Birdathon scouting pays off. The National Geographic team, for example, is budgeted to spend a full week scouting before this year's Birdathon. At midnight, all teams will bear down on the finish line at Cape May Point State Park under the light of stars, the beam of the lighthouse, and the flash of camera strobes.

The best in birding, drawn together for a single event. They will recount their adventures, bemoan the birds that ill fortune pulled from their grasp and exaggerate their achievements. And you can be certain, even as exhausted as they are, that they will already be making plans for the 1987 Birdathon, and thinking about the minor modifications in strategy that are sure to put them in the Winner's Circle in 1987.



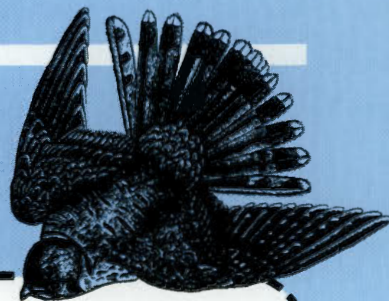
New Jersey Audubon invites you to join the fun!

New Jersey Audubon invites you to join the fun. Team up with some of the best (and some of the worst) birders in North America. On May 17, do your own Big Day. Challenge your outdoor skills and see how much you really know about birds, their habits, and their habitats. You can do it to help New Jersey ... or you can do it just for the fun of it.

Send a self-addressed, stamped envelope (37¢) to NJ Audubon to receive either the Birdathon Information Package (birding information and birdathon registration material) or the Big Day Package (information about planning a big day only).

Registered Birdathon participants who generate \$25 or more through pledges will receive an annual membership in NJ Audubon (and a year's subscription to *NJ Audubon* magazine). The individual who generates the most in pledges for NJ Audubon will win a pair of Zeiss 10x40BA binoculars—acclaimed to be

the finest birding binoculars in the world. The names of all Birdathon participants and their big day totals will appear in the Autumn issue of *NJ Audubon* (following a review and certification of their sightings by Audubon staff).



Dear NJAS:

Please send me:

- ☐ BIRDATHON PACKAGE AND
REGISTRATION MATERIAL
☐ BIG DAY PACKAGE ONLY

Detach and mail to:

BIRDATHON
CAPE MAY BIRD OBSERVATORY
PO Box 3
Cape May Point, N.J. 08212

Name: _____

Address: _____ Tel: _____

_____ or _____

Training Versatile Dogs

ANDREW HEYL

Usually on the third Sunday of the months April through October, a group of approximately 30 men and women can be found at one of the New Jersey Wildlife Management Areas (WMAs) training or testing their versatile hunting dogs. If you are used to the traditional type of field trialing events, you may choose to dismiss them at first glance as just a group of individuals out training their hunting dogs. This opinion may arise from the fact that five or six breeds of dogs are in the field or at the water and the trainers are at benches, laying tracks or coaxing puppies into the water.

A closer examination will reveal that these gun dog owners comprise the membership of the Delaware Valley Chapter (DeVal) of the North America Versatile Hunting Dog Association (NAVHDA). Their four-legged partners are members of versatile hunting breeds. You will probably recognize the German Shorthaired Pointer, Brittany Spaniel, and Vizsla immediately, but you may be introduced for the first time to such breeds as the German Wirehaired Pointer, Griffon, and Large Mustelander Pointer. The Weimaraner, Pudelpointer, Spinoni, German Longhaired Pointer, and Small Mustelander Pointer are also versatile breeds not presently represented in this Chapter.

NAVHDA was organized in 1969 by hunting dog enthusiasts concerned with the future of these versatile breeds in North America. They didn't want to develop the versatile breeds to replace or improve upon any other hunting breeds, but to provide the on-foot hunter with a dependable hunting companion—a dog who would be at home in the variety of environments encountered during the hunting seasons. This group now has 27 chapters in 19 states and two Canadian provinces.

Natural Ability Test

The Chapter sponsors a Natural Ability/Utility Test in the spring and one in the fall.

The Natural Ability Test is for dogs under 16 months in age. This test is organized into the Field Phase to look at the dog's use of nose, searching ability, pointing, desire, cooperation, and to find out if the pup is gun shy or sensitive. The Tracking Phase tests the dog's ability to track, which is important for the future retrieve of crippled game. The Water Phase simply tests the dog's love for water. Finally, the dog's physical attributes are reviewed to inform owners and breeders of any physical problems that might reduce the performance or affect the health of the dog.

The Utility Test is designed to test a hunting dog's usefulness in various environments and on various game. It is challenging and demanding to both the dog and the handler. Divided into a Water and Field Phase, this test judges the mature dog's use of nose, desire to work, stamina, cooperation, handling and obedience in five separate tests in each phase.

In both tests, dogs with qualifying scores are awarded a prize (I, II, or III) with a Prize I being the the highest. This system allows each qualifying dog to receive a prize, as they compete against a standard and not one another. Additionally, it allows one trainer to help another as they are not competing against one another.

Monthly training clinics afford members the chance to discuss their problem areas with other members and to work in remedying the problem. Judges and Handlers clinics are scheduled periodically to better acquaint members and the future test judges with the NAVHDA testing system.

So, if you are thinking of purchasing a new pup or have recently picked one up and are just interested in finding out more about NAVHDA, this is an open invitation for you to stop by at our next training session. Drop me a note at 11 Lincoln Ave., Avon, N.J. 07717 and I will be happy to get in touch with you regarding future Chapter training dates and locations.





*Dogs learn hunting skills for field
and water.*

PHOTOS BY AUTHOR





PHOTOS BY
GREEN ACRES

DOUGLAS G. KIOVSKY

Despite the fact that corporate headquarters and high-technology industries seeking a fashionable Princeton-area location are wearing away open space and woodlands, it is reassuring to know that many communities have set aside natural areas for recreation and physical and spiritual refreshment. One prime example of the outdoor life available is Marquand Park in Princeton which provides a unique opportunity to stroll casually among innumerable plants, shrubs, and trees, and observe both native and planted specimens growing in their natural surroundings.

Reflecting the affluence of Princeton, this parcel of land was once a portion of the estate of Judge Richard S. Field, Professor of Juris-

prudence at Princeton University. A noted amateur horticulturist, Field spent many years planting trees and laying out the grounds before his home, "Fieldwood," was built in 1852. Originally, the property was composed of some 30 acres and four farmhouses, two of which still stand. Many of the original trees, brought from various corners of the globe also survive, but the extensive formal gardens that accented the rolling farmland and towering pines long ago, are now a baseball field.

In 1887, another Princeton University professor, Allan Marquand, acquired the property and changed its name to "Guernsey Hall", commemorating the island from which his great-grandfather had come. He made further changes to the house, and enlarged it to accommodate the family as well as other functions. On several occasions, members of the college faculty—such as former U.S. President Grover Cleveland, a trustee of the college who retired to Princeton in 1897, and then University President Woodrow Wilson—would be among the invited guests. Those days of glory eventually faded into memory, but the home's unique quality and architectural features were preserved when it was converted into five luxurious condominiums.

Protecting the Land

The Marquand heirs wanted to protect the land from encroachment and development, so in 1953, they donated 17 acres to the Princeton Borough to be designated as a public park, playground, and recreational facility. Utilized mainly as an arboretum, the park contains over 200 kinds of native and exotic trees as well as a small wildflower garden and an undisturbed woodland area. This part of the park is an ecological haven for wildlife and native vegetation. Plantings include varieties of maple, hickory, beech, oak, poplar, and sassafras, that can be seen in their grandest form. Also, there are several informal paths meandering through the woodland that exhibit a fine collection of azaleas, hollies, mountain laurel, winterberry, and showy rhododendron blossoms.

The value of Marquand Park is demonstrated by the fact that 10 of the largest trees of their species recorded in New Jersey exist there. These specimens include the cedar of Lebanon, an Eastern hemlock, a white pine, a princess tree, Cilician and Nordmann fir, Norway and oriental spruce, copper beech, and an amur corktree. Also at 51 and 63 Lover's Lane part of the original Marquand property are four additional species: cucumbertree magnolia, noble fir, bigleaf magnolia, and incense-cedar.

Marquand's Trees

The ability for these trees to survive depended upon favorable soil and climatic conditions. The slope of the land within the park creates ideal air pockets where moisture is stored and slightly alters the temperature during various times of year. The soil consists of Stockton-Sandstone, which contains properties that allow soil breakdown into porous grains where an ample supply of water is provided by an aquifer.

An underlying aquifer supplies adequate water and nutrients even during droughts.

One of the tallest hardwoods in the eastern United States is found in the woodland portion of the park. Recognized by its long, straight trunk and flowers that resemble tulips, the tulip-poplar or yellow-poplar usually grows in pure stands. Reaching an average height of 80 feet, these trees are considered the finest specimens amongst the trees in the woodland. Factors that enable these trees to grow to such proportions depends upon favored natural conditions and the lack of land-clearing. When Judge Field owned the property, this area was used as a woodlot, and only certain trees were selectively cut for firewood. Thus, trees that weren't cut, outgrew any competitive trees for sunlight.

Due to the mixture of rolling lawns and wooded areas that encompass the park, varieties of birds and small mammals can be found in areas according to their specified habitats where food and cover is abundant. Common birds such as robins, starlings, grackles, blue jays, and mourning doves, feed on everything from berries and insects to scraps of garbage. Nesting sites can be found in almost any crotch or cavity of trees, dense underbrush or shrubs, and occasionally on the ground where trees are scarce.

Small mammals such as eastern cottontails, white-footed mice, and gray and black squirrels, are not as abundant as common birds, but nevertheless constitute an important part of the forest community. The eastern cottontail rabbits are strictly plant eaters and consume leaves, buds, and seeds as well as grass and weeds. Although damage can be done to seedlings and saplings, the eastern cottontail rabbits offset this balance by eliminating succulent grasses and weeds that might look unsightly in a landscape. Preferred habitat is grassy shallow depressions, brushpiles, briars, and fallen timber.

Gray and black squirrels are strictly forest animals, but can be seen scampering along open terrain in search of fallen nuts and ber-

ries. Once they find their food, they either eat it or bury it under the soil to be eaten at a later date. The buried food is located by sense of smell, not by memory. Any food not recovered results in the germination of seedlings. Preferred habitat consists of mature nut-producing trees. Nests are built in tree cavities or are constructed of leaves in forked limbs or tree crotches. The highest concentration of black squirrels in the state can be found in the Princeton area.

Rare Trees Found

Aside from the urban wildlife that exists, rare and unusual trees can also be found within the realm of the park. Trees whose ancestry dates back to geologic times like the dawn redwood, Japanese cedar, China fir, and the ginkgo, are considered living museums because they help us to understand the nature of the earth. The dawn redwood for example, was thought to have been extinct for thousands of years, until a living tree was discovered in China in 1945. The tree is a deciduous conifer, dropping its needles during the autumn months.

Associated with special habitats throughout the world, some species of trees and shrubs have adapted to the favorable conditions of the park. Bald cypress, giant sequoia, douglas fir, deodar cedar, willow oak, franklinia, and mimosa, are just a few examples that compose a diversified landscape. Others may not be as easy to come upon, since they are nestled in the northeastern section of the park away from the graveled path. These members are comprised of lacebark, limber, himilayan, and scrup pine; cinnamon, large-leaf, and weeping hemlock; yulan and pink star magnolias; nootka cypress, and a thorny specimen known as a devil's walking stick.

Marquand Park also has an assortment of groundcover in the woodland that includes pachysandra, periwinkle, and Baltic ivy.

Whether your pleasure involves outdoor recreation or ecological considerations, a visit to the park will increase your awareness of nature while offering a surrounding of precious solitude. The lack of almost all of the usual organized activities makes this park seem more serene. However, for those who like other forms of recreational activities, there's a baseball field, a playground, a field used for lawn picnicking or recreational purposes, and a family picnic grove. All of these elements provide a variety of enjoyment for future generations to come.

To find Marquand Park, take Route 206 or Route 583 (Mercer Street) into the borough of Princeton and turn onto Lover's Lane. A small sign greets the visitor.



*"It's a learning
experience and a
fun weekend ..."*

wildlife workshops for teachers



A hands-on experience to take back to the classroom.

NAME _____

ADDRESS _____

_____ ZIP _____

PHONE _____

SCHOOL _____

ADDRESS _____

_____ ZIP _____

GRADE _____ SUBJECT _____

Which workshop would you like more information on?

☐ Marine & Estuarine ☐ Upland & Freshwater

Marine and Estuarine Wildlife-
May 2, 3, and 4, 1986 at the Marine
Sciences Consortium, Seaville,
New Jersey

Upland and Freshwater Wildlife-
June 6, 7, and 8, 1986 at the New
Jersey State School of Conservation
in Stokes State Forest, Branchville,
New Jersey.

These workshops are sponsored and conducted by the Department of Environmental Protection's Division of Fish, Game and Wildlife. These weekend workshops are designed to give teachers the background to teach environmental concepts using the wildlife resource. Rutgers University will award one graduate-undergraduate credit for those working on advanced degrees or wanting inservice training credit.

The courses are taught in the field by professional wildlife biologists. The May 2, 3, and 4 workshop will be held at the Marine Sciences Consortium at Seaville, New Jersey in Cape May County. It will concentrate on wildlife resources in the marine environment. The workshop on June 6, 7, and 8 will be held at the New Jersey School of Conservation and will emphasize upland and freshwater wildlife.

These wildlife workshops have been in operation for the past ten years and in that period over 1600 students (teachers) have taken the course.

**For further information and
registration forms contact:**

— Phone: 201-637-4125 —

**N.J., Div. of Fish, Game and Wildlife
Wildlife Education Unit
Pequest Rd., R.R. 1, Box 389
Oxford, N.J. 07863**

CALENDAR OF EVENTS

MARCH

Saturdays and Sundays PEQUEST TROUT HATCHERY AND NATURAL RESOURCE EDUCATION CENTER open for tours, Oxford. 201-637-4125

15-16 REVOLUTIONARY WAR ENCAMPMENT, Jockey Hollow, Morristown National Historical Park, Morristown. 201-539-2085

22-23 OPEN HOUSE at Pequest Trout Hatchery and Natural Resource Education Center, Oxford. 201-637-4125

23 EASTER EGG HUNT, Allaire State Park, Farmingdale. 201-938-2371

MARCH

						1	
2	3	4	5	6	7	8	
9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
23	24	25	26	27	28	29	
30	31						

APRIL

		1	2	3	4	5	
6	7	8	9	10	11	12	
13	14	15	16	17	18	19	
20	21	22	23	24	25	26	
27	28	29	30				

APRIL

5 OPENING DAY of Trout Season
19-20 SPORTS FISHING EXPOSITION, Liberty State Park, Jersey City. 201-435-0736

26 JUNIOR FISHING CONTEST, Allaire State Park, Farmingdale. 201-938-2371

26-27 FIRELOCK SHOOT, Monmouth Battlefield State Park, Freehold. 201-462-9616

MAY

13 UPDATE 1986: An Overview of New Jersey's Water Resources Programs, Carteret Hotel, Asbury Park. 609-984-7973

To avoid disappointment, it's best to call the numbers listed for more detailed information about each particular event.

Dear Editor

New Jersey Outdoors welcomes letters from readers. Letters for publication should include the writer's name and address and should be mailed to: Editor, New Jersey Outdoors, CN 402, Trenton, N.J. 08625. Letters may be edited for reasons of length or clarity. Please keep the letters coming. We'd like to hear what you think about the magazine. We'll also try to answer questions and if we cannot, we'll ask our readers for help.

Rails Across the State

I really enjoyed "Rails to Trails or Rails to Backyards?" (January/February), but I find one error. You have a photo of a bridge which you say was part of the New York, Susquehanna & Western. Not so! The bridge pictured is concrete and belonged to the Delaware, Lackawanna & Western. The old NYS&W right-of-way passed underneath this bridge (called the Hainesburg Viaduct) and is pretty well consumed by nature, the tracks having been removed in 1962-3. Hainesburg Viaduct, which carried such name trains as the Phoebe Snow, became part of Erie-Lackawanna in 1960 and finally Conrail in 1976. Conrail ceased operations over it in 1978, and the tracks were removed in 1984, thus bringing silence to the valley of the Paulinskill and closing a chapter in the railroad history of this part of Warren County.

Mark Richards
West Milford

Thanks for the correction.

Turkeys on the Loose

I would like to comment on "Meet the Professionals" (January/February). In one photo, Bob Eriksen seems to be releasing a

wild turkey into snow-covered woods. Is this bird raised in captivity and then released? If so, I would think it would be hard on the birds to find food as they are probably disoriented for a while and totally unfamiliar with the territory. Or is food provided?

Louise R. Bundick
Cherry Hill

This turkey was not raised in captivity but is one of several wild turkeys caught in one location and moved to another.

Where Are We Going?

I am concerned with the direction NJO may be taking. The magazine has always seemed to achieve a balance between serious articles about conservation and the environment and lighter pieces about travel and outdoor recreation. The magazine, to its credit, has always left a spot open for "fun." I think there is a place for fun in *New Jersey Outdoors* just as there is a place for fun in New Jersey's outdoors. The purpose of the magazine is to promote the proper use and appreciation of our natural resources, but I think there's room for some smiles along the way.

Byron Griffin
Ocean

You make a good point. Readers all: we'd like to hear your thoughts on this subject. How do you feel about the mix of articles? Let us know and we'll try to publish a cross-section of your ideas.

Irvington Hotel Found

In the November/December's Letters to the Editor, Mrs. W. Scholl inquired about the Irvington Hotel and its owners. From what I recall, the hotel was located at the center of town facing Springfield Ave. at the front and Clinton Ave. at the rear. It was a wooden frame building. The trolley ran up Springfield Ave. and made a turn to the rear of the hotel emerging onto Clinton Ave. and then went back to Newark via Springfield Ave. I believe the Betz and Weber families may have been owners of the hotel at one time. You will notice that the Weber building is still located in Irvington center. For further information, consult the *Irvington Herald* files.

Henry Zuitaushi, D.D.S.
Irvington

Watching Birds Indoors

"Indoor Birding: Winter Fun Without Frostbite," (November/December)—intrigued me because of the type of birdwatcher I tend to be when the temperatures begin to descend. I've found the ultimate in convenience for the fireside birder. It's called an Aviarium, and it is a fish tank-shaped one-way glass feeder which fits on the sill of a partially open double hung window with the open end of the feeder facing outward. It can be filled with seed from the inside. The birds come right into the room, although they cannot see us. During storms, some of them remain for hours, tucking themselves in for naps.

Jane Ochs
Wayne

Wildlife in New Jersey

Barred Owl

MIKE VALENT

Of all the groups in the avian world none seem to fascinate us more than the raptors, or birds of prey. Their fierce expressions, hooked beaks, sharp talons and strong, powerful bodies rank them with the best predators in the animal kingdom. The red-shouldered hawk and barred owl are two raptors that can be found as year-round residents of the Garden State.

Barred owls are one of New Jersey's largest owls measuring from 16 to 22 inches in height and sporting a wingspan up to 3-1/2 feet. This owl is easily recognized by its distinctly barred, brown and buff plumage from which it gets its name. It has a large, tuftless head and moon face with deep brown eyes. The only other dark-eyed owl in New Jersey is the light-colored barn owl. When perched, this chunky bird is rather obese-looking and this same form is apparent during flight.

Despite its heavy build it is an extremely graceful flier with a slow and methodical wingbeat. It never soars, but when hunting it will make a long direct glide ending in a graceful curve upwards to a perch.

Contrary to what some people believe, the barred owl, and all other owls, have good vision by day and excellent vision at night. Although primarily nocturnal, they will occasionally hunt by day, especially when it is overcast.

Owls cannot move their eyes in their sockets but they do have extremely flexible necks which can be rotated three-quarters of the way around. When this is done very rapidly it sometimes gives the illusion that they can rotate their heads a full 360 degrees.

Without a doubt, owls have the keenest hearing of any bird. In addition to being very large, their ear cavities are asymmetrical in size enabling them to pinpoint the location of their prey by sound alone. A barred owl can detect the faint squeak of a mouse at more than 50 yards and can hear a mouse running on hard-packed soil at half that distance.

The barred owl enjoys the distinction of being North America's most vocal owl and the one with the widest range of calls. The most common call, and the one which has earned this owl the nickname of "Hoot Owl," consists of eight notes written as: HOO-hoo-to-HOO-ooo, hoo-hoo-to-HOO-ahhhh. The call has been described by the phrase: "Who cooks for you, who cooks for you-all," fading on the last note.

It is convenient to discuss the barred owl and red-shouldered hawk together because they prefer the same habitats. Both are essentially forest-lovers and rarely stray too far from deep swamp tangles or woodlands. Woodlands which border lakes, streams,

swamps, marshes and low meadows are particularly attractive to these birds. Both birds appear to be reasonably compatible and often the barred owl will nest in an abandoned red-shouldered hawk nest in the absence of a suitable tree cavity.

In addition to sharing similar habitats there is a great similarity in the food habits of the two species. The bulk of their diets are comprised of mice, rats, voles, shrews and other small mammals including squirrels, chipmunks, rabbits and skunks. Both will, on occasion, take smaller birds including other owls. Other food items include snakes, frogs, toads, salamanders, turtles and a variety of invertebrates. The barred owl has even been known to wade and catch fish with its talons.

Throughout most of the year these birds are secretive and go unnoticed by all except those who venture into their wooded sanctuaries. This changes dramatically during the early part of the breeding season. Both species are early nesters and often arrive on the breeding territory by late February. It is during this time that both species begin their courtship displays.

In a recent survey, biologists with the income tax check-off-supported Endangered and Nongame Species Program capitalized on the vocal character of the barred owl. By broadcasting recorded vocalizations the owls were easily stimulated to respond. The technique worked so well that researchers had to modify it for use with the barred owl. Originally, survey points were set up at half-mile intervals along a survey route and calls were broadcast at each point. It seems that the broadcasts started a chain reaction of calling among the owls and researchers found that the birds were often calling before they reached the next station. This made it difficult for researchers to determine the number of responses to the broadcasts. To solve this problem the survey points had to be extended to one mile apart.

Unfortunately, numbers of both of these woodland raptors have declined in recent years causing them to be classified as threatened in the Garden State. Loss of suitable habitat through the draining of wetlands and destruction of our forests has contributed to their decline in New Jersey. The Division of Fish, Game and Wildlife's Endangered and Nongame Species Program will continue surveys to determine their distribution here in the Garden State. This work is being continued in 1986 to provide important data which will enable biologists to monitor future population trends of these two species.

FRONT COVER

Anglers fish for stocked trout in Spruce Run above the reservoir. Photograph by Charles E. Pason

INSIDE BACK COVER

The Barred Owl. Illustration by Carol Decker

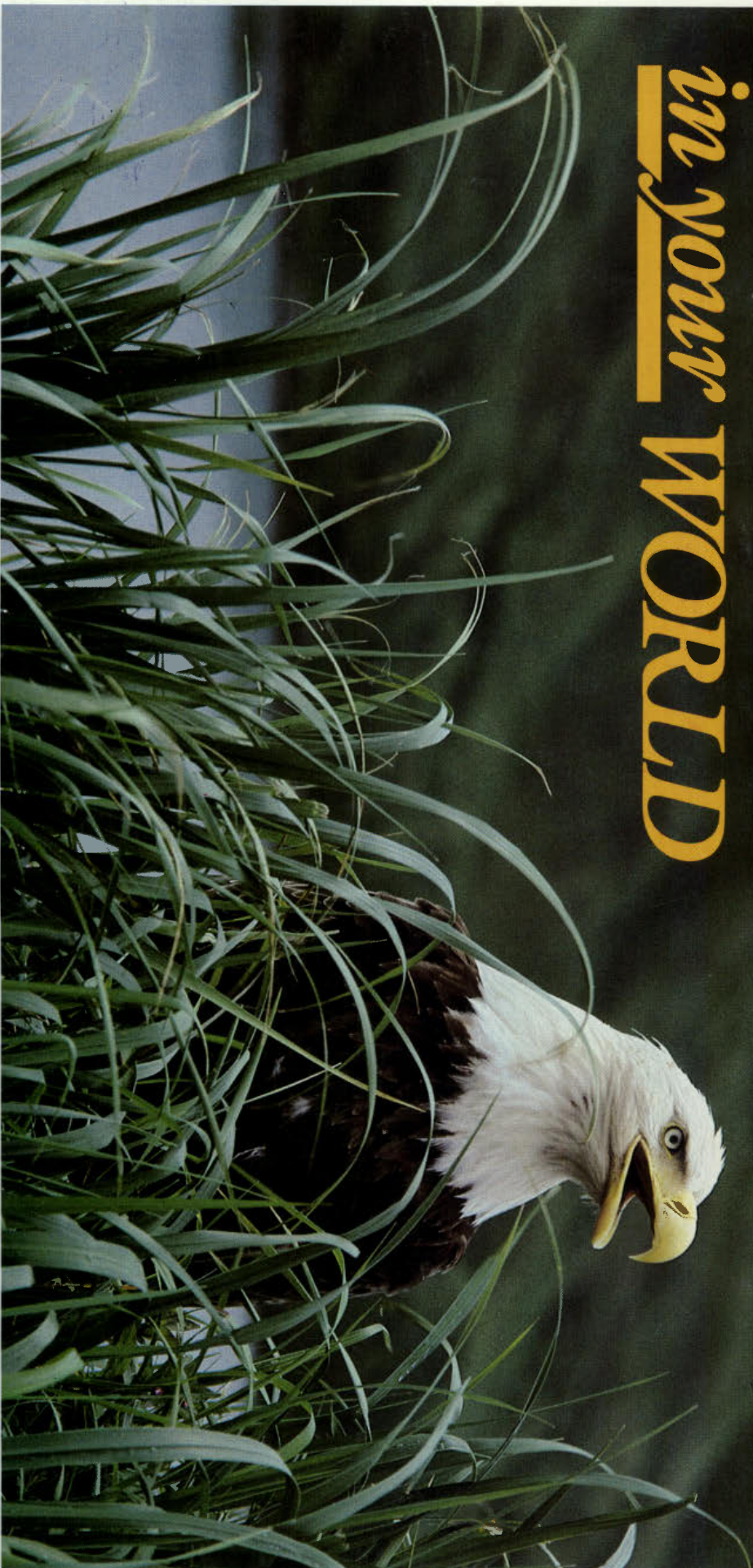
BACK COVER

Discover Wildlife in your World. Poster photograph provided by the National Wildlife Federation for Wildlife Week, March 16-22.



DISCOVER WILDLIFE *in your* WORLD

National Wildlife Week • March 16-22, 1986



National Wildlife Federation • 50 Years Working for Conservation 1936-1986
Join and Support the National Wildlife Federation and State Affiliates