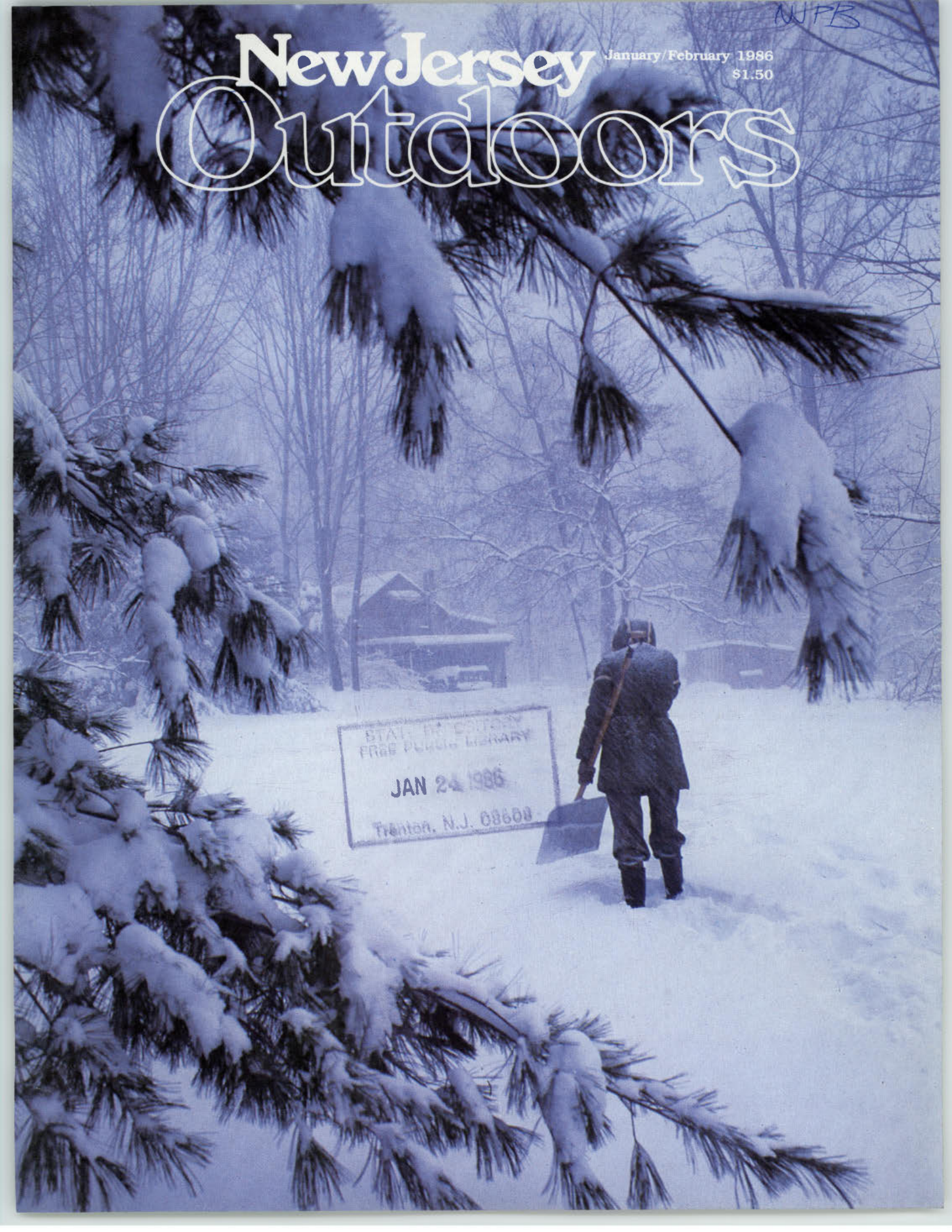


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# New Jersey Outdoors

January/February 1986

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## 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.*

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*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.*

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# FROM THE EDITOR

Guest Editorial by  
**Russell A. Cookingham**  
Director, Division of  
Fish, Game and Wildlife

New Jersey's mountain to seashore geography, coupled with the variety of land uses, results in an impressive variety and abundance of wildlife. On a per acre basis, this abundance may be second to none among the northeastern states.

Everyone who manages land, from a backyard gardener to a crop-producing farmer or a woodlot operator, is a "wildlife manager." Everything they do to the land or water area under their influence creates a favorable environment for certain wild animals or destroys habitat for others. Seldom is "wildlife management" planned except where property owners desire to increase the abundance and variety of wildlife for their own personal enjoyment.

Professional wildlife managers understand the relationship between land uses and wildlife productivity and apply this knowledge to the benefit of these renewable resources. They also recognize the problems wildlife can create, such as causing crop and property damage, and institute programs to advise land managers how to remedy these problems.

The New Jersey Division of Fish, Game and Wildlife has the legal responsibility to manage the state's fish and wildlife resources. Its primary goal is to protect and enhance these resources and their environment. The Division is also responsible for allowing responsible public use of these resources through scientifically regulated fishing, hunting and trapping as well as nature study and other recreational and educational uses. The Division

also works to advance public appreciation and understanding of wildlife; why it exists in various environments and the dynamics of how and why populations respond to environmental changes. Possibly most important, the Division's scientific knowledge of fish and wildlife resources is often utilized as a first-line indicator of environmental degradation or revitalization.

Many private and public activities have an impact on New Jersey fish and wildlife resources. In-depth biological assessments conducted by the Division of Fish, Game and Wildlife often result in adjustments and changes to lessen the impact on a wildlife population or its habitat. With a state like New Jersey experiencing aggressive development of its remaining land area, the environmental review process is the most important "wildlife management" function the Division performs to protect its most important wildlife habitats.

This special issue of *New Jersey Outdoors* addresses many diverse "wildlife management" programs and issues. Most provide a positive and exciting portrayal of how the work of our state's wildlife managers benefit the social and economic well-being of New Jersey and its citizens. A better public understanding of these issues can assure perpetuation and appreciation of these valuable resources even with changes caused by continued industrial and residential development throughout the state.

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## IN THIS ISSUE

The holiday season is over and what is there to look forward to in the cold, bleak months of January and February? Plenty, if you're an outdoors person!

For starters, how about *Off Season Scouting* by George Kirshbaum, an ardent sportsman who takes his daughter out into the woods for some hands-on outdoors education. Or if you're a hardy soul, a unique outdoors winter experience might be *Horsepacking Through the Pines* by Cathie Cush. This is a combination of exploring on horseback and winter camping. And if you don't mind cold feet and frostbitten fingers, try *New Jersey's Top Ice Fishing Spots* by J.B. Kasper. The American Indians were the first snowshoers, but *Making Snowshoe Prints* is still popular in New Jersey, according to author Gail Greco. The author, an award-winning journalist, says snowshoe racing may be heading for the Olympic Games.

And now that you've caught your second wind and your legs are in shape, try *Skating Across New Jersey* by Steve Spafford, President of the New Jersey Nordic Ski Club. This article includes a list of locations and phone numbers

of over 30 cross country ski areas in the state.

Our focus this issue is on wildlife and wildlife professionals. And we need *Habitat for New Jersey's Wildlife* writes author Jan McDowell. She describes the habitat of three Wildlife Management areas of the 60 areas (and 160,000 acres) managed by DEP's Division of Fish, Game and Wildlife. Then author Steven K. Brush asks us to *Meet New Jersey's Wildlife Professionals*, and describes how they help manage our wildlife resources.

*Our Natural Resources and their Management* by Assistant Comm. Helen S. Fenske is a discussion of natural resource management and an introduction to the Natural Resources Education Foundation.

More on professionals: Dr. Roger Locandro, Dean of Students at Cook College, Rutgers University, and an active participant in the *Hunter Education* program, writes about the development and the achievements of this program over the past 31 years.

Robert McDowell, Chief, Information and Education for the Division of Fish,

Game & Wildlife, asks *What is Wildlife?* He says wildlife includes all sorts of critters.

More on wildlife: Jean Jones, a reporter for the *Bridgeton Evening News*, writes about *Bringing Bald Eagles Back* in New Jersey. This restoration program is made possible by your N.J. tax check off which allows a donation to the Endangered and Nongame Species Wildlife Fund.

For some years we have displayed the wildlife paintings of Carol Decker to illustrate our Wildlife in New Jersey series. In this issue we are also featuring the wildlife illustrations of Michael Budden, Irene V. Bowers, Jody Furch, and Christopher P. Forrest.

In *Rails to Trails or Rails to Backyards* we are asked to make a choice. Read it.

An apology is due to artist Mike Pardo because we changed the facial expressions of the figures in the illustrations on pages 16 and 17, November/December 1985 issue.

*Steve Perrone*

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# Habitat for New Jersey's Wildlife

BY JAN McDOWELL





RAY FISK

New Jersey's wildlife management areas are to the Division of Fish, Game and Wildlife as flowers are to the gardener; a showcase of achievement and, in this case, open for public enjoyment. There are some 160,000 acres throughout the state acquired and developed with funds from hunting, fishing, trapping licenses, stamps, fees and the Department of Environmental Protection's Green Acres program. The wildlife management areas are one of the Division's concrete contacts with the public, a positive demonstration of wildlife management at work.

The purpose of the work done here, for both wildlife and people, is "to maintain and/or increase the diversity and abundance of resident and migratory wildlife populations that inhabit wildlife management areas," and to provide recreational opportunities to the public, "through habitat manipulation."

But many visitors to wildlife management areas don't fully appreciate what they see because they don't understand how wildlife managers use such properties. The land may look like any other rural area, but the wildlife manager works to encourage many different kinds of animals on these tracts by modifying land uses to their needs.

Some of these modifications include cutting trees, building dikes, planting food plots, letting fields grow up into mature forest and building brush piles, depending on the land in question. If the area is all mature woods, it could support populations of deep forest wildlife like squirrels, wild turkeys, bears, bobcats, etc. If the manager changes parts of this environment to a brushy or weedy area, the same acreage then also could become a home for animals that need brush for food or cover such as deer, rabbits, pheasants, grouse and

song birds. If a stream runs through an area, damming it to create water impoundments or swamps can add habitat for waterfowl, muskrats, woodpeckers, bluebirds, woodcock, etc.

Of course many species need combinations of these habitats, and they also find what they need on wildlife management areas due to this planning.

"The land must provide the right food, escape and nesting places and water for a particular species," said Joe Penkala, the northern district supervisor of the Division's Bureau of Land Management. "If it doesn't, that animal will not be found there. If it does, the animal will move in and occupy the niche created for it."

#### **Fields and Forests at Flatbrook-Roy**

The Flatbrook-Roy Wildlife Management Area in the rolling hills of northwestern Sussex County, acquired in 1935, was formerly a private hunting and fishing club. Like many other areas around the state, the farm fields, ripe with corn and hay, may seem just like any farm fields to many visitors on first glance. But, on closer observation, we see that the fields, which make up some 250-300 acres of the 2,334-acre parcel, are smaller than most farmers would design on their own land and the hedgerows are probably wilder and more extensive than normal. Another 100 acres at Flatbrook is presently in old fields in early successional stages of woody shrubs and perennial plants, or weeds.

"Small fields are better for wildlife because they have more edges," Penkala said. Adding that small fields with lots of edges are harder for farmers to manage, he explained, "Farmers



RAY FISK

*Sunrise on the Flatbrook*

*Field at Tuckahoe Wildlife Management Area*

*Small game hunter at Tuckahoe*



DIVISION OF FISH, GAME & WILDLIFE

*Horseback riding on the Assunpink Wildlife Management Area*

*Fishing on Assunpink Lake*

prefer extensive fields where large machinery can get the job done more effectively and cost-efficiently."

Rented to local farmers in exchange for 15 percent of the crop left in the fields for wildlife, or other services of the farmer, the fields on wildlife management areas are not necessarily even planted the way a farmer would do it. The crops, their rotation, the number of years a field is to lie fallow, and most other aspects of farming depends on what is good for wildlife. "We try to get the best mix of field and fallow without letting the areas revert to trees," which they would do if left untended, Penkala said. Contract farmers, he added, "help get the most wildlife habitat within farming."

Forest management is also used to create diverse habitats on Flatbrook and around the state. Where extensive stands of mature hardwood forests produce living conditions for only a few species of wildlife, the manager sometimes clear-cuts small two to three-acre plots or selectively cuts trees along field edges to provide more of the brushy/weedy transitional area between fields and forests, needed by many wildlife species.

Such cutting can be seen at Flatbrook if you know what you're looking for. Otherwise, it looks like nothing more than a great place to hunt or watch wildlife.

After years of building extensive hedgerows of multiflora rose and autumn olive, planting food crops, cutting forest land, and managing contract farmers, Penkala thinks that Flatbrook is one of the better blends of habitat types on wildlife management areas in the state. Of course, the Big Flat Brook and Little Flat Brook, two of the state's finest trout streams, add appreciably to the tract's di-

versity by adding yet another habitat type and recreational opportunity.

#### **Grain and Brush at Assunpink**

In the central part of the state lies the Assunpink Wildlife Management Area, formerly a potato, soybean and small grain farm. Located in western Monmouth and eastern Mercer counties, it is a popular 5,400 tract—about half small fields/woodlots and half freshwater impoundments and small freshwater swamps.

Since its purchase with hunting and fishing license fees and Green Acres funds in the 1960's, Assunpink's small fields have been designed with wildlife in mind, according to Ray Porutski, the central region supervisor. They are managed by contract farmers who grow soybeans, winter wheat and corn on a rotation schedule that usually includes about two years of fallow growth for each field before it is planted again. Fields cannot be left alone for much more than that because "The seeds of our multiflora rose and autumn olive hedges are spread so fast by birds that, any more than two years, and the fields get away from us," Porutski said. "Contract farming keeps the habitat in an early successional stage good for rabbits, nesting birds, etc." he added.

Some small clear cuts create diversity in the tract's forested areas and mowing keeps areas too small or unproductive to farm in grass. Some old fields have also been allowed to revert to the woody, brushy stage of succession to provide thicker escape cover for deer, rabbits, song birds, etc.

#### **Marshes and Forests at Tuckahoe**

On the outer coastal plain of Atlantic and Cape May counties is the Lester G. Mac-

Namara Wildlife Management Area, one of the oldest and largest in the New Jersey. Using fishing and hunting license fees, the state started acquiring and developing this tract in the 1930's. The Depression-era Civilian Conservation Corps (CCC) built the first dikes and roads with shovels and wheelbarrows.

Generally known as Tuckahoe, about 96 percent of this 12,500-acre tract is marshland and freshwater impoundments. The tract's approximately 500 acres of upland forests and small fields add a wide variety of habitats for animals. Rich Hall, the southern district land supervisor, said "We manage for a variety of wildlife species, including both game and nongame, because of the diverse nature of the area."

He continued that upland and wetlands, and freshwater and salt water are assets to the area. "The diverse upland marsh edge where these habitats come together, is very valuable for certain species such as deer, quail, rabbits, furbearers (muskrats, raccoons, possums) and migrating birds such as song birds, woodcock, hawks and owls."

One of the management techniques used here consists of drawing down two of the six freshwater impoundments on the tract each spring so spike rush and wild millet can grow in the shallow water. In the late summer or early fall, water is flooded in again so the mature plants can provide food for the large numbers of waterfowl that pass through and winter in the area.

The other impoundments are left intact for fishermen who come for largemouth bass, pickerel, yellow and white perch.

Some clear-cutting in forest areas, averaging one to five acres, provides that ever-needed edge environment, while the fields are mowed, fertilized and planted in food crops of buckwheat and sorghum every couple of years for pheasant, quail, doves and songbirds.

The huge marsh expanse is managed for waterfowl, shore birds, and clapper rails and against mosquitos by open marsh management techniques. The Cape May County Mosquito Commission creates ponds and waterways across the marsh to promote better tidal flow into the lowland saltmarsh and fewer mosquitos. Killifish can then come in from the ocean and feed on mosquito larvae. And the marine fishery nursery has been enhanced in the doing by providing spawning fish and shellfish access to the marshes.

For information about New Jersey's other wildlife management areas, consult the Guide to Wildlife Management Areas, available for \$6.50 from the Wildlife Education Office, Division of Fish, Game and Wildlife, CN 400, Trenton, N.J. 08625. For more information, call (609) 292-9450.

Additional rules and regulations for the use of wildlife management areas can be found in the New Jersey Summary of 1985-86 Hunting and Trapping Laws. These booklets are available free from hunting and fishing license-issuing agents, Division of Fish, Game and Wildlife district offices and from the Wildlife Education Office in Trenton.

## Flatbrook-Roy Wildlife Management Area

**Wildlife**—wide variety of songbirds in the fallow fields, migrating waterfowl along the rivers, ponds and marshes; deer, rabbits, stocked pheasants, squirrels, woodcock, grouse, wild turkeys, hawks and occasionally black bears, bobcats, coyotes, beavers, otters and eagles; stocked and holdover trout in Big Flat Brook and Little Flat Brook.

**Facilities**—hunter training area for bow and arrow and shotgun shooters.

**Activities welcomed**—hunting, fishing, trapping, photography, bird/wildlife watching, education, hiking, jogging, cross-country skiing and other wildlife-related recreation.

## Assunpink Wildlife Management Area

**Wildlife**—deer, rabbits, squirrels, stocked and native pheasants and quail; a great variety of hawks, waterfowl, woodcock, songbirds including endangered grasshopper, vesper and Savannah sparrows; channel catfish and striped bass/white bass hybrid stocked in lakes; largemouth bass, pickerel, yellow perch, crappies and sunfish in all impoundments.

**Facilities**—bird dog field trial and training areas, wildlife education center, hunter training area for bow and arrow and shotgun shooters, boat launching sites for car top and trailered boats.

**Activities welcomed**—hunting, fishing, trapping field trials, dog training, photography, bird/wildlife watching, education, hiking, jogging, horseback riding by permit, orienteering, cross-country skiing and other wildlife-related recreation.

## Lester G. McNamara Wildlife Management Area (Tuckahoe)

**Wildlife**—many resident and migrating waterfowl, shore and wading birds; good flights of seasonal doves and woodcock; numerous species of migrating hawks, owls and occasionally eagles; deer in the woodlands; muskrats, raccoons, opossums, otters, rabbits, squirrels, stocked pheasants and native quail in the uplands; osprey on the lakes and ponds in the summer; largemouth bass, pickerel, yellow and white perch in the freshwater impoundments; striped bass, fluke, flounder, crabs in the Tuckahoe River and Great Egg Harbor Bay.

**Facilities**—a dog training area, shotgun and archery training area, car top access into the impoundments just about anywhere, and car and trailered boat access in the Tuckahoe River.

**Activities welcomed**—hunting, fishing, crabbing, trapping, dog training, photography, bird/wildlife watching, education, hiking, jogging and other wildlife-related recreation.

# Meet New Jersey's Wildlife Professionals

BY STEVEN K. BRUSH

With a workforce of 250 to 300, the Department of Environmental Protection's Division of Fish, Game and Wildlife (FGW) is responsible for managing the state's renewable wildlife resources on over 60 Wildlife Management Areas (WMAs), on private property, in lakes, streams and rivers, on state-owned riparian lands, and on inshore marine waters as well. The Division is different from others because it has almost a marketplace relationship with the recreational public. It provides a product—trout to catch, pheasant to hunt, bear to see, or the almost invisible Pine Barrens Tree Frog to protect. The public, as consumer of these products, pays the Division directly in license fees and income tax checkoffs, and indirectly through federal aid to wildlife and fish programs. These dedicated funds support much of the Division's work.

To get a feel for the kinds of activities that are part of managing New Jersey's fish and wildlife resources, I interviewed five employees, all working in different sections of the Division. Thumbnail sketches of these professionals and the jobs they are doing follow.

## **Marty Morales, Conservation Officer:**

I had looked forward to meeting Marty Morales because, of all Division personnel, Conservation Officers (CO's) have the most frequent contact with the sporting public. In addition, they represent the Division and the State to the general public. We met at the Assunpink Wildlife Management Area, where Morales is based. As we drove the washboard roads of the expansive tract, he talked about being a Conservation Officer.

Now 34, the dark-haired Morales graduated from Rutgers with a degree in Environmental Science and Wildlife Biology and has completed the State-approved, municipal police training course at Burlington County College.

As a Conservation Officer, Marty carries a sidearm and a police baton and has full police powers to enforce FGW, environmental, civil and criminal statutes. Non-fish and game matters take only a fraction of his time but police power is necessary to do the job on the large state-owned tracts or elsewhere in the field.

As we drove around Assunpink Lieut. Morales expressed both the satisfaction he gets from his job and the complex nature of it. "One thing about being a CO," he emphasized, "is that it's a 24-hour job." The job follows him home, where he expects calls at all hours. "It's never the same day to day," Morales added. Through the seasons, "I may go from fishing to clapper rail (hunting); then deer season comes along and I could be working nights to prevent 'deerjacking' poachers."

Common violations include lack of a hunting or fishing license, hunting from a baited stand, exceeding bag, season or daytime limits, carrying an uncased weapon in a vehicle and area regulatory breaches such as swimming in a fishing impoundment, dumping trash or driving in restricted areas. CO's depend on "good rapport with the local police,"

Marty said. In certain instances, the two types of police forces work together.

For example, some of our more reckless citizens tend to congregate in backwoods tracts which, because of their sparse population, become no-man's lands. If you have spent time in the state's larger recreation tracts, you are familiar with the disruptive, damaging and sometimes criminal behavior which can result. The Bureau of Law Enforcement's approach to such cases is to work with local police and flood the area with CO's and make a round-up of lawbreakers and violators. Morales feels that a recent such maneuver in Greenwood Forest WMA and vicinity was successful in breaking up recurring illegal activity.

There are few enough Conservation Officers for New Jersey. No more than 50 field CO's and supervisors must cover the more than 160,000 acres in the Wildlife Management Area system as well as game and non-game species on all other lands. "More than dedicated funds," Morales said, "it's dedicated people who make the Division work."

## **Bob Stewart, Freshwater Fisheries:**

It was a crisp fall day when I went to talk with Bob Stewart at the Lebanon Fish Laboratory about managing aquatic resources. A blue sky set off the wooded Hunterdon hills and a fresh breeze blew up whitecaps on nearby Round Valley Reservoir.

One of three Certified Fisheries Scientists with the Division, Stewart has been employed in the state fisheries program since graduating from Penn State in 1959 with a Conservation major. At 50, his dark hair mixed with silver, Stewart directs all freshwater fisheries research for the state. His personal responsibilities include the Warmwater Research program, management of the Raritan River basin, supervising the Coldwater Fisheries and the Anadromous Fish research projects, and managing the Delaware River and north Jersey regional aquatic resources as well.

I was surprised when Stewart said that he and Lebanon biologists spend about a quarter

Marty Morales



Bob Stewart



of their time reviewing projects for their impact upon aquatic resources. Other divisions of DEP or state agencies—such as the Department of Transportation, DEP's Divisions of Water Resources, Coastal Resources and Green Acres are required to consider the potential impact of projects in their permit process. The Lebanon Fish Laboratory assesses potential aquatic impact and makes recommendations.

As might be expected over his 27 years with the freshwater program, Stewart has seen the impact of development upon the waters of the state. This is why he believes in the environmental review process. The most glaring gap in regulation is found in freshwater wetlands, he said. At present, landowners can fill, drain or pollute any wetlands beyond the "100-year floodplain" as they wish.

Although trout-producing waters have been damaged to the greatest degree, some waters have come back from severe pollution problems, Stewart said, due to regulations of the 1972 Clean Water Act. The Delaware has developed a fine bass fishery over the last decade, and the spring-spawning run of shad are being transferred to the improving Raritan watershed to reestablish a population in that river system.

The Anadromous Fish project has researched the feasibility of planting large Pacific salmonids—Coho and Chinook salmon and steelhead trout—in the Delaware. Project results, Stewart said, indicate little impact upon the existing fisheries in the River. Stewart supports salmon planting because it would create an exciting fishery, would give the rural areas along the river an economic boost and would probably increase license sales.

As I left Bob Stewart at the Lebanon Fish Laboratory, the major impression I retained was one of how much agency planning, funding and work was involved in providing fish for you and me to catch. No matter how natural it feels to go fishing, it is a fact of life that we need to fund people like Bob Stewart and programs like Freshwater Fisheries to help make that experience possible.

#### **Bill Figley, Marine Fisheries:**

The Nacote Creek FGW field station where Bill Figley studies our saltwater fisheries is a complex of various buildings on an old farm in Atlantic County, hidden amidst thick-growing sassafras and cedar.

Figley, a 36-year-old with curly, brown hair earned a Bachelor's in Biology and a Master's in Wildlife Biology. During the course of our interview, he covered the complex situation that faces marine fisheries managers. There may be as many as five or six different types of fishermen harvesting one species—sport, party/charter small scale commercial like gill-netters and the large purse seining boats—each with their particular technologies and needs. Some may be from out of the state or out of the country, making catch limits virtually unenforceable. Finally, many marine species are migratory. Figley deals with a resource for which it is difficult to make



RAY FISK

*Bill Figley*

measurements, predictions, manipulate habitat and control harvest. Regarding catch regulations, Figley said, "No matter what you do, someone is going to be unhappy. Marine fisheries," he continued, "is at the point that wildlife management was 40 years ago," in terms of effectively managing the resource for harvest and maintaining stable stocks of fish.

In the ocean, we cannot do much to manipulate habitat for increased production of desired species. While trout fishing improves with stream management and stocking and pheasant populations increase with hedgerows and field-cropping, about all Marine Fisheries can do is to build artificial reefs. That has been a major project for Figley since 1983. Most of New Jersey's waters are characterized by a flat, sandy bottom, which does not support much plant, crustacean or fish life. Artificial reefs establish low and high profile structures which will provide niches for a food chain culminating in desired gamefish. Using old automobile tires, sliced and baled, and scrapped boats, the project has developed five reefs, each about one square mile in size, along the coast. The program is funded mostly out of assessments to Jersey Central Power and Light for mitigation of power plant fish kills.

Marine fisheries are similar to every other kind of biological resource in the necessity of a healthy habitat. "If pollution gets much greater in the New York Bight," Figley said, "then you can write off the area for fishing." Moving the New York sewage sludge dump site from 12 to 106 miles offshore should help the inshore fishing, he said, but could impact the big Canyon fishery which has developed recently.

The Canyon fishery is one of the most exciting developments in years. At the edge of the Continental Shelf, various submarine canyons support a rich life system to which large tunas, marlins and swordfish are attracted. Figley has pinpointed 135 charter boats and 800 private boats which make the 18-hour trip and bring back fish weighing hundreds of pounds. It is fishing "as good as anywhere in the world," he asserted. The Off Shore Big Game Survey is currently gathering baseline data on the fishery. It may be ironic that 1000-pound tuna and sharks are attracting attention and renown to New Jersey's \$1 billion fishing industry involving some one million fishermen at a time when estuarine and inshore waters are being severely damaged by pollution.

ALL PHOTOS NOT CREDITED WERE PROVIDED BY DIVISION OF FISH, GAME & WILDLIFE



Bob Eriksen

Before I left Nacote Creek, Bill showed me a buoy which had marked one of the artificial reefs. It was found 15 miles off the Delaware coast by a fisherman after Hurricane Gloria had broken its stainless steel cable and sent it off with every other bit of flotsam the ocean carries. It is this kind of natural force that Figley faces—but I don't think he minds it.

**Bob Eriksen, Wildlife Management:**

Bob Eriksen's animals cover a lot of ground and that's the point. The Upland Wildlife and Furbearers Research Project which he supervises evaluates populations, monitors and manages harvests and restores populations for New Jersey's pheasant, ruffed grouse, wild turkey, bobwhite quail, woodcock, mourning dove, raccoon, possum, woodchuck, gray squirrel, cottontail rabbit, black bear, river otter, eastern coyote, bobcat, long-tailed weasel, mink, muskrat, striped skunk, red and gray fox and beaver.

I interviewed Eriksen in his office at Hedge Haven Farm, on the Clinton Wildlife Management Area. As we spoke about wildlife management, fall plowing of crop residues was in progress and traffic roared by on Interstate 78 just down the hill. Eriksen, 35, has a Bachelor's degree from Bloomfield College in biology, a Master's in Wildlife Ecology from Rutgers.

Eriksen stressed that maintaining diversity of habitat is crucial to many of the species in the Research Project. Second growth vegetation on land abandoned during this century is growing up; this cuts down on the mixed open land needed by ruffed grouse, for instance. This change, put together with the re-opening of old fields and forests for buildings and laws does not bode well for wildlife, he feels.

Eriksen's Research Project is funded by federal aid to wildlife (the Pittman-Robertson excise tax on hunting equipment) and state license fees. Based on project findings, he makes recommendations to the Fish and Game Council as to harvest limits but does no direct management for the project. In line with the goals of the Division, his interest is in "providing as many person-days of recreation without adversely affecting the population."

**Mimi Dunne, Information Specialist:**

While Bob Eriksen, Bill Figley and Bob Stewart are involved hands-on with wildlife resources, and Marty Morales makes sure the public utilizes those resources according to



Mimi Dunne

the rules, Mimi Dunne comes at it from a different angle. Her job is to inform and educate New Jerseyans, laying the groundwork of understanding about our natural resources and what the state is doing to conserve them.

You know Mimi Dunne from the back page of *NJ Outdoors*, where, accompanied by Carol Decker's wildlife portraits, she has written capsule descriptions of the black skimmer, toads, the pileated woodpecker and other animals. She is also an educator, with a degree from Rutgers in Wildlife Science and a New Jersey teaching certificate.

One of Mimi's responsibilities is programming for Pequest Natural Resource Education Center at the new Trout Hatchery in Oxford. About 1000 visitors come to the Center each week to view the trout-rearing tanks nearby. Looking forward to the future, Dunne is helping develop educational displays for the gallery area.

Dunne also organizes workshops for schoolteachers at the N.J. School of Conservation in Stokes State Forest and the Marine Sciences Consortium in Cape May County, coordinates a statewide elementary and secondary natural resource education program, Project WILD, and helps develop public information materials for the Division. This includes the Compendium of regulations and the annual Fish Code.

It is clear that Mimi Dunne needs a particular bundle of talents for her job. It required that she understand the management programs of FGW and the needs of the users of the programs. Then she must meet the communication or programming needs of each of the different segments of the general public—the reader of *NJ Outdoors*, the fisherman who reads the Code, the teacher who needs to learn and then teach natural resource material, the family or individual who needs advice on what to do with orphaned wildlife and the visitors who come to the Pequest Center. It is clear that she enjoys exercising those talents.

These five employees represent the kinds of professionals who work every day to manage New Jersey's fish and wildlife resources for all the citizens of New Jersey. As a group, they are eagerly responsive to their conservation mission and to the public that supports them. The wildlife of the state belongs to the people in common. The people I interviewed reflected that public right which imbues their work with a high calling.



PHOTOS PROVIDED  
By DIVISION OF FISH,  
GAME & WILDLIFE

Reading clockwise  
from top:

*Black racer*

*Eastern cottontail rabbit*

*Stone fly nymphs*

*Monarch butterfly*

*Bog Turtle*

*Hard clam*

*Eastern chipmunk*



# What is Wildlife?



By ROBERT McDOWELL



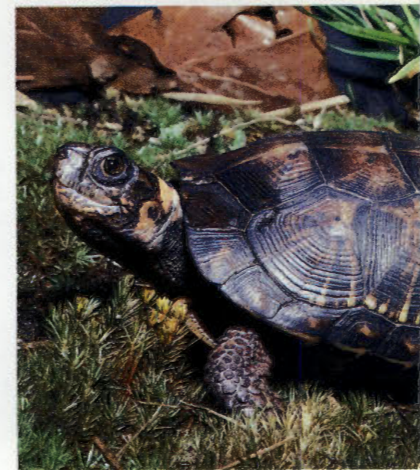
Most people who are interested in the outdoors are familiar with the word "wildlife" and can give a list of "critters" that they consider to be wildlife. Generally that list, from children and adults alike, includes only the kinds of mammals that people like—deer, raccoons, etc. But these are not the only living things that wildlife managers are thinking about when they manage our valuable wildlife resource.

For our purposes here, we will consider "wildlife" all living things that are non-domestic and non-plant. Personally, I use the term "critters."

Many "critters" are so small they cannot be seen without a microscope, like daphnia and

planaria. Some, like whales and elephants, are very large. Some, like deer, robins and mallards, are loved, and others, like spiders, slugs and snakes, are not favorites. Some are common, like sunfish and flies, and others are seldom seen, like snipe and salamanders. Some live in the sea, some live in the soil. Some we eat, like clams and lobsters. Some we marvel over like the bald eagle and the Pine Barrens tree frog. Some have great economic value, like fluke. Others we question why we even care about them. I wish I had a dollar for every time I was asked, "What good is a rattlesnake?"

All these "critters" and many more are part of our wildlife resource. Although each of us has different values and uses for this resource, all of us have a stake in its future.





# Bringing Bald Eagles Back

BY JEAN JONES

If there is any bird deserving of our protection it is the Bald Eagle. America's symbol has almost disappeared from some states—New Jersey is one—but as man realizes his responsibility for the Bald Eagle's plight, efforts are being made to rebuild dwindling populations.

In New Jersey, the Endangered and Nongame Species Program, part of the Department of Environmental Protection's Division of Fish, Game and Wildlife, has established two programs aimed at increasing the state's breeding population of Bald Eagles. In 1982, the 200th anniversary of the adoption of the

bird as our national symbol, the program took over management of the state's only active Bald Eagle nest. In just three years, five young have fledged from that nest—a nest which had produced no live young since 1976. Then in 1983, the program began hacking Canadian Bald Eagles wild in South Jersey marshes, releasing 27 in three years.

Historically, there were more than 20 pairs of nesting Bald Eagles in New Jersey, centering on the Maurice River watershed in Cumberland County. In the 1950's, there were 22 nests, 17 in Cumberland and Salem Counties and the rest scattered throughout Gloucester, Ocean, Atlantic and Cape May counties.

By the mid-70's, only one breeding pair remained, holding out in the most inaccessible nest of all in the middle of the 3,000-acre Bear Swamp near Dividing Creek in Downe Township. Even before then, there were warning signs that New Jersey's Bald Eagles were in trouble. Between 1959 and 1976, only 14 eagles fledged in New Jersey. Two young in 1974 and one each in 1975 and 1976 ended Bald Eagle reproduction until 1982.

Man must accept the blame for what happened. Pesticides like DDT accumulated in the environment and the food chain. Chemicals washed from fields and marshes were ingested by fish, the primary food of Bald Eagles. The poisons building up the the birds' bodies inhibited metabolism of calcium, causing thin eggshells which broke before they could hatch. The sprawl of new housing encroached on nesting areas, causing nests to be abandoned and no new ones built.

Although DDT was not used to spray for mosquitos in New Jersey after 1969 and was banned entirely in 1972, its effects persist. The shell of an egg laid by the Bear Swamp female in 1982 was 25 percent thinner than normal. Biologists say 14 percent thinning prevents successful incubation.

## Live Chicks on the Nest

In its own version of the old shell game, Endangered and Nongame Species Program personnel remove the egg from the nest and replace it with a plaster replica about two weeks after it is laid, ensuring that the adults will remain on the nest. Then the fake egg is replaced with a live chick bred at the U.S. Fish and Wildlife Service's Patuxent Wildlife Research Center at Laurel, Maryland, at about the time it would have hatched.

Only minutes after the first chick was placed in the nest in 1982 the parents, who had been circling overhead and uttering distress calls, landed. The slightly larger female hopped from branch to branch, peered into the nest and hopped in, assuming the brooding position. Both parents continued to care for the chick and it fledged successfully in June.

Each year since, the female has laid at least one fertile egg but they have been 14 to 25 percent thinner than normal. None would have survived incubation if left in the nest. Only their removal to Patuxent, packed in hot water bottles in a special carrying case, resulted in successful hatching.

*Eaglets on nest*

The shell game has continued and two incubated chicks have been placed on the nest annually. Usually, the eagles get back at least one of their own chicks to raise. In 1984, although one chick disappeared after a severe storm, the other thrived, and like its predecessors fledged. In 1985 the female laid two fertile eggs and both produced healthy chicks. The plan was to let a Cochin bantam hen incubate them but one egg was placed immediately in an incubator when it was found to have serious spot thinning.

With all the precautions, the egg cracked. This time, modern chemistry came to the rescue. Repaired with Super Glue and wax, the egg hatched successfully. The other egg was moved to an incubator at the appropriate time and also produced a healthy chick.

#### A 30-Year-Old Nest

New Jersey's single Bald Eagle nest has been located in the same tree in Bear Swamp for at least 30 years—some local residents say much longer. Eagles live for about 25 years so more than one pair likely has used the nest. Ranging from five to seven feet in diameter and from eight to 10 feet in depth, the frequently-rebuilt nest of sticks and branches is about 75 feet from the ground. A predator guard around the trunk protects the eggs and young.

Another danger appeared in 1982, however. Conservationists Dan O'Connor and Clay Sutton alerted the state that logging had commenced on an adjoining property and threatened to drive off the birds. Philadelphia's Natural Lands Trust subsequently bought the logging rights to stop the operation. To assure a permanently protected buffer zone around the nest, the state's Green Acres program acquired nearly 1,400 acres at Bear Swamp. This land is considered a valuable addition to the state's conservation areas, not only because of the eagles but also because it is the largest uncut primeval forest in the state, providing habitat for other rare plants and birds. During nesting season, the area around the eagles' nest is off limits to any but authorized personnel but winter deer hunting is permitted, since the nest is not in use at that time.

At Bear Swamp, Mark Hedden starts watching the nest in January, when longer periods of time spent around the nest tree by the birds and nest refurbishing indicate the breeding season is near. One or two dull white eggs 2.1 to 2.8 inches long are laid in late February and hatch in about 35 days.

Incubated chicks are put in the nest at about two weeks of age. Weighing from 1½ to 2 pounds and covered with gray fluff, the chick's most striking features are big buffy-yellow feet and large gray hooked beaks. They reach full size in about 12 weeks, when they have developed mottled brown plumage. The distinctive white head and tail appear at maturity, from four to five years of age. The adults continue to feed and protect the young after they fledge at 10 or 12 weeks.

In a complementary effort a Bald Eagle hacking program has been conducted at Turkey Point, also in Downe Township, on 60 acres of land leased from Philadelphia's Natu-

ral Lands Trust. The hacking tower accommodates 12 birds, and was built by the Trust, assisted by NJ Bell and Atlantic Electric Company which provided and installed the poles supporting the tower. Hacking is the taking of birds hatched in the wild or in captivity and raising them for release with as little human contact as possible. The idea is that once they fly, they will imprint on the area and will return there at maturity to breed.

#### Bald Eagles from Canada

Six birds were brought in from wild nests in Nova Scotia and Manitoba, where they are plentiful, in 1983, ten in 1984 and 11 in 1985, all from Manitoba. The 11th eagle was a bonus, given to New Jersey when it was abandoned by its parents after its nest tree in Manitoba was felled by a woodcutter.

Each year the hacking program has been more successful. Although the six birds released in 1983 never returned to the tower and left the area quickly, in 1984, the birds stayed around the tower much longer, returning to eat at feeding stations and remaining until fall. With tail-mounted radio transmitters several birds were tracked to the Chesapeake Bay area during the winter of 1984-85, where they probably followed migrating flocks of geese.

In 1985, the birds not only returned to the tower to eat and perch, they even went in and out of the opened cages. They were still at Turkey Point at the beginning of November. Twenty days is considered the minimum time for young birds to imprint on an area and in 1984 and 1985 the birds far exceeded this time.

Endangered and Nongame Species Program people attribute the increasing success of the hacking program to several factors. In 1984 the size of the hack site was enlarged and the monitoring team's trailer moved behind the tree line and out of sight of the tower. Trees near the tower were thinned for better visibility and more perching opportunities. In 1985 the birds were fed and handled at night, decreasing stress, and were released earlier, more closely matching flight time in the wild.

Continued success depends largely on New Jerseyans who may never have had the thrill of watching a Bald Eagle soaring gracefully in a blue sky, sunlight gleaming on its white head and tail.

The program cost \$50,000 in 1985, of which \$6,000 was raised by students of the Haddonfield Middle School and \$5,000 came from the federal government. The rest came from New Jersey residents who donated part of their state income tax refund or made direct donations.

The tax check-off block is 39B this year. Checking the block will allow a donation of \$2, \$5 or \$10 to the Endangered and Nongame Species Wildlife Conservation Fund. Donations also may be sent directly to the fund at CN 400, Trenton, N.J. 08625.

The Bald Eagle is a magnificent bird. Once seen in flight, it is difficult to confuse with any other. Amends need to be made for past mistakes which put the bird in jeopardy. For our national symbol, how can we do less?

Keep the  
Spirit of America



Doreen Curtin 1985

ALIVE!  
in New Jersey

The Endangered and Nongame Species Program depends on your tax deductible donation. Check-off your contribution on line 39B of the state income tax form.

N.J. Department of Environmental Protection  
Division of Fish, Game & Wildlife  
Endangered and Nongame Species Program

ILLUSTRATION BY  
DOREEN CURTIN

New Jersey State Library



BY GEORGE KIRSCHBAUM

Next to hunting and fishing my favorite outdoor pastime is scouting, especially when I scout with my eight-year-old daughter, Cher.

In using the term "scouting" I am not referring to the organized activities of Boy Scouts and Girl Scouts—which are two fine organizations. Instead, I am talking about roaming the woods during the off-season (before and after hunting seasons) in order to observe and study the travel patterns and feeding habits of my favorite game animals—white-tailed deer and wild turkey. The knowledge gained from these scouting ventures is then applied during the respective hunting seasons, to help bring home the venison or bag a turkey.

Cher is too young to hunt, and there is a good chance she will never care for the sport. But that's okay. Hunting is not for everyone. Still, Cher loves the outdoors, the woods, and scouting. Most important, we enjoy scouting together—as father and daughter, hunter and nonhunter.

When Cher first started tagging along on scouting excursions at the age of six, she was not able to move very quietly through the woods, so we didn't get to see very much game. Those guardians of the woods and fields, thorn bushes and brambles, caused her great anxiety, and we often made lengthy detours around prime game habitat to avoid their obnoxious prickles. Crossing even the smallest swamp or bog also was a major undertaking for her, not out of fear of mud and quagmire, but because of mysterious creatures which she imagined might inhabit such places.

Now, just two short years and numerous trips to the woods later, Cher can negotiate the most intimidating thickets with the cautious confidence demonstrated by hunters, scouts, and other experienced woodland travelers. Thorn bushes and brambles are still approached with care, not with the apprehension of being scratched, but in anticipation of flushing a grouse or other wild creatures. Swamps and bogs are no longer averted, but rather are sought as good places to find deer and turkey tracks, and maybe just catch a glimpse of the animals themselves.

This is not to say that my daughter is totally fearless of whatever nature may put in her path. On one spring day, Cher and I were walking down a country road in our favorite scouting locale when I noticed a small garter snake sunning itself on a rock. I picked up the reptile

*Cher climbing tree*

# Off Season Scouting

and turned to show it to Cher. She wasn't there—she was about 20 yards down the road and still running strong.

Also, I'll never forget the look on Cher's face the first time she encountered a pile of black bear scat, which was easily identified by its cow-flop appearance and the unmistakable tracks in the vicinity. At first she thought I was joking when I explained the source of the droppings, but when she realized that I was serious she suggested that we make human tracks in the opposite direction. Although she has learned that black bears are relatively shy, retiring animals which as a rule withdraw from even the scent of a human, Cher does not relish the possibility that we might meet one. Incidentally, over the last five years or so of hunting and scouting in Sussex County I have sighted eight bruins all of which did their utmost to avoid me. Although Cher never has seen a black bear in the wild, it's just a matter of time before she does. It's an experience no youngster or adult is likely to forget.

#### **What to look for**

Except for squirrels and various species of birds, the animal that Cher and I see the most in scouting backwoods areas is the white-tailed deer. Perhaps this should not be surprising, since studying the habits of white-tails is one of the principal objectives of our scouting efforts. However, considering that early in this century deer were all but extinct in New Jersey, their present numbers and the relative ease with which they can be located is nothing less than amazing. On a single evening last summer we observed more than a dozen deer at four separate locations. One of these sightings included a doe and her two fawns, and we had the pleasure of watching them for at least 15 minutes until a change in wind direction gave us away, and they disappeared into a hedgerow. Seeing any deer is exciting for Cher, but encountering two fawns which are youngsters like herself is a special treat (for both of us).

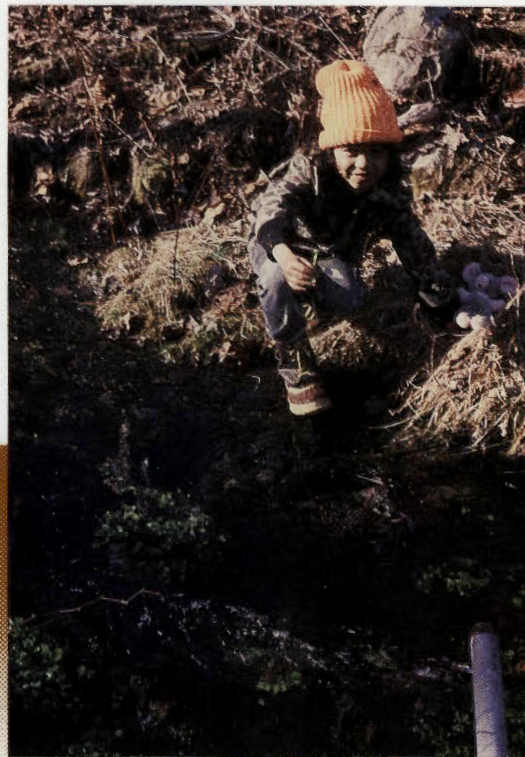
Wild turkey are more elusive and less numerous than deer, and we do not see them as often. Yet Cher and I appreciate those that we do encounter, since many folks in New Jersey never get to see one at all. From the early 1900s until several years ago, these magnificent creatures were almost completely absent from the state. Now, thanks to a reintroduction program, the turkey population is sufficiently stable to warrant a carefully managed spring hunting season, and the species' range in New Jersey is expanding steadily. Cher has

been with me when I have coaxed a tom turkey to gobble back in response to my turkey call, an experience which can be more rewarding than an actual sighting.

Cher and I devote much more time to locating and examining the signs left by deer and wild turkeys than we do to actually observing the animals. To accomplish this properly one must be able to identify the signs left by other wildlife as well, so that they are not confused with the game being sought. This is no simple matter. Learning the process and teaching it to a youngster offers a real challenge and many enjoyable hours in the woods. It is a skill which was practiced by our forefathers and by the Indians who roamed the woodlands before them.

The typical signs we look for which are made by both deer and turkeys are tracks and droppings. In addition, deer leave well defined trails; evidence of bedding; indications of browsed vegetation; rubs on trees (made by bucks); and tufts of hair on bushes, tree bark, and barbed-wire fences. Turkeys make V-shaped scratch marks in the leaves and molt their feathers. We save the feathers as mementos of our efforts, and have accumulated quite a collection.

Identifying the food sources of deer and turkeys is still another of our scouting objectives. The hunting season for deer occurs mostly in the fall, when the animals primarily feed on acorns; thus, locating white oaks which drop the acorns which deer prefer most is important. Turkeys also feed heavily on acorns during the fall. However, since spring is the hunting season for turkeys, we concentrate on locating foods which attract them at that time of the year, such as May apples and watercress. These are just some of the things upon which deer and turkey feed, and teaching a



*Cher at stream edge*

PHOTOS PROVIDED  
BY AUTHOR

youngster about them provides knowledge which is not covered in most classrooms.

### **A Change of Pace**

In sharing what I know about the forage of my favorite game animals, I also try to teach Cher about which wild plants and seeds can be eaten by men and which are poisonous. In addition, we occasionally pick up other tidbits of information about plant life that is interesting and useful. For example, we recently discovered that during the summer and early fall deer frequently feed on touch-me-not (jewelweed), an herbaceous plant with small orange flowers which grows in damp, shady places. According to our field guide on wild flowers, the juice of this plant relieves the irritation of poison ivy and athlete's foot (its fungicidal content has been scientifically confirmed). Cher, always one to experiment, put some of the juice on a large mosquito bite, and in less than an hour the irksome bite completely disappeared. Would the same thing have occurred without applying the juice? Maybe, but Cher is convinced she has made a medical discovery of immense importance.

This brief discussion on the virtues of touch-me-not juice may seem a bit too far off the subject, but such digressions are an integral part of scouting with a youngster. Children can get tired and bored easily, especially on those days when you do not see much wildlife. It's important to take breaks frequently enough to prevent fatigue and to plan for diversions to make the day interesting. Cher likes to take time out to climb a tree, gather berries, pick wildflowers (where legal), float leaves down a stream, or collect unusual stones. Recently, while scouting along the Delaware River, we stopped to catch some snails for Cher's aquarium. Incidentally, the snails are thriving and are more interesting to watch than her goldfish.

### **Essential Equipment**

Unlike typical day-hiking, scouting requires departing from trails and paths to reach the more secluded and inaccessible woodland haunts of game animals and other secretive wildlife. I therefore carry a compass and a topographic map whenever I scout any large tract of woods. Cher is learning to use these tools and other means of orienting herself in the woods, skills that I feel every boy and girl should learn and enjoy.

Another item which Cher and I both carry while scouting is a walking stick. Nothing fancy is needed; a sturdy branch cut from a

dead tree or found on the ground is just fine. Walking sticks are useful in maintaining footing on rugged terrain and are helpful in probing likely cover for signs of wildlife (reducing the risk of placing one's hand into a patch of poison ivy, a hornets' nest, etc.). In the remote chance an aggressive animal is encountered, such as a rabid raccoon or fox, a walking stick offers some degree of protection. I even use one to steady my camera.

In addition to a compass, map, and walking stick, I take along a pocket or hunting knife, and a day-pack containing a small first aid kit, a camera, a canteen of water, a few sandwiches, and assorted fruits and cookies. When we scout during the spring and summer, mosquitoes, gnats, and ticks are discouraged by applying liberal amounts of insect repellent to our clothing. Ticks are of particular concern because they can carry Rocky Mountain spotted fever and lyme disease. They are most common from late April through early July. However, whenever we scout during warm weather Cher and I frequently check each other for these parasites.

The clothing and footwear we wear for scouting is comfortable and appropriate for the season. Often, but not always, we wear camouflage clothing in order to more successfully stalk the wildlife we wish to observe. Since Cher has a remarkable tendency to get wet even in areas where water seems to be absent, I always keep a complete change of clothing and footwear in the car trunk for her.

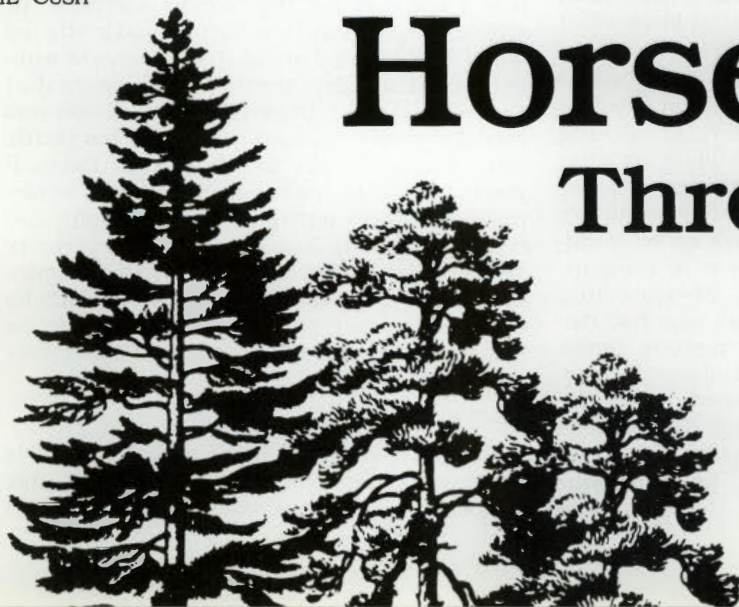
There are numerous means by which people with different interests can enjoy the outdoors. Scouting is just one of them. It is particularly well-suited to the hunter who desires to spend more time in the woods with his or her son or daughter even if the child is too young to hunt or just doesn't care to hunt. It also can be enjoyed by nonhunting parents and their children who are inclined to venture into backwoods areas off the beaten path. Unlike so many organized activities which predominate in modern society, scouting provides a parent with some time to be alone with a son or daughter and perhaps talk about subjects which otherwise might not be discussed at all. Scouting teaches confidence and self-reliance. It requires minimal equipment, and there is no admission fee.

*Topographic maps can be obtained from two sources: Publications Sales Office, Bureau of Collections and Licensing, CN 402, Trenton, N.J. 08625; or from Branch Distribution, Eastern Region, U.S. Geological Survey, 200 South Eads St., Arlington, VA 22202.*



CATHIE CUSH

# Horsepacking Through the Pines



BY CATHIE CUSH

From the moment he first shook hands with me, I knew Topper was special. The better I got to know him, the more convinced of it I became. And by the end of the weekend we spent exploring the Pine Barrens together, I was in love.



COURTESY DISCOVER ADVENTURE

I first met the black velvet Tennessee Walker gelding on a Friday afternoon just outside Bodine Field, a state camping area not far from the dam at Harrisonville. We were to join six other people and seven other horses on a three-day exploration of the pines.

After questioning me about the extent of my riding experience, trip organizer Suzanne Atkinson, founder of the Mt. Laurel-based Discover Adventure, and Harold Coren, of Pinelands Outfitters in Bargaintown, decided I would best be matched with Topper. Suzanne introduced us and leaned over slightly in front of the horse. Topper arched his right foreleg, offering it to me. I held his leg just behind the hoof and shook "hands." This was no ordinary hack stable nag.

Our saddlebag packed, we headed east around mid-afternoon. It was a mixed bunch that rode the trail into the forest: organizer, outfitter, journalist, market researcher, entrepreneur/ex-vaudevillian, working mother/business student and Boy Scout. Our ages ranged from 10 to 74 and our experience from old hand to none at all. Some of us knew what to expect, and some of us didn't.

The old saying about time flying when you're having fun sure held true that day. The riders who had met before were busy catching up on each others' news and filling us newcomers in. In the meantime, we were all busy getting acquainted, both with the people we were riding with and the horses we were riding. Trip outfitter Harold Coren of Bargaintown and Mike Knudsen, a 74-year-young businessman from Kendall Park who had ridden the trail we were on numerous times, pointed out sights of interest along the way and filled the gaps in our knowledge of the Pine Barrens as we rode through the Wharton Tract. Before Memorial Day 1984 Knudsen had never ridden, although he had been around horses in his youth. He went on a

weekend pack trip then, and has ridden nearly every weekend since.

### A Cabin in The Pines

We got a little short-changed in daylight. When you're enjoying the outdoors, the sun never seems to stay out long enough no matter what time of year it is. In mid-January, when this trip took place, this was especially true. But the dusk didn't put an end to our ride. We still had a ways to go to reach the cabin where we planned to spend the night. The lead rider shone a flashlight down the trail, mostly to keep everyone posted on the status of overhanging branches. As the already overcast day turned darker, the Pinelands began to look even eerier than usual—like an underexposed black-and-white photograph. Details such as face-level branches and twigs were hard to see. Shouts of "Duck!" and "Keep to the middle of the trail!" replaced most other conversation until we reached our destination.

We "checked in" at Oswego Gun Club, one of several small cabins we would visit over the course of our trip. "The door is unlocked," said a message written on the outside wall, "Use it, don't abuse it." A notebook on the long picnic table inside was filled with messages from others who had taken advantage of the "piney hospitality."

While the horses munched contentedly on the hay and grain we dumped at the base of the trees while they were tied, we enjoyed salad, charcoal-broiled steaks and baked potatoes. For dessert we shared the chocolate candy coins 10-year-old Jason Russell of Cinnamonson brought along. The trip was Jason's first time on horseback, but he caught on quickly, and beamed with pride at his accomplishment at the end of the day. Not only did he prove himself a capable horseman by the end of the trip, but he did so riding Lady, who, at 16.2 hands is the biggest horse in the bunch.

(Horses are measured from their hooves to their withers in four-inch units called "hands." Thus Lady is 66 inches high at the base of her neck. Jason was given her to ride because of her gentle temperament.)

We all slept well that first night, and the next morning when I awoke I stretched my legs cautiously inside the warmth of my sleeping bag. I felt none of the "saddle soreness" or stiffness in my legs that friends had predicted when they learned of the trip. I began to wonder if their dire warnings of discomfort weren't just sour grapes. Not even Jason was sore. I'm ready to chalk that up to his youth, until Atkinson tells me the secret. Relax. If your "seat" is right—heels down, ankles turned slightly outward, back straight and center of gravity low—you won't experience aching leg muscles. Another way to minimize muscle soreness is to prepare for the ride by doing the same type of leg stretching exercise that a runner would use on hamstrings, calves and inner thighs.

### Easy Riding

Another reason we aren't uncomfortable is the type of horses we are riding. Most, like Topper, are Tennessee Walkers. These horses

were bred for their extremely comfortable yet very fast-paced walk. Their walk is about as fast as most other horses' trot, yet the rider isn't bounced up and down. Riding a Tennessee Walker all day is about as uncomfortable as relaxing in a rocking chair.

The horses look like carousel ponies as they prance down the trail, necks arched, legs lifted high, their ears moving like antennae. They're eager to be moving. They seem to enjoy what they're doing.

And we certainly enjoyed it, so we didn't waste any time getting saddled up for our second day on the trail. We rode in the general direction of Warren Grove, to another, less well-kept, hunting cabin. There, we stopped for lunch.

The pines were surprisingly quiet. Although we saw a lot of deer tracks, and we had heard dogs howling at night, we didn't see many signs of animal life. Only the roar of military planes flying over the range at Warren Grove disturbed the peace.

We got a lot of saddle time in that day. Sometimes we talked. Sometimes we fell into a comfortable silence. Coren says being in the wilderness helps clear one's head, and I couldn't help believing he's right. I also suspected it was a lot easier to leave civilization behind than it would be to readjust to it come Monday morning. In my case, I turned out to be right.

Still, three showerless midwinter days on horseback miles from the nearest cable television hookup may not be everyone's cup of tea. At least not every weekend. So Atkinson provides a number of other alternatives, ranging from one- or two-hour rides to full-day trips. If the thought of driving "all the way" to the Pinelands is overwhelming, she can arrange air transportation from any of several small airports.

Island Beach State Park provides another beautiful setting for a horseback ride. Between October and the end of April, Atkinson takes experienced riders for a gallop across the sands. For more information, contact Atkinson at Discover Adventure, P.O. Box 530, Maple Shade, NJ 08052; (609) 235-7195.

We didn't do any galloping on our trip, although we did ride along one road that was wide enough to allow it. But there was ice on many parts of the trail, and we didn't want to risk injury.

When we returned to the cabin, we found a message in an old loose-leaf notebook that apparently came with the cabin. A passerby had stopped in and, noting that the cabin was being used, told us to enjoy our stay. That night after dinner I looked through the notebook. It had been left in the cabin since sometime around 1977. Its pages were covered with messages from folks who had spent the night or just an afternoon. Before we left on Sunday morning, we added a message of our own to the collection.

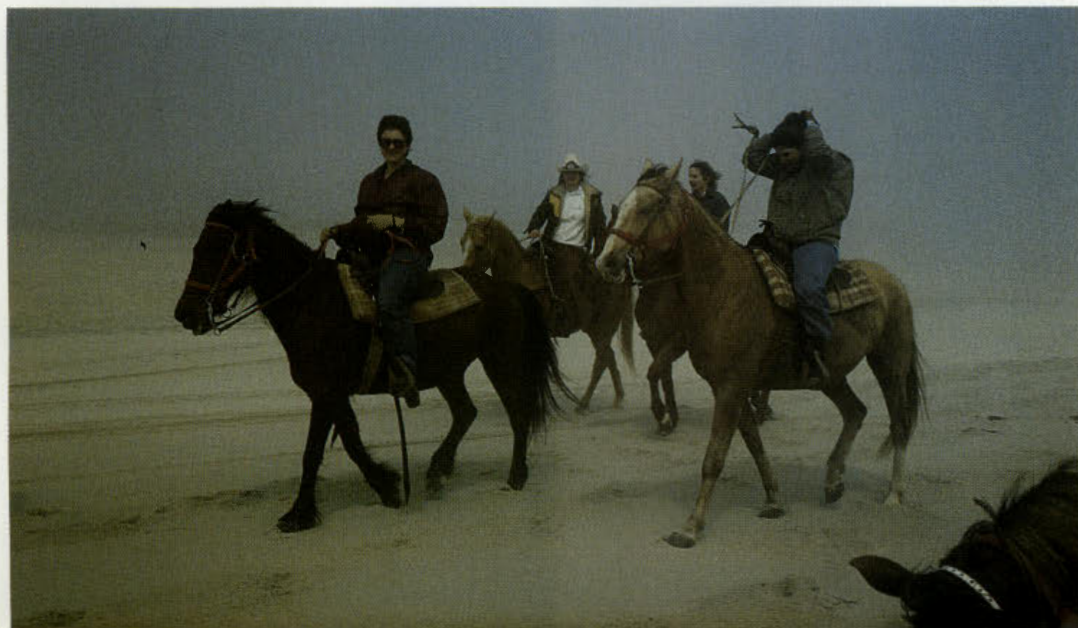
We spent a leisurely last day heading back toward civilization. On the way, we stopped to water the horses at a pond near Martha's Furnace. When the weather is warmer, Suzanne says, riders can unsaddle their mounts and ride bareback through the water. Nearby is an archeological site.

From there we rode to a historical site of other sorts. The cabin where we had lunch on our last day is said to have once belonged to poet Ogden Nash. It's a tiny place with a porch and a beautiful view of the pines. Inside there's only one bed, a makeshift table or two and a fireplace. We also find another notebook. Someone had laminated Nash's obituary when it appeared in the *New York Times* more than a decade ago, and that is tacked to the wall.

As we left the cabin, a couple outdoorsmen in a four-wheel-drive vehicle pulled up. We chatted for a while, answered their questions about the horses, and were on our way. Despite our different modes of transportation, we belong to the same "club"—that group of people who have shared good times in these hunting cabins in the pines.

The horse trailers were waiting for us when we reached the end of our road. Except for the sudden cold wind that came up during the last bit of our ride, we were all sorry to see the adventure come to an end. I put my gear back in my car, checking for stray carrots. I found a few. Topper got an extra treat when he shook my hand goodbye.

CATHIE CUSH



Horseback riding at Island Beach State Park

New Jersey

# Wildlife Artists

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WHITE-TAILED  
DEER/IRENE V. BOWERS



*Christopher Forrest*

RED-TAILED HAWK/CHRISTOPHER P. FORREST



BROWN TROUT/JODY FURCH



RED FOX/MICHAEL BUDDEN

**Michael Budden** lives in Roebling, New Jersey, with his wife, Barbara, and daughter, Britany. He has been painting full time for three years and has won 26 awards. Mr. Budden's Wings & Water Festival poster was the winner of the 1984 "Best in Show" award. His paintings have been exhibited at the Eastern Waterfowl Festival, Charleston Wildlife Art Expo., and the Philadelphia Wildlife Expo.

**Irene V. Bowers** of Milford, New Jersey is a self taught artist who works primarily with pencil. Oil painting is her second love and, besides animals, the mountain men and American Indian are her favorite subjects. Her credits include *Bowhunter*, *Deer and Deer Hunting*, and *Indian Artifact* magazines. She was commissioned to illustrate, *North American Big Game Hunting in the 1800's*, published by Amwell Press. Her illustrations have appeared in several publications of DEP's Division of Fish, Game and Wildlife.

Although **Jody Furch** won numerous art contests as a child, he did not pursue an art

degree in college and has no formal art education. He enjoys both wildlife subjects and landscapes and prefers to work from photographs and imagination. He has been represented in a number of galleries in New Jersey and Pennsylvania and has an entry in the current Federal Duck Stamp Contest. He resides in Lawrenceville, New Jersey.

**Christopher P. Forrest** was raised in Pennington, New Jersey, and served 10 years as an officer in the U.S. Army. His hand drawn lithographs and paintings have been used as covers for *Reader's Digest*, *Ducks Unlimited*, and *North Carolina Wildlife*, and reproduced inside numerous magazines. Biographical data on Mr. Forrest is included in *Who's Who in American Art*, *Contemporary Western Artists*, *American Artists of Renown*, and *Guide to Collector Prints*. He is active in scouting, youth soccer, and church; and lives in Willingboro with wife Camille, and children, Brody, Beth, and Matthew.

# A Discussion: Our Natural Resources and Their Management

BY HELEN S. FENSKÉ  
ASSISTANT COMMISSIONER  
FOR NATURAL RESOURCES  
NJDEP

"Natural resources are minerals (like water) or capacities (like waterpower) supplied by nature." This dictionary definition describes our non-renewable resources—the elements in our world which are not man made, and which are essential for human existence. Basically, these are the land, air and water—necessary for our survival, and also the basis of our economy, our culture, and our recreation.

These resources are limited. They cannot be replaced or reproduced—the supply we have is all that we will ever have. How we manage these resources so that they can be used today and still be available to meet the needs of the generations that come after us is the great task that faces us in New Jersey, as well as in the nation and the rest of the world.

Other resources that are important to us are the state's renewable resources—the living parts of our environment such as wildlife, plants, trees and forests. We say they are renewable because they can reproduce and replace themselves. But these, too, must be managed to meet the needs of today and those of tomorrow. And their survival too, depends on the same non-renewable resources on which man depends.

The tough question is—How do we manage our natural resources, non-renewable and renewable, wisely? And who determines what wise management is?

Recently, I invited two well-known and recognized experts in conservation and environmental protection to discuss this subject with me. They were Richard J. Sullivan, the first Commissioner of New Jersey's Department of Environmental Protection, and Edward A. Ames of the Mary Flager Cary Charitable Trust, a private foundation which supports many environmental projects.

Following are excerpts of that discussion.

Sullivan ... When we talk of natural resources management, we are talking about protecting the integrity of our environment. That means using it in the best way possible for man all the time, not allowing its destruction or depletion. A fact we have to acknowledge is that all of us will have our own definition as to what is "the best use" of that environment. That's why people usually agree

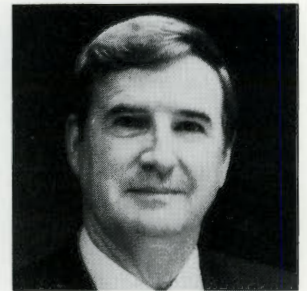
that we need 'wise' use of resources because it doesn't really commit them to be specific as to what that means.

Ames ... The idea of natural resources, I think, encompasses functioning ecosystems that have a purpose in the natural scheme of things, and that purpose may suit man's purposes also and may sustain our lives. Those systems may do it by cleaning the water and air or by absorbing the energy of the ocean as barrier islands do by breaking the action of waves during hurricanes. What's more, natural systems perform such functions very efficiently. If we didn't have natural systems, we would have to put something in their place. The man-made substitute would be very costly and wouldn't function as well.

Fenske ... From my point of view, natural resources management is the management of systems and specific resources recognizing their interdependence on other systems. I think this broad perspective is what is critical—we have a tendency to look just at a narrow aspect, emphasizing the regulation of one small part without considering its impact on other resources.

Sullivan ... But that is also resource management. The Federal EPA and NJDEP's Environmental Quality people are charged with controlling the assaults on the air and the water and the land. Cleaning them up and protecting them from further degradation is an element of managing our natural resources.

Ames ... Why do we try to compartmentalize management of the environment? The environment is not compartmentalized. If we take a historic perspective, the resources we are using today are part of landscape which provides a record of everything that's taken place in the last 10,000 years. During that time various people have used those resources and have helped shape the landscape. The Indians, for example. They were few and theirs was a gentle hand, but they changed the landscape. Then came the colonists who thought of resources as a commodity. Starting with the Industrial Revolution there were massive changes that were part of social and economic trends that were connected to events all over the world. People managed resources—the environment—for what they needed. Economic



Sullivan



Fenske



Ames

exploitation shaped the land. They had no idea then for protecting natural resources because they were not particularly valued—what was valued was use of land for utilitarian purposes. If we now are going to control some of the undesirable results of that use or to attempt to recover the landscapes that existed before, we will have to do it in the larger context of broad social and economic trends.

Sullivan ... That's true. There are a lot of forces at work. In fact, to go a step back, a lot of conditions that were very troubling to the public around Earth Day were no worse—and some of them were not as bad—as conditions that existed 20 or 30 years before. People didn't seem to mind, probably, because they had tougher problems on their mind at the time. Needed changes have to be tuned into the temper of the times and the interests of the people.

Ames ... What changed during Earth Day is that people before had not realized that they could do anything about the insults to the environment, but there was a growing consciousness during the 60's that gave people the idea that not only could something be done, but it ought to be done.

Sullivan ... They mastered the protest techniques.

Ames ... They did learn the skills of protest. They were attempting to accomplish social objectives—civil rights, protection of the environment, the end of the war in Vietnam. Rachel Carson and others had shown what the problems were in a very dramatic way. The environment became a target of that social activism which resulted in the passage of the National Environmental Policy Act and much other legislation which followed. What has happened since is that people have gone to work to deal with that legislation either to block it or to make it work. But it required professional and analytical capacity to understand the resources that are to be managed, to determine their true value and to control the economic forces that impact them. The need for their expertise is a new development that has had abroad impact on the environmental field.

Sullivan ... The thing that exploded on Earth Day was not the neighborhood problem, but the planetary problem. People were concerned about the larger things like the diminishing variety of species on earth, constriction of the land, the filling in of wetlands, the destruction of habitat. At last we are beginning to understand that we are part of the scene and what happens to all the rest of the species will have an effect on us in the long run.

Fenske ... From what you are both saying doesn't education, then play an important role? If we are going to make better decisions in the future, don't we need to be better informed. It seems to me our only hope for the future is to have everyone—politicians, bureaucrats and citizens—better informed.

Sullivan ... I agree—in the future it is possible that the political system will make its decisions based on more information about environmental consequences than people had

# New Centers Better Unders

It is difficult to realize that men lived and worked on the New Jersey land thousands of years before European settlers discovered these shores. But the Lenape were here—Indians who farmed the land, fished the rivers and hunted in the forests. Beaver, raccoon, fox, deer, and wild turkey roamed the wooded areas. Shad, trout, bass and shellfish filled the waterways.

Today, raccoons, deer and wild turkey still roam the forests; shad and trout are still to be found in our waterways, men still till the soil, but what a vast change has taken place in the intervening years!

The white man came and used the abundant natural resources for his food, his clothing and his shelter. And as the popu-

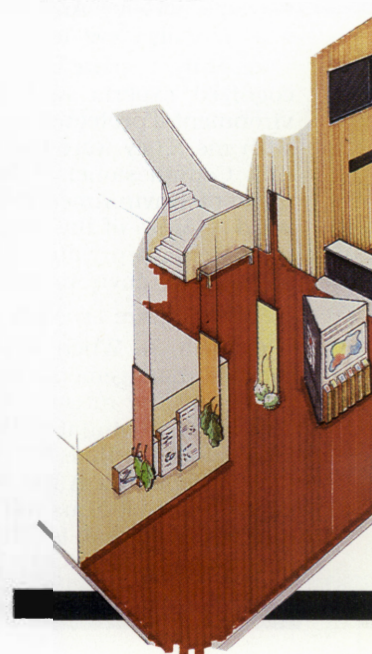
in the 30's and 40's or even now in the 80's. But if you ask, will they make decisions on the basis of more scientific information as opposed to what the political system will accommodate—I would say no. As long as there are three people and a decision must be made, it will be so—that's how the system works. To go back to what was said earlier, skills which were mastered in the 60's led to much more public involvement. Sometimes a small vocal group does keep something from happening which if put to a public referendum would be approved.

Fenske ... There is more public involvement and the decision process is much more open, but ultimately a bureaucrat does make the final decision. Does that idea scare you?

Sullivan ... Why? That's the only system we have. There is frequently criticism of government because of its red tape. But we should remember that what looks like red tape or the inability of the government to act is frequently a lot of opposing forces. What one guy thinks is red tape is another guy's way of intervening in the system—it's his due process.

Ames ... That process doesn't scare me—what does scare me is the alternative: the idea of having a group of experts who have some special analytical skills decide what is good land use and what isn't. But it is so contrary to the American tradition that it is unlikely it will ever happen. The appropriate place to decide land use and make other environmental decisions is in a public forum. Expertise should be used to inform the public better so that you get better decisions.

*Pequest Natural  
Resource Center*



# Will Help Develop Understanding of Natural Resources

lation increased, and some natural resources were depleted, he learned to develop new materials to meet his changing needs. In time, he also began to realize that these natural resources were not unlimited and that there was need to control damage to the environment and to conserve and manage better the natural resources which remained.

A "timeline" which will be part of an exciting new Natural Resources environmental center at Liberty State Park, will show visitors this vast change, which spans 400 years. It will highlight significant events in the development and changing environment of that Hudson River shoreline. In other exhibits visitors will see the growth and the diversity of industry in the area as well as the contribution of immigration at the turn of the century.

Other exhibits at Liberty will feature the natural systems which have been restored along the shoreline—the geology of the region, the tidal effects from the ocean, the mud flats and the salt marsh as well as the wildlife plants that exist in this habitat. Since the marsh is on the Atlantic flyway, one exhibit will highlight bird migration.

A third element brings together the area's natural phenomena and its industrial development. Related exhibits will present a comprehensive story of the area's environ-

ment and man's use of it, the state's actions to conserve and protect that environment and what individuals can to help care for it.

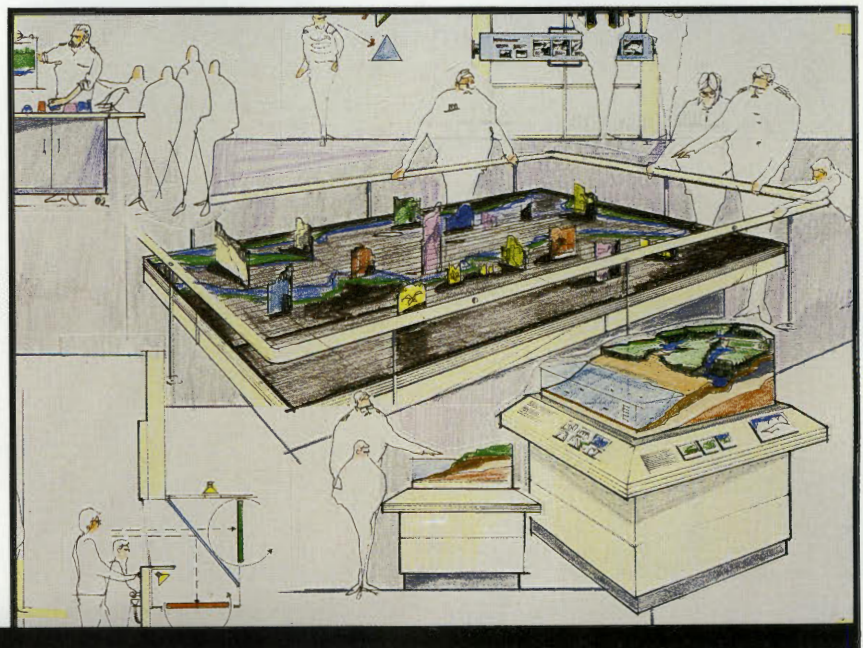
The Liberty State Park center is one of two centers which will initiate an innovative, statewide, natural resources management interpretative program. It is sponsored and supported by the Natural Resources Education Foundation established by a small group of prominent New Jersey citizens in 1984.

The second educational center underway is the Pequest Natural Resource Education Center near Oxford in Warren County. The site of the state's new fish hatchery, the center will explain to visitors the unique geology of the Pequest watershed that provides the water source needed for hatchery operations and supports the agricultural and residential needs of the area.

Other exhibits will trace the water cycle and water's role—in lakes, streams and ponds—as a habitat for fish and wildlife. Visitors will learn about trout, see the hatchery operation and be able to observe the raceways where trout are raised to stock streams throughout the state.

Concepts and designs for the exhibits at both Liberty and Pequest are near completion. The Foundations's current efforts are to raise funds to implement those designs.

*Liberty State Park*



# A New Concept for Environmental Understanding

The key to improving public information and understanding of New Jersey's natural resources issues is high quality natural resources environmental centers and professional program. That belief is at the heart of the innovative program conceived by the Natural Resources Education Foundation.

While New Jersey is the fourth smallest of the 50 states in land area, its natural resources are extensive, Foundation trustees emphasize. "Our citizens depend on these resources—the air, the water, and land areas such as parks, forests and open space—for both their health and economic well being. Because these resources are limited, it is important that we understand and recognize that only with wise management of what now

exists, will New Jersey continue its environmental and economic progress."

To help make that happen, the Foundation, as a private, non-profit organization, will raise funds to improve the coordination and upgrade the quality of natural resource education programs throughout the state parks and wildlife management areas.

According to Lewis Applegate, Foundation President, Liberty State Park environmental interpretive center and the Pequest Natural Resources Education Center will be the first two sites, followed by Batsto in Wharton State Forest in Hammonton and the New Jersey Forest Tree Nursery in Jackson Township. Long range, the Foundation will provide financial support to six other centers around the state.

"The Foundation has begun soliciting contributions that will be used to design, develop, publish and promote use of various educational tools in the centers," says Applegate. "We also plan to develop and support a student intern program in the immediate future to encourage our young people to become involved in interpretive and environmental programs."

At an early fund raising event, James Afleck, a trustee, said, "Education is the key to effective management of resources, New Jersey is a beautiful, wonderful state . . . and business must help to keep it that way."

The Foundations's trustees, who all donate their professional services to the project include: Debbie Kean, Honorary Chairwoman; Lewis Applegate, retired vice president of N.J. Chamber of Commerce; Isabelle Kirchner, Vice President of Prudential Insurance Co. Vice Chairwoman; Helen C. Fenske, DEP Assistant Commissioner, Secretary; Richard J. Sullivan, first DEP Commissioner, Treasurer; James Afleck, former chairman of American Cyanamid Co.; Phillip Alampi, former state Secretary of Agriculture; Assemblymen Thomas Foy (D-Burlington) and Richard Zimmer (R-Hunterdon); Anthony S. Cicatiello, Chairman of the Board of CN Communications International, Inc.; Gordon Bishop, environmental writer, Newark Star-Ledger; and Alfred W. Sitarski, retired from Exxon Co., U.S.A.

For additional information write the Foundation at 2490 Pennington Ave., Trenton, NJ 08638 or call (609) 737-8809 or the DEP at (609) 984-7478.

NEW JERSEY OUTDOORS PHOTO





## New Jersey's top ice fishing spots

BY J.B. KASPER

Old Man Winter has given our lakes and ponds a good coating of ice, much to the delight of the ardent frostbite angler. Now it's time to pick a good place to ply our winter skills.

The time that a fisherman can safely spend on the ice in New Jersey can range from a few days to the better part of the winter. As a result, most ice fishermen try to fish their

favorite water as soon as the ice is thick enough, never knowing how long that safe ice will last. Some lakes in the state will freeze sooner and stay frozen longer than others. Other lakes have reputations for producing good catches of fish year after year.

### **Northern Lakes**

As can be expected, lakes in the mountainous northern part of the state will freeze first and stay frozen longest. On the New

PHOTOS PROVIDED  
BY AUTHOR



*Ice fishermen drilling holes in ice*

York/New Jersey border, Greenwood Lake has a well-earned reputation as one of the East Coast's prime ice fishing spots, with a good variety of both game fish and panfish. Although the shores are lined with private property, there is still good access for the prospective fisherman. The best access points are at Greenwood Lake State Park in Passaic County and along Route 511. Both areas have ample parking, and several good bait shops there cater to the ice fisherman.

The lake contains a good variety of structures; sunken weed beds produce some of the best action for panfish. Small teardrop jigs dressed with mousy grubs and corn borers will produce the best results. Good pickerel fishing can also be had using tip-ups baited with live shiners. Since the lake is stocked, it's not uncommon to pick up a few trout from time to time. Greenwood Lake is usually one of the first places to freeze after the steady cold weather starts, and it usually holds the ice well into February.

Located along Route 46, northeast of Hackettstown, Budd Lake offers good fishing for bass and panfish, as well as northern pike, which have been stocked by the state. The lake has some good medium-depth structures. Several tackle shops are open all year and usually have a good supply of bait on hand. Budd Lake is another place that usually freezes early and has good ice throughout most of the season. Being a mountain lake, it has some good drop-off structures, and some of the best fishing can be had using three- to five-inch shiners in combination with tip-ups. Over the years, jigging with Rapala ice fishing lures has produced some nice catches of pickerel and yellow perch in the lake's shallower areas.

Not far from Budd Lake is one of New Jersey's best known ice fishing spots. The site of an annual ice fishing tournament sponsored by the Knee Deep Club, Lake Hopatcong has much to offer the winter angler. The lake population includes such sought-after species as large- and smallmouth bass, walleye, trout, yellow and white perch and a good variety of

other panfish. It offers just about every type of structure imaginable: good, deep water over 30 feet with underwater humps (a favorite walleye haunt), sunken weed beds and many other productive winter fish-holding spots.

Over the years, bass over five pounds have been taken through the ice, mainly on tip-ups baited with shiners fished in the deeper regions of the lake. Hopatcong is also noted for its good pickerel fishing, with tip-ups and live bait being your best bet. Because of the good depth, perch and other fish can be found suspended in the lake. These quite often move in and out of sunken weed beds looking for crustaceans and aquatic insects. At times the action can be fast and furious. The ticket to these fast-feeding panfish is a small jig and grub combination; however, good catches are also made on small spoons and jig/twister or jig/Sassy Shad combos. Several area tackle shops cater to ice fishermen, and many motels can provide accommodations should you choose to stay for more than one day.

Another good spot, which is close to Lake Hopatcong and Budd Lake, is Lake Musconetcong. Although quite a bit smaller than the aforementioned lakes, it offers some good fishing. A somewhat shallow-water impoundment, it is noted for its good yellow perch population, and jigging for these perch is a favorite winter pastime of the local anglers. The lake also has a good pickerel population, and 2- to 3-inch shiners are the best baits for these razor-toothed predators. One good thing about this lake is that it is only a hop, skip and a jump from Lake Hopatcong and provides you with an alternative if the fishing does not pay off there. The lake also offers good shelter from the winter winds and is a good retreat when the fishing gets tough.

Spruce Run Reservoir is a well known spot to bass fishermen and is also a better-than-average spot for ice fishermen. Some of the best fishing can be found in the old stream beds of the Mulhockaway and Spruce Run Creeks. The reservoir has been stocked with northern pike and tiger muskies, and there is

always the chance of taking one of these prized fish. The main fishing efforts, however, are concentrated around the bass and trout populations, and each year some nice largemouths and brown trout are taken through the ice. Most of these are taken on tip-ups baited with minnows.

Some good panfish fishing can be found among the old stump beds that are close to where the Mulhockaway enters the reservoir. Panfish can also be found in the shallower regions where vegetation is present. There are both motels and restaurants close by if an overnighiter is your bag, and many serious fishermen spend weekends on the reservoir.

#### **Mid-States Lakes**

In the central portion of the state we find Farrington Lake, just south of New Brunswick, with easy access from Route 130. This lake is well known to ice fishermen for its pickerel and crappie populations and also has an excellent largemouth population. Although its maximum depth is only about 10 feet, it has many structures that are conducive to good ice fishing. There are two tackle shops only minutes from the lake, and they keep a good bait supply on hand for the anglers who visit the lake. At Farrington there is usually a place to get away from the wind, and this is a big plus.

Farther south, between Hightstown and Allentown, is one of the best known ice fishing spots in the central part of the state, Lake Assupink. Anyone who fishes this part of the state knows of the great winter fishing that can be found on this lake. It keeps many an ice fisherman busy during the winter months with its good bass and pickerel populations and is noted for its prime crappie and yellow perch fishing. Good structures abound in the lake, with sunken brush piles, old stream beds and underwater weed patches being some of the best. A lure made from a small hammered and polished brass screw with a single hook attached and dressed with a small piece of worm produces some good catches of perch and crappie. It is not uncommon to see the areas around the freshly cut holes littered with panfish. You will find the best access to the lake is from Exit 11 of I-195.

Not far south from Lake Assupink and right next to Great Adventure is Prospertown Lake. Although not very deep, Prospertown has

ample structure that makes up for its lack of depth. The lake is underfished, being that it is so close to Lake Assupink, but those who have been able to unlock its secrets have scored big with good catches of crappie, bass and pickerel. One drawback is that the lake is not close to any tackle shops, so if you plan to fish it, bring a good bait supply. Best access is from Route 537, which runs right by it.

#### **Ocean County and South**

During years when we have had extreme cold spells, the back washes of the Toms River have provided the ice fisherman with some of the best fishing for jumbo white perch that can be had on the East Coast. Teardrop jigs dressed with grass shrimp are the proven combination, and some good catches can also be had on Cast Master spoons. The fighting quality of these fish is far superior to that of any taken through the ice, and the blitzes that these fish put on can send a fisherman scurrying from hole to hole, dropping fish on the ice wherever he goes. There are a good many tackle shops in and around Toms River to supply the fisherman with grass shrimp and other tools that he will need.

Speaking of white perch, one of the all-time great spots for these winter favorites is the Mullica River, and Collins Cove is the winter hot spot most often visited by the frostbite angler. Although ice does not form too often on this tidal water hot spot, when it does present itself, get ready for some mighty fine action. Last year most serious ice fishermen got in only one or two trips to this honey hole, but they came back with some really fine stringers of good-size fish. The Garden State Parkway is the principal access to the Mullica River, and there are ample tackle shops to supply the prospective fisherman with whatever he needs. One thing to remember when fishing this area is that it is a tidal area, and when the ice is marginal, it is always best to play it safe. A short call to a local tackle shop will let you know if ice is present and fish are being taken.

As you can see, there is good ice fishing to be had in New Jersey. A variety of fish can be taken through the ice in this state—everything from bass and pickerel to white perch and crappie. So if you are tired of watching television reruns while cabin fever sets in, make the trek to one of these lakes and fill up your freezer with some winter delights.



# Making



BY GAIL GRECO  
PHOTOS BY  
KEITH HITCHENS

Snowshoeing conjures up images of the arctic where Eskimos and tundra trappers trudge across an endless frozen landscape on webbed wonders. While polar climates require such gear, snowshoeing is no foreigner to these parts. It's popular right here in New Jersey as a sport that knows no bounds. As long as there is snow, you can snowshoe almost anywhere, including your own backyard.

In fact, that's just where Marlene and Bernie Vidibor of Maplewood often find themselves walking on webbed feet. It's one of the reasons the couple moved to the state. "I always wanted a place of my own where I could go snowshoeing out my back door," says Marlene.

"I can do that here—all the way to the woodpile. That's only 50 feet away, but it's glorious all the same."

The kids in the urban neighborhood still look curiously at the Vidibors when they go for a walk in their snowshoes. "They want to know why we are wearing tennis rackets on our feet. No joking," insists Marlene. After a good snowfall she and her husband walk from their doorstep to nearby Memorial Park.

Louise Taylor of Woodbine, also hops into her flat, laced shoes as soon as the snow falls. Her location near the shore doesn't stop her from finding enough of the white stuff. Taylor, who has been snowshoeing since she uncovered an old pair at her uncle's cabin one winter, is a competitive snowshoe racer. She represented New Jersey in the 1981 United

States Snowshoe Association, (USSSA). National Snowshoe Championships at Lake Luzerne, N.Y. Taylor has also hiked in her webs in the northern part of the state, including the Great Gorge area.

Peter H. Ovenburg of Princeton has snowshoed in northern and central New Jersey, with Sandy Hook a favorite spot during years of heavy snowfalls. Park rangers hold snowshoe walks there. "I have snowshoed quite happily in Stokes State Forest, Wawayanda State Park and Watchung Reservation," says Ovenburg, who would like to see the state get more snow.

"Any wooded area you might want to walk in is appropriate for snowshoeing," adds Ovenburg, a hiker who bought his first pair of snowshoes when he moved to the northeast. "I got frustrated trying to hike in deep snow." For Ovenburg, snowshoeing was a way of getting into the winter woods and finding some solitude. "I never met anyone else and only once did I see someone else's tracks," he says.

Scouring the winter woods to be one with nature's peace and quiet is the main reason most people snowshoe this side of the North Pole. Unlike cross-country skis, snowshoes provide access to otherwise impenetrable deep woods.

Exercise is another reason snowshoeing is becoming more popular. It provides an aerobic activity outdoors during the snowy months.

## An Ancient Tool

Snowshoeing is at least 2,500 years old and has survived the changing times to continue its story. Contrary to prevalent misconceptions, snowshoeing was not the Eskimo's means of travel. These hearty arctic residents usually traveled over ice in animal-skinned boots. Snowshoes, handmade of hardwoods and laced with deerskin, are the invention of early American Indians who relied on the shoes' wide-webbed surface to keep them afloat in deep powder. By broadening the foot's surface, snowshoes prevented the body from sinking and made travel and hunting possible in deep snow. Survival in remote forests practically depended on these simple tools.

As years went by, use of the snowshoe trickled down to the white men of the back woods. These extensions of the feet which remind one of a beaver's tail or a bear's paw, eventually lost some of their utilitarian purpose. By the 1900's, it became fashionable for snowshoers to gather and hike into the woods for a day of fun and adventure.

Today, not only do snowshoers go out for excitement, exercise or just a short walk in the woods, but they race in snowshoes and compete. In fact, snowshoe racing may be headed

# Snowshoe Prints

for the Olympic games. The USSSA is working on including the sport as an Olympic event.

Some people don't consider snowshoeing a sport but strictly a means of travel or getting somewhere that can't be reached any other way. Even with the invention of the snowmobile, snowshoes still provide access no vehicle can. It is not uncommon to see a utility company worker wearing snowshoes while working on a remote line. They keep feet and legs drier, and are an important tool for these workers and hikers.

Whether you look at snowshoeing as a sport or a means of travel, one thing is certain. Snowshoeing is not glamorous. There are no fancy "apres snowshoe wardrobes" or lounges for gathering and toasting shivering bodies in front of a crackling fire.

Snowshoeing is hard work. The shoes only make walking in snow easier. But unlike cross-country skiing you don't need a trail broken. You can break the trail with your shoes and don't have to carry cumbersome ski equipment.

Snowshoes are lighter than skis and you only have to carry one pole for balance. You don't need any lessons either. Just get out and walk. As long as you put one foot in front of the other, the snowshoes will not get tangled. After the first mile, you'll get the hang of it.

"But first time out," advises Louise Taylor, "go with an experienced snowshoer. If you are doing anything wrong, it can be corrected and you don't get into any bad habits."

## A Choice of Models

Probably the only complicated thing about snowshoes is figuring out which style and bindings to buy. There are many shapes and kinds available. The traditional snowshoe is made of wood, but recent models come in plastic and aluminium.

Which shoes are right for you depends on what you plan to do in them. Here are a few examples of the more common wooden snowshoes and the terrain they are suited to:

**Maine**—All-purpose for all snow conditions; these traditional snowshoes might be a good choice for beginners.

**Beaver Tail**—Ideal for brushy conditions where maneuverability is important but they may still be used as an all-purpose shoe.

**Bear Paw**—Good for hunting or working in forests. Also excellent if you are carrying heavy loads like a tent and other backpacking gear because they provide even weight distribution.

**Green Mountain Bear Paw**—Excellent for beginners because they are versatile; good on hills too.

**Cross-Country**—Easy to walk on and simi-

lar to the Green Mountain Bear Paw, but they have a tail that acts like a stabilizer, much like a fin on a boat.

**Alaskan**—Used by racers, these narrow shoes help you gain speed on an open trail.

**Michigan**—These have a long tail which keeps the snowshoes heading straight. They're good for touring and ideal on light or deep powder snow.

Basically, the longer, wider (heavier) snowshoes will provide better floatation and the shorter, narrower snowshoe are better for climbing.

Traditional snowshoes are flat, leather wooden platforms criss-crossed or webbed with leather strips. They are secured to the foot with a binding. Although trappers who needed to get in and out of their shoes frequently, used a single strap binding. Recreational snowshoers, especially beginners, need a secure, comfortable binding as snowshoes are awkward to walk in at first.

Some aluminium snowshoes have factory-installed bindings. One manufacturer has even built an "easy-running snowshoe." It includes a tempered aluminium traction cleat.

Whatever shoes you choose, New Jersey has plenty of places for you to use them when the snow falls. In the northern part of the state, especially, you can snowshoe along hundreds of marked hiking trails in state parks. Be sure to obey the rules of the park, "Stay off cross-country ski trails," cautions Peter Ovenburg. "Skiers don't appreciate having their prepared trail broken up. Besides, it's more fun to get away from the crowd."

Louise Taylor has this tip for New Jersey snowshoers: "Try to go when the snow has a soft powdery covering, because the snow is easier to walk in, and your binding and your shoes will last longer. On a hard crust, the snow cuts into the binding and can damage your shoe and wood frame as well."

Snowshoeing will help you see New Jersey up close in winter whether you are hiking, hunting or working. The state's scented pinelands and rolling forests are beckoning you to stop and observe the winter wildlife and frozen lakes where the only tracks you see may be those of a foraging deer.

Marlene Vidibor sums up snowshoeing this way: "There is the irreplaceable aesthetic feature of feeling fresh snow under your feet and the feeling of being the first person standing in that spot—the sense that it is all yours."

For more information consult *The Snowshoe Book*, by William Osgood and Leslie Hurley (Stephen Greene Press) and the United States Snowshoe Association, Box 170, RD 1, Corinth, N.Y. 12822.



# Rails to Trails or Rails to Backyards?



For nearly one hundred years, until it ceased operation in 1962, the New York, Susquehanna and Western Railroad carried passengers, coal and agricultural products from Columbia on the Delaware River east through Hainesburg, and Blairstown to New York City. Abandoned by the railroad and bought by the city of Newark in 1963 for a water pipeline, sections of the right-of-way have been used as a trail over the past 20 years by walkers, motorbikers, cross-country skiers, horseback riders and others.

Some adjoining landowners have also used the right-of-way for driveways, brushpiles or gardens. Some areas have also attracted litter, from cans and bottles to old tires and furniture. Some landowners have property on both sides of the right-of-way and some of those are farms, with fields on one side of the line and barns and homes on the other.

In the early 1980's, the city of Newark offered to sell 26 miles of the line—through Knowlton, Blairstown and Frelinghuysen townships, along the Paulinskill, a well-known trout stream and into Sparta. In its 1982-approved master plan, the New Jersey Trails Council had identified the right-of-way as an opportunity for a trail to meet identified recreational needs. The Department of Environmental Protection's Green Acres program expressed interest in the right-of-way for a trail. Also interested in the right-of-way are some local property owners, who have expressed the desire to buy the strip and add it to their holdings. They are opposed to state purchase and are supporting legislation which would prohibit the use of Green Acres funds to purchase the right-of-way.

The resulting dilemma is one being faced more and more these days. New Jersey is the most densely populated state in the nation



and the fourth smallest in land area. How to best use our available land? The New York, Susquehanna and Delaware right-of-way provides an opportunity to view both sides of that question.

#### Arguments for a Trail

- New Jersey is committed to providing varied outdoor recreation opportunities for its citizens. This existing corridor will supply a much needed trail for people to walk, jog, bicycle, cross-country ski, dogsled, ride horses, etc. No motorized vehicles will be allowed. Opportunities for trail development are limited and this 268-acre area represents a chance to take advantage of an established 26-mile corridor of open space near the state's rapidly developing north-central section.

- Once the trail is owned by the state, the Division of Parks and Forestry will develop a plan for maintenance and supervision, which the trail lacks today. Regular patrols can help keep users on the trail and off private property and prevent litter and other nuisances. Trail user groups have helped governmental agencies maintain some 70 miles of the Appalachian Trail in northern New Jersey and 40 miles of the Batona Trail in the Pinelands.

- Land exchange, easements and lease-backs can be used to allow active farming that crosses the trail to continue and to decrease the potential intrusions on private property.

- The relatively gentle topography of this right-of-way can serve many different needs and a broader group of citizens than the nearby rugged Appalachian Trail.

#### Arguments Against a Trail

- The right-of-way cuts through some working farms and within 30 feet of some private homes. If made into a public trail, these

abutting landowners could be subject to unwarranted intrusions on their privacy and nuisance factors—vandalism, noise litter, trespassing, illegal hunting and fishing.

- There are already large tracts of land owned by the federal and state governments in Warren and Sussex Counties. If the state buys this right-of-way, some \$12,000 will be taken off the tax rolls.

- Based on inadequate staffing and supervision by the Division of Parks and Forestry at the Delaware, Lackawanna and Western right-of-way trail from Andover to Branchville, and the practical difficulties of maintaining a 26-mile strip, the proposed New York Susquehanna and Western trail will not be adequately patrolled or maintained by the Department of Environmental Protection and/or user groups.

- The New York, Susquehanna and Western parallels the Appalachian Trail and is an unnecessary duplication.

#### Options

- Green Acres buys and the Division of Parks and Forestry develops the right-of-way as a trail for public use.

- The landowners buy the entire 26-mile stretch and retain it in private ownership.

- Newark retains ownership and control of the right-of-way.

- Green Acres buys part of the right-of-way, the abutting landowners buy part of the right-of-way and the cohesiveness of the 26-mile trail is lost forever.

- Green Acres buys the entire right-of-way and where possible leases back sections in active agriculture until the land use changes. The cohesiveness of the 26-mile trail is lost temporarily.

*Built in the late 19th century, this steel bridge is one of several along the N.Y.S.&W.*

*Across the Paulinskill from the right-of-way, a restored mill is now a private home.*

*This section of the right-of-way is straight and level.*

PHOTOS BY GREEN ACRES



W. RICHARD ALLEN

# Skiing Across New Jersey

BY STEVE SPAFFORD

"Wasn't that a bad snowstorm the other night?" a friend once commented. "There's no such thing as a 'bad' snowstorm," I quickly replied. As a cross-country skier, I consider any snowstorm pure ecstasy, for they allow us to revel in New Jersey's winter wonderland.

Cross-country skiers explore and play in the snow as we educate ourselves (What are those animal tracks?) to be one with nature and the great outdoors. Our enjoyment of snow helps prevent "cabin fever." Over the years I've met many people who have told me how they couldn't stand winter until they started cross-country skiing.

Gliding silently through the state parks and forests, a skier sometimes happens upon wildlife. Once one comes across deer pawing in the snow for acorns, as we've seen in Stokes State Forest, there is a desire to experience more. Last year while ski touring in the Delaware Water Gap National Recreation Area, a friend and I started three Eastern coyotes, which scampered away. My friend was overwhelmed by the sight, even though he is an experienced backwoods skier who frequently explores the high peaks of the Adirondacks.

For many people in New Jersey the only contact with what alpine ski areas call "white gold" is shoveling after a storm. With only that to anticipate one can expect a dreary winter. To enjoy the season more, call a ski touring center or club where lessons are available and join a growing fraternity of snow lovers. There are no words to describe how it feels to glide through God's country silently, without disturbing Mother Nature at peace with herself and witnessing her winter majesty.

After one has been "hooked" with an inexpensive lesson and has bought equipment (also inexpensive), the question is, "where to ski?" The answer is simple. Ski wherever there is snow! There are ski touring centers in New Jersey which charge a modest trail fee and have equipment rentals available. But, if there is a good snowstorm, head to the state's parks and forests, where there are miles of designated ski areas—all free. But remember the Golden Rule: Never ski tour alone.

If there is no snow at lower elevations, try High Point Park. Also, Stokes Forest has nine miles of barricaded roads for skiing after January 1. Adjoining this area is the Delaware Water Gap National Recreation Area which boasts New Jersey's most remote and beautiful cross-country skiing region. The trails in the Blue Mountain Lakes area of Walpack Township are marked with maps at every intersection (so you can't get lost), and are maintained by the New Jersey Nordic Ski Club.

If you like hiking trails in the fall and learning of new areas to ski, call the club's Ski Hot Line at (201) 383-6265. The line operates year round to provide information to skiers and others interested in outdoor activities.

Locations and phone numbers of other cross-country ski areas are listed at right:

# CALENDAR

# OF EVENTS

## JANUARY

Saturdays

MAPLE SUGARING, Morris County Outdoor Education Center, Chatham. 201-635-6629

CROSS COUNTRY SKIING CLASSES, Trailside Nature & Science Center, Mountainside, snow or no snow. 201-232-5930

5, 6 HALLEY'S COMET VIDEO PRESENTATION, N.J. Astronomical Association, Voorhees State Park, Glen Gardner 201-638-8500

16 A LOOK AT MISS LIBERTY ON HER CENTENNIAL, Bergen County Historical Society, Second Reformed Church, Hackensack 201-487-1739

18 ALLIANCE FOR ENVIRONMENTAL EDUCATION CONFERENCE, Somerset County Environmental Education Center, Basking Ridge. Workshops on nature through the arts, games that teach, short field trips, wetlands and more for teachers, interpretive specialists, group leaders, pre-kindergarten through high school. 201-766-2489

17 NIGHT HIKE, Washington Crossing State Park, Titusville 609-737-0609

| JANUARY |    |    |    |    |    |    |
|---------|----|----|----|----|----|----|
| S       | M  | T  | W  | T  | F  | S  |
|         |    |    | 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 |    |

| FEBRUARY |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|
| S        | M  | T  | W  | T  | F  | S  |
|          |    |    |    |    |    | 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 |    |

18 SPRINGER'S BROOK-LOWER FORGE HIKES, 6 and 8 miles. Meet at Atsion Ranger Station, Route 206, 11 miles south of Red Lion Circle. 609-267-7052

22 GREAT SWAMP NIGHT HIKE, Morris County Outdoor Education Center Chatham. 201-635-6629

25 CITIZENS' CROSS-COUNTRY SKI RACE, Nordic Ski Club. 201-637-6676

26 WILDLIFE WOOD CARVING WORKSHOP, Morris County Outdoor Education Center, Chatham. 201-635-6629

## FEBRUARY

1, 2 ICE FISHING CONTEST, 40th Anniversary, Knee Deep Club, Lake Hopatcong, Landing. 201-839-4514

8 SNOW SCULPTURES, Washington Crossing State Park, Titusville. 609-737-0609

13, 20 WINTER BIRD WATCHING, Morris County Outdoor Education Center, Chatham. 201-635-6629

25 FLY TYING CLASSES, Ernest Schwebert Chapter, Trout Unlimited, Ewing Township Adult School. 609-771-1300

## FEDERAL

Blue Mt. Lakes Ski Trails, Delaware Water Gap National Recreation Area, Walpack 201-496-4458

Jockey Hollow National Historical Park, south of Morristown 201-221-0311

## STATE

High Point Park, Sussex 201-948-3820

Wayanayanda Park, Vernon 201-853-4462

Stokes Forest, Branchville, Sandyston 201-948-3820

Allamuchy Mountain Park, Hackettstown, Allamuchy 201-852-3790

Ringwood Park, Ringwood 201-962-7031

Norvin Green Forest, Ringwood 201-962-7031

Abram S. Hewitt Forest, West Milford 201-962-7031

Hacklebarney Park, Long Valley, Chester 201-879-5677

Palisades Interstate Park, Bergen County 201-768-1360

Swartwood Park, Newton, Stillwater 201-383-5230

Sussex Branch abandoned railroad bed, Byram through to Branchville

Delaware & Raritan Canal State Park, Belle Meade 201-873-3050

Washington Crossing Park, Titusville 609-737-0623

Princeton Battlefield Park, Princeton 609-737-0623

Cheesequake Park, Matawan 201-566-2161

## COUNTY-MUNICIPAL

South Mountain Reservation, West Orange 201-762-0408

Mahlon Dickerson Reservation, Jefferson Twp. 201-697-6079

Loantaka Brook Reservation, Chatham 201-829-0479

Toune Park, Boonton 201-829-0474

Hedden Park, Randolph 201-366-2899

Lord Stirling Park, Basking Ridge 201-766-2489

Sourland Mountain Preserve, Hillsborough 201-722-1200

Newark Watershed Conservation Development Com., W. Milford

Susquehanna & Western Abandoned Railroad Bed, Sussex & Warren Counties

## PRIVATE

Fairview Lake Ski Touring Center, Newton 201-383-9282

The Quarry Rt. 517, Hamburg 201-827-4200

Silver Lake Ski Touring Center, Stockholm 201-827-7221

Wild West City, Stanhope 201-347-8900

The above list of areas are places to try cross-country skiing. They are not necessarily recommended by the Nordic Ski Club.

# Where to Ski



# Hunter Education



BY DR. ROGER LOCANDRO

PHOTO PROVIDED  
BY AUTHOR

"Hunting is one of the safest recreational sports," exclaims Ronald White, state coordinator of Hunter Education for the Department of Environmental Protection's Division of Fish, Game and Wildlife. To prove his point, he cites figures which show that the incidence of hunting accidents has been reduced from 24 in 100,000 in 1965 to only 7 in 100,000 in 1984. And, he adds, this decline is due in large part to New Jersey's nationally-recognized Hunter Education Program.

I have personally been associated with Hunter Education for the past 25 years and had the pleasure of helping the program in its early days. At that time I taught agriculture and science at South Hunterdon Regional High School and included Hunter Education as part of the high school curriculum. The community was rural and most everyone in the school was involved in hunting or had a general interest in the area's natural resources.

Safety was the primary objective of the course and the statewide program. In fact, the state program was called "Hunter Safety" and was limited to the basic pragmatic, utility aspects of firearm handling and an understanding of the dangers of firearms.

Introduced as an educational pilot study in 1954, the program was originally mandatory for individuals between 14 and 21. Then in 1959 a Hunter Safety Program was developed for archery and in 1972, a total mandatory program was inaugurated, requiring successful completion of a hunter safety course for anyone of any age wishing to obtain a hunting license of any kind.

In 31 years, using an army of volunteer instructors, the program has educated over 300,000 individuals! At present, 425 volun-

teers throughout the state assist in coordinating 380 classes annually with some 18,000 individuals successfully completing the Hunter Education in 1984.

As an educator at Rutgers University and a person who continues to be active in hunter education, I thought the university could share some of its expertise to help assist and train the outstanding volunteers who make this program such a success. Rutgers has provided a continuous training program "to teach the teachers" using innovative instruction techniques to help upgrade Hunter Education classes. Dr. Charles Drawbaugh, former Chairman of the Department of Vocational Education at Rutgers' Graduate School was particularly influential in the many hours he devoted to instructing volunteer teachers.

Hunter Education in New Jersey continues to unfold—a dynamic process with an ever-expanding set of goals and objectives. The present Hunter Education program focuses the students' attention on ethics and behavior, development of respect for others, an appreciation for natural resources, and an understanding of the management that is necessary to maintain wildlife for everyone's enjoyment.

Yes, Hunter Education has come a long way. Starting with the very basic concept of safety, it has met its original objective to reduce the incidence of accidents in the sport of hunting. The challenge of learning more and teaching others has been embraced by hundreds of volunteers, making Hunter Education one of the state's largest volunteer efforts. There is no question that our Hunter Education has gone far beyond safety and has made an important contribution to the understanding of what our natural resources are and why they need protection.

## 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.

### More on the Revolution

In "The Revolution Revisited," Mark Edward Lender (November/December) begins his trace of the highlights of the war at Fort Lee. That engagement was a fatal disaster for the American forces. The British captured American patriots.

Mr. Lender then suggests the traveler take the N.J. Turnpike to New Brunswick. Why did he omit a short visit to the Paulus Hook neighborhood in Jersey City? It is a site where General George Washington built a fort directly opposite another fort on the other side of the Hudson River, and where on August 19, 1779 Maj. "Light Horse" Harry Lee (father of Confederate Gen. Robert E. Lee) led a raid and captured 158 prisoners of war. Only 23 years old at the time, Major Lee received a gold medal and \$15,000 to distribute to his men from Congress.

Next August the Historic Paulus Hook Association will rededicate the Paulus Hook obelisk at the corner of Grand and Washington Streets, Jersey City, to commemorate the 207th anniversary of the battle.

Joseph R. Duffy  
President

Historic Paulus Hook Association Inc.  
Jersey City

Great November/December issue! First I read "To Monmouth for a Holiday Walk" by Steven K. Brush, then "Fishing for Pike, Pickerel & Muskie" by Robert Stewart.

Did you know that Molly Pitcher of Battle of Monmouth fame was of German descent, born Maria Ludwig in Lawrence Township? She married John Caspar Hayes, the barber of Carlisle, Pa. and worked for Dr. William Irvine. All three joined up in Proctor's

Pennsylvania Artillery in the Revolution!

Carl Schielke  
Trenton

### Wetlands Are Not Wastelands

How could a statement which reads, "horse racing, football, basketball, soccer and ice hockey have drawn national attention to what was once *wasteland*" appear in a conservation magazine? This is the second sentence of Theresa Foy DiGeronimo's article, "Hackensack Meadows, A Place to See & Learn," (September/October).

The idea that wetlands are wastelands is doing more to destroy the beauty and wildlife habitat of the United States than any other single misconception. Every conservation magazine should be trying to educate Americans to the fact that wetlands are the most fertile wildlife areas because we are losing our most valuable wetlands at an alarming rate.

I hope your authors don't consider all areas in New Jersey "wastelands" if they don't have a house or stadium built on them.

Robert M. Brooks  
Newton

*We couldn't agree with you more. Over the past year we've published a number of articles about wetlands, their values for flood control, water quality and supply, plant and animal habitat. See especially the January/February 1985 issue.*

In the November/December issue you push sales of Duck Stamps to acquire N.J.'s few "remaining fragile and valuable wetlands." A few pages later in "Birth of a Cranberry Bog" you go into considerable detail and indeed seem to express considerable admiration for the destruction of 10 acres of swamp (fragile and valuable wetlands?) to create a cranberry bog. Was this destruction approved or was it illegal as well as immoral?

E.F. Wood  
Clifton

*There are several kinds of wetlands, all with important en-*

*vironmental functions. While creating a cranberry bog can displace natural forested wetlands, it creates open water wetlands. Cranberry bogs provide habitat for many different kinds of birds, for example tundra swans and ringnecked ducks. Because a cranberry bog makes use of wetlands' natural qualities, it is a more intelligent use of a wetlands site than a housing development or a gravel pit which would destroy all those functions.*

### Litter in the Woods

One Sunday morning, my husband and I took our three young boys on a nature walk. We explained that the beauty of the woods is something to cherish. We wanted to share the wildlife and the flora with them and to impress upon them the importance of caring for nature.

With Wharton State Forest nearly in our back yard we set out. The area near Atco seemed a lovely place from the road, but to our dismay we found every trail to be an utter disappointment.

There was garbage everywhere ... sofas, washing machines, mattresses, tires. Had someone renamed this "Wharton Landfill" or were we having a terrible nightmare? How could anyone be so thoughtless?

Our excursion was short. The children had trouble looking up at the trees. They kept glancing down at the debris. They asked me what it was and who put it there. We wondered that ourselves.

Rose and Al Iannone  
Indian Mills

### Thanks for Autumn Trout

My sincerest thanks and compliments to the Department of Environmental Protection's Division of Fish, Game and Wildlife for a job well done during this autumn's trout stocking program. Too many times while astream, I hear negative comments directed their way. Well, I have only praise for this late-season stocking program and the quality of trout being produced at our new Pequest Hatchery. Keep up the fine work!

Bernie Varacalli  
Leonardo

# Birds at a Feeder

BY DAVE CHANDA

ILLUSTRATED BY  
CAROL DECKER

During the wintertime, my family always sets up bird feeders outside our picture window. I can remember the morning ritual of birdwatching with my father. Dad and I quizzed each other on the different species we'd see. I rarely stumped him—it seemed he knew the name of every bird that ever was!

"What's that one?" I'd ask. My father identified the slate-colored junco (now dark-eyed junco) and explained it was a common visitor to winter feeders and also the most widespread of all juncos.

"Wow, look at the pretty one!" It turned out to be a cardinal, so named because its color matched the scarlet robes worn by Roman Catholic cardinals.

If you think you might like this winter activity, all you really need is a window and some bird seed. The food and the type of habitat in your yard will affect how many different kinds of birds you attract. Different birds prefer different foods and some birds feed almost exclusively on one while others are not as selective. For example, American goldfinches prefer thistle and sunflower seeds, while white-throated sparrows and mourning doves will feed on just about any type of seed. In general, sunflower seeds and white proso millet attract the greatest variety of birds.

Cardinals, blue jays, chickadees, tufted titmouses, grosbeaks and finches will be attracted by sunflower seeds. The white proso millet is a good choice to attract juncos, sparrows and mourning doves.

Other feeder food includes peanut butter, cornmeal mix, wheat, cracked corn, oats, canary and sorghum. Downy and hairy woodpeckers, nuthatches and the most familiar starlings can be attracted to your feeder with suet, doughnuts, cornbread or cracked walnuts.

Where you place the food is just as important as the type of food you choose. Some birds like juncos prefer to feed on the ground, scratching for food in leaves. These birds can clean up the seed that other birds usually knock off an elevated feeder. It is always a good idea to spread some seed on the ground for these birds. Other birds need an elevated platform. Chickadees and finches use perching areas on the feeders, and woodpeckers will eat suet which hangs from a tree trunk.

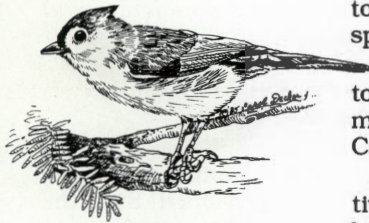
Probably the single most important factor in determining the numbers and kinds of birds that will visit your feeder is the habitat the trees and shrubs in your yard can provide. Survey the vegetation surrounding your feeder. If your yard lacks cover, you may want to consider some plantings to create additional habitat for birds.

Most birds are quite regular in their movements and will visit your feeder at approximately the same time each day. If you keep a keen eye, you might even notice certain groups arriving together. In the wild, a flock of black-capped chickadees are often accompanied by nuthatches, downy woodpeckers and brown creepers as they forage through an area. The birds are feeding in different sections of the habitat—chickadees in the branches, woodpeckers on the tree bark. The main advantage of the mixed flock is extra eyes to spot potential danger from predators. Other birds like the tufted titmouse are more sedentary in their patterns and tend to stay near their nesting place throughout the year.

Some of the more common visitors you can expect this winter are juncos, tufted titmouses, cardinals, woodpeckers and chickadees. Dark-eyed juncos have black or gray hoods and pink flanks. The tufted titmouse has rusty brown flanks and prominent, pointed crest, while the common black-capped chickadee has a black-bib and dark cap. A cardinal's most distinguishing feature is its bright red color and crest. Although female cardinals do not have such a bright hue, both sexes have a thick red bill. The black and white downy woodpecker is North America's smallest. A small red patch on the back of the male's head distinguishes him from the females. Downy woodpeckers usually dig a fresh hole in a dead tree to provide a roosting place for the winter.

As you can see, with a minimum of effort, you can become involved in an interesting and fun activity. I still enjoy watching birds outside of my own picture window and I look forward to the day when I can sit there with my son or daughter and share a few moments enjoying New Jersey's wildlife.

*For further information on inexpensive feeders you can build yourself and/or what trees and shrubs will attract wildlife to your yard, send a stamped, self-addressed legal envelope to Division of Fish, Game and Wildlife, CN 400, Trenton, New Jersey 08625, ATTN: Bird Feeder.*



Tufted titmouse



Downy woodpecker

## FRONT COVER

Blizzard in northern New Jersey. Photograph by Charles A. Mueller, APSA

## INSIDE BACK COVER

Birds at a Feeder. Illustration by Carol Decker

## BACK COVER

Frosting. Photograph by David Bast



New Jersey State Library

'85 © Carol Decker

