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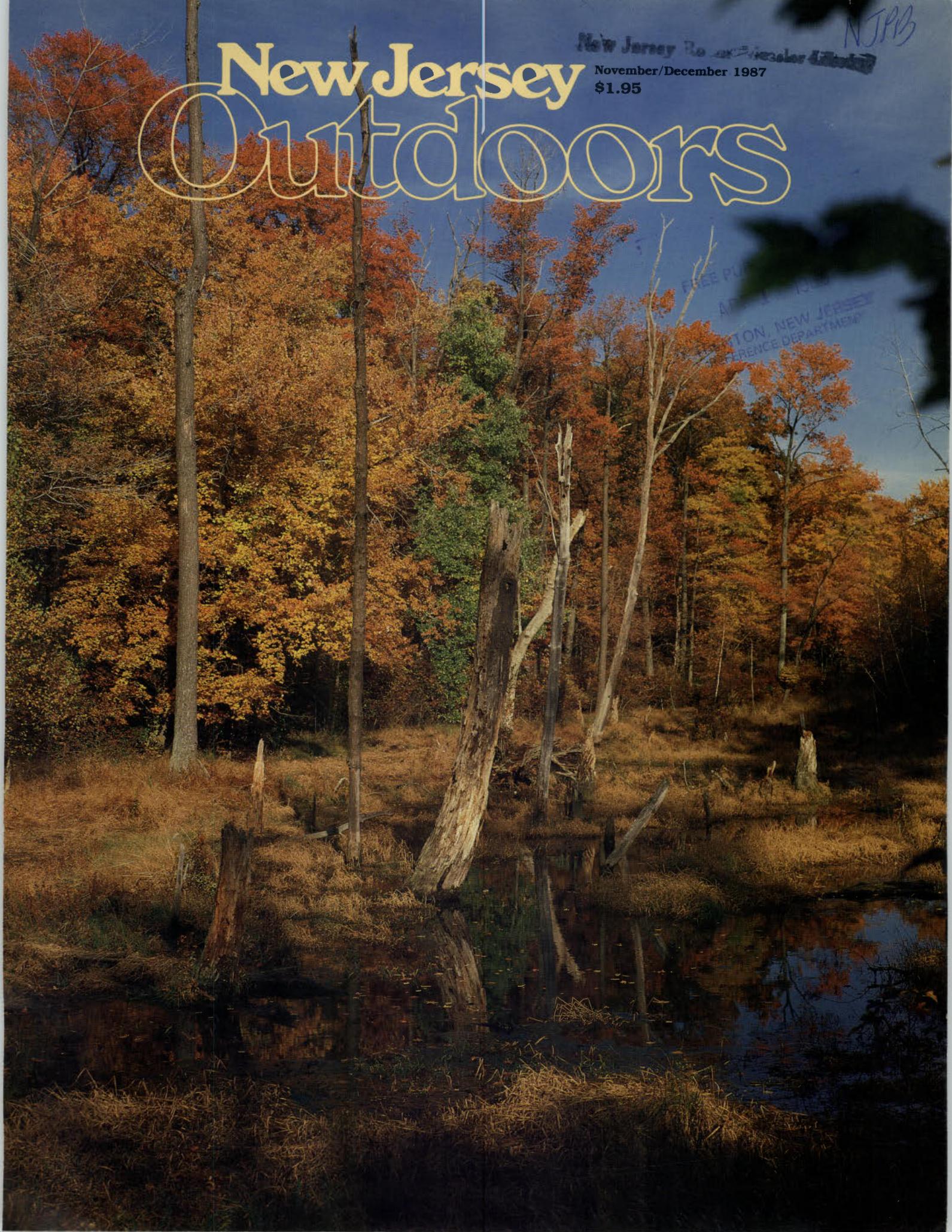
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New Jersey Outdoors

FREE PUBLICATIONS
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REFERENCE DEPARTMENT



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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.

The November/December issue usually calls for a "Happy Holidays" editorial and we certainly want to extend this greeting to all our subscribers again. In an earlier holiday editorial (1980, to be exact), we wished you cleaner beaches, no fish kills, less air pollution, resolution of our waste problems, more fishable and swimmable waters, and intelligent land use policies for our coastal zones, the pinelands, and our disappearing farmlands. That's what we wished you then.

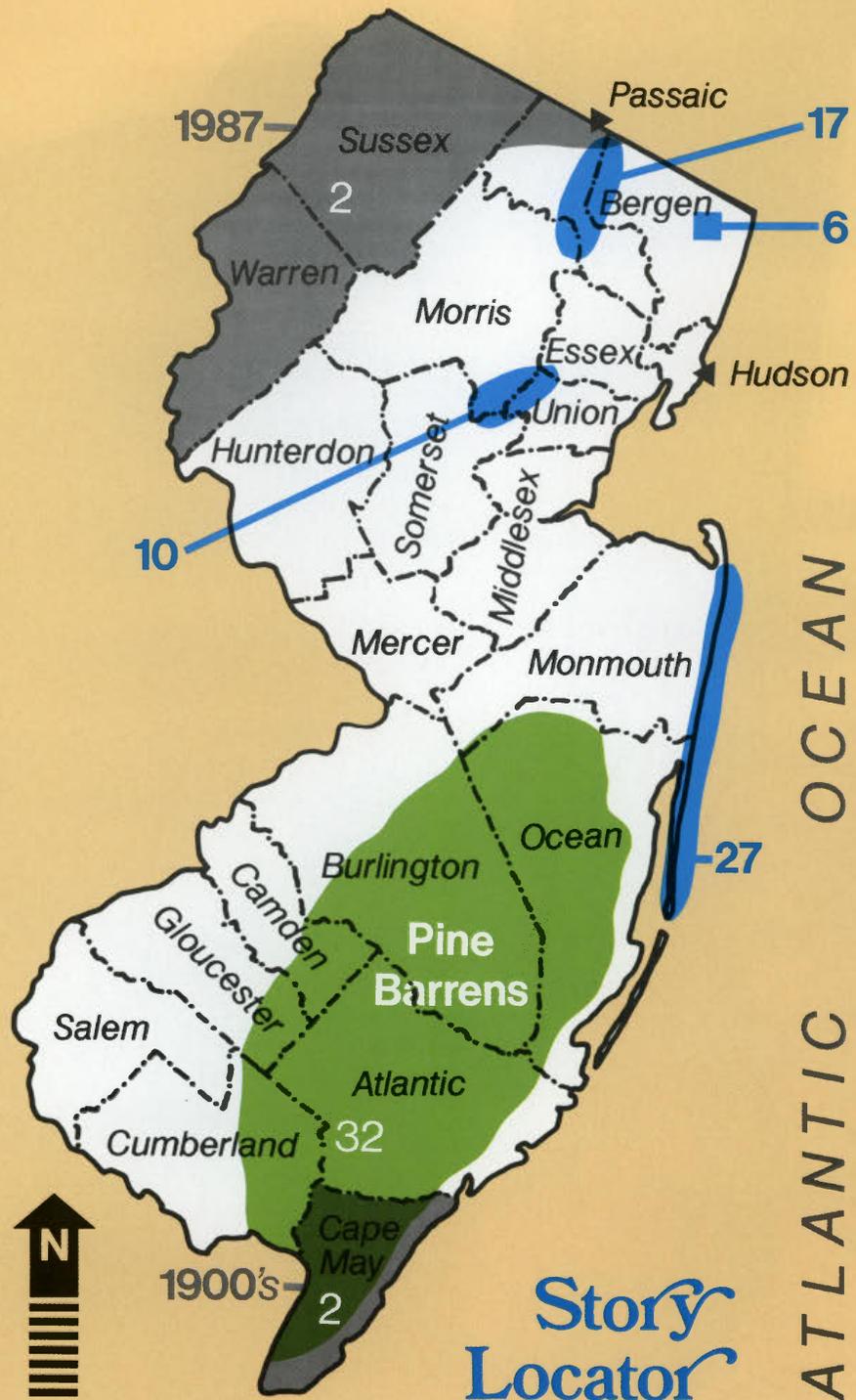
We were reminded of this editorial by the many letters we received this past month or so from our readers who wrote in language that ranged from concern to outrage about the repeated appearance of garbage, hospital wastes, dead dolphins and other debris on our beaches this summer. They're not blaming the DEP or the EPA, but they do want action and solutions.

With this in mind, we have reviewed your letters and selected several that represent your concerns, and responded to them in our *Letters to the Editor* page. The responses and explanations were provided by our DEP scientists and technical experts in the areas involved.

In some cases a more detailed explanation was also mailed to the letter writer, because of the space limitations in our publication. These explanations can also be mailed to other readers, if requested.

And in keeping with the holiday spirit, may we remind you that the best gift for an outdoors nature-loving relative or friend, or both, is a subscription to *New Jersey Outdoors*. It's the biggest bargain in the state and your gift will be remembered throughout the life of the subscription. Subscribe now—before the price increase—and save bucks. Don't say I didn't warn you.

Steve Perrone



On the map of New Jersey, areas referenced in this issue are highlighted. The article page numbers listed in the table of contents appear on the location map. A quick glance shows points of interest throughout the state.

This issue introduces the holiday season and the beginning of winter.

And we have a mix of seasonal articles included to inform, educate and entertain you. We hope so. The articles range from *Bears in New Jersey* to *Parlor Theatre*, *Waiting to be Free*, *Scenic Trails in the Ramapos*, *Environmental Education Goes "WILD"* and *One Way Trip ... Almost*, among others. Enjoy.



Bears

... in New Jersey?

The telephone rang at the Northern District office in Clinton. An excited and concerned voice exclaimed "I just moved to northern New Jersey after ten years in Alaska. I thought I was moving back into civilization, but when I got up this morning a black bear was in my yard, right outside my windows!!"

The American black bear is indeed a part of New Jersey's wildlife, and in fact is the only species of bear found in the state. The bears are usually black in color, as its name implies; although a brown or cinnamon phase black bear is sighted on rare occasion. Male bears, known as boars, may exceed 700 pounds, but commonly average 200-400 pounds (the largest on record is from Wisconsin and weighed 802½ pounds). Adult females, known as sows, are smaller, averaging 100-200 pounds.

The black bear has a straight line to its back, lacking the shoulder hump typical of the grizzly bear. It walks flat on the soles of its feet which are equipped with curved, nonretractile claws. These bears can also run, up to 35 miles per hour, for short distances. Black bear are excellent climbers even as adults and will readily climb trees, both for food and protection.

Although black bear will eat just about anything, vegetable matter in the form of nuts, berries, roots, tubers and grasses is their usual diet. Meat is usually in the form of insects and carrion.

The black bear emerges from its winter den in March and April. Having gone without food for up to five months, it is often lean and hungry. Bears lose about 17-25 percent of their body weight during denning. Winter-killed deer and other natural casualties are often the bear's first food. Swamps and other wetlands are important at this time of year because of the succulent early growth they provide. Since natural foods may be in short supply, garbage cans are easy targets. The garbage raids taper off as natural foods become more abundant.

Beehives are also an occasional target in early spring. Not only will the bears eat honey, but the bees as well! Evidently the bee stings do not bother black bears. Actually, a beehive provides a well balanced meal. The honey gives the bears necessary carbohydrates and the bees are a good source of protein.

Spring is a time when many New Jersey residents see the usually shy and elusive black bear. Bears move a good distance at this time, often into unfamiliar and sometimes highly urbanized areas. If left alone by local authorities or residents, the errant bear usually collects itself enough to navigate successfully around these populated areas.

Late June and early July is the height of the mating season. Black bear are sexually mature at 2½ to 3½ years old and are capable of breeding successfully until they are 18-20 years or older. The female breeds every other year. Once the cubs are one and one half years old (yearlings), they are on their own and the female will again find a new mate.

Female yearlings are generally tolerated within their mother's home range, but males are not. The yearlings and two and three year old males often move great distances during mating season. Dominant males do not allow these younger males a chance to breed with the few available females, and often harass them. Males that are fortunate to find a female breeding that year are very attentive, usually remaining with the sow until she is pregnant. A boar will breed other females if he has the opportunity. Once the breeding season is over, the male is solitary. He has nothing to do with the birth and raising of cubs, and in fact, a male will kill and eat cubs if the opportunity presents itself.

In the summer and fall blueberries, huckleberries, raspberries, wild cherries, mountain ash, beechnuts and acorns are sought with great enthusiasm. Adult males may gain up to two pounds a day, and younger bears a pound

BY PATTI MCCONNELL

PHOTOGRAPHS BY
DIVISION OF FISH,
GAME AND WILDLIFE



a day, during this time period.

As a rule, male black bears have a much larger and more variable home range than females; 50-60 square miles is not unusual and in spring or fall they may even expand their range. Females usually remain in a home range of about 10-25 square miles. However, during the fall, and particularly when they have young of the year, they may make a long round-trip exploration far from their usual home range as they fatten up for denning.

Denning, or winter dormancy, is a curious phenomena. The pregnant female is usually the first to den. If food is in short supply, such as during a berry or mast failure, she may den as early as mid-October. Females with young of the year and adult males are next to den. In a year of mild weather and good food supplies, males and females with young may not den until mid January or later.

Choice of den locations is variable. Usually a pregnant female will choose a secure den such as a hollow tree, rock cavity or ground excavation. Females with year old cubs and males will often just scoop out a depression on the top of the ground.

During denning, the black bear does not eat, drink, urinate or defecate. The fact that they are able to reabsorb the byproducts of metabolism without toxicity is of considerable interest to human kidney disease research. Their metabolism is reduced about 50-60 percent and their heart rate drops from 40-50 beats per minute to 8-9 beats per minute. Body temperature however, only drops 9 to 14 degrees F. Unlike true hibernators, black bear can be easily aroused during the denning period.

The pregnant sow gives birth to her cubs in

mid-January. Young sows (3-4 years) may give birth to one or two cubs. Older sows in good condition usually have larger litters, 3 or more cubs. The cubs are extremely small at birth, 12 ounces, as compared to their mother who may tip the scales at 250-300 pounds. Almost naked and helpless at birth, they grow rapidly and by the time they are ready to leave the den, they weigh about 5-10 pounds. The cubs remain with their mother through the summer and fall and usually den with her again the following winter.

The black bear has adapted well to living close to people. They are rarely aggressive, preferring to flee rather than confront humans. Young black bear, (cubs and yearlings), are often very curious and will sometimes approach humans without caution. A sharp voice and waving of the arms are usually enough to send them scurrying. When a bear encounters an object, human or otherwise, that it can't readily identify, it will often rise on its hind legs to more accurately determine the odor. Their sense of smell is phenomenal and they rely on it greatly. Their eyesight, although able to determine color, appears to be poor or at least not nearly as acute as their senses of smell and hearing.

Although black bears are not aggressive creatures, and will usually try to avoid a direct confrontation, it is never advisable to harass a bear in any manner. The size and strength of the black bear demands that they be treated with caution and respect at all times. Feeding black bear is also asking for trouble. Black bear quickly learn to associate food with humans and will approach in the hopes of being fed. The best rule to follow is **LEAVE THEM ALONE!**

Black bear have always been a part of New Jersey's colorful history. At one time, black bear were abundant in every county in the state. Indians and early settlers valued the bear for its flavorful meat, and the white fat provided a sweet oil for frying as well as a base for medicinals. The pelts were used for trade and clothing.

As settlers entered New Jersey, extensive burning and land clearing took place eliminating wildlife habitat. Black bear were soon pushed into less productive and inaccessible areas. Some bears learned quickly that settlements provided rich stores of food in the form of livestock, gardens and storehouses.

Burning, clearing, grazing, crops and the charcoal industry soon changed the character of New Jersey forests. At one time, 80 percent of New Jersey was forested. By 1860, the state was almost completely cut over; in some areas it had been cut over three times. Coupled with unregulated hunting, the black bear numbers dwindled rapidly. The geologist Abbott wrote in 1868 of black bear, "fast disappearing from the state, now never met in the central counties, in inappreciable numbers in the northern mountainous districts and not more than a half dozen are annually killed in the southern section of the state."

The southern counties may have been the last stronghold of the black bear in the late 1800's and 1900's. Writing about Cape May County in 1857, Beesley, a geologist, stated that the bear was "quite plentiful at certain periods, particularly in the dense cedar swamps in the upper part of the county where five have been killed the present autumn."

Following this rather bleak period, several events once again favored the New Jersey black bear. Overworked land was abandoned and the discovery of coal decreased the demand for timber to support the early charcoal industry. Many areas began reverting back to productive woodlands, providing good habitat once again for the black bear.

In 1954, the black bear was given game animal status under the Division of Fish and Game regulations. As a game animal, black bear could only be taken by licensed archers and firearm hunters during one week in December. Between 1958 and 1970, 46 bears were taken, 3 by archers and 43 by firearm hunters. In 1971, the season was closed on black bear.

Two important events occurred in the 1960's and 1970's. Thousands of acres of land were purchased along the Delaware in Warren and Sussex Counties by the Army Corps of Engineers for the creation of the Tocks Island Dam. This land was turned over to the Na-

tional Park Service and the Delaware Water Gap National Recreation Area was created. The section in New Jersey combined with Worthington State Forest, Stokes State Forest, High Point State Park and Division of Fish, Game and Wildlife lands created over 100 square miles of publicly owned habitat for bears along the Kittatinny ridge relatively free of human interference. Mountain laurel, rhododendron, blueberry, oak, hemlock and huckleberry, provided both thick cover and a rich source of food for bears.

In 1977 and 1978, Pennsylvania closed the hunting season on black bear. As a result, black bear in Pennsylvania increased rapidly and began spilling over into New Jersey's newly expanded space along the Delaware.

Looking at New Jersey's record of black bear sightings, one can see how closely they mirrored Pennsylvania's increase. In 1977-78 there were 10 sightings reported to the Division, 31 in 1978-79, 81 in 1979-80, and 174 in 1980-81. Sussex County was the major source of sightings.

It was obvious that the black bear was on the comeback trail. New Jersey, in spite of an ever-increasing human population, was absorbing the increased numbers with minimal conflict between man and bear. But biological facts were needed by the Division of Fish, Game and Wildlife to develop a management plan for the near future so that both black bear and man could continue to coexist peacefully.

There were many questions to be answered. What were the age and sex of the bears in New Jersey? Were they reproducing and at what rate? Were they living in New Jersey or just traveling through? Where were they found in the state and how many were there? What types of losses were occurring? A most important question to be answered was what types of habitat were critical.

All were important questions to be answered in order to manage the black bear properly. To get the answers, in 1981, the Division of Fish, Game and Wildlife began trapping, tagging, and radio-collaring black bear in New Jersey. The story of New Jersey's black bear will continue with a discussion of the results of the research program.

Seeing a black bear in the wild is an exciting experience—one that should be enjoyed. If you are fortunate to see a black bear in New Jersey, it should be reported to the Division's research project at:

**Northern District Office
RD 1, Box 383
Rte. 173 West
Hampton, N.J. 08827
201-735-7040 NJ**



Patti McConnell is a Wildlife Biologist with the Division of Fish, Game and Wildlife and is head of the black bear project in New Jersey.

Parlor Theatre



BY PATRICIA REARDON

The season is Christmas and you are a guest in the home of one of England's most popular 19th century authors, Charles Dickens. The occasion is a parlor presentation of his new novel *A Christmas Carol*.

Welcome to Victorian London via the Hermitage—a State Historic Site situated on five acres of wooded land in Ho-Ho-Kus.

In the Victorian era, performing plays at home, or parlor theater, was a popular source of family entertainment and one that appealed to Dickens, an avid thespian and amateur actor with a wide circle of theatrical friends.

Prior to publication of his novels, the author would often gather family and friends to his home for a reading or enactment. As one of his most celebrated and beloved works, *A Christmas Carol* soon became a holiday performance tradition in the Dickens' household.

At the Hermitage, that tradition is revived each December with a slight twist—their entertainment, called *Distilled Dickens* is a play within a play.

The fully costumed production was conceived, written and directed by theater arts teacher Jean Oberholtzer of Ridgewood and produced by Hermitage interpreter Neva Strom. It requires the cooperative efforts of Hermitage Director Florence Leon, her volunteer staff and a host of community theater players.

Mrs. Oberholtzer's idea was to revive Dickens' holiday custom, not only by staging *A Christmas Carol*, but by presenting it as the author himself might have done. So she set the classic tale within the context of his home life, with the action taking place in the family parlor. Each of the actors portrays two roles: that of family member or friend and also of a character from the novel.

Crossing the threshold of the Hermitage cottage, we are asked to suspend disbelief for a short while and imagine ourselves as guests entering Dickens's front hallway.

We are greeted by various members of the household. The ladies are dressed in brocade gowns and velvet jackets. Gentlemen wear long black coats and silk scarves. There are young boys in britches and waistcoats and little girls in long skirts, their hair done up in satin ribbons.

The sound of music leads us to the Victorian parlor, where a young woman is strumming carols on a dulcimer held in her lap. Dressed in a ruffled jacket and flowered skirt, she invites us to join in the singing.

Guests are already settled on velvet settees

and Victorian chairs as we take our places. Large toss-pillows provide seating for wide-eyed children who sit cross-legged on the floor.

The parlor is lavishly decorated as it might have been for the holidays during the 19th century when the socially prominent Rosencrantz family resided here. Four generations of the family lived in this gothic revival cottage villa that was designed around the two-story colonial dwelling originally built in 1760.

The room's focal point is a white Italian marble fireplace adorned with winter greenery. Velvet ribbon and dried hydrangea in Victorian colors add a festive touch. On the mantel and reflecting in the mirror above are six rose-colored candles in pewter holders crowned with crystal chimneys. A Victorian Christmas tree, decorated with baby's breath, paper ornaments and glass balls, graces the full-length bow window.

As the play begins, we are greeted by our host, Charles Dickens, and his daughter, Mamie, who tells us she will play the role of Mrs. Cratchit. They converse a few moments with William McCready, Dickens' personal friend and a well-known actor of the day, who takes the role of Ebenezer Scrooge. The author will narrate.

One by one the other characters appear. The ghost of Jacob Marley rants and rattles his heavy chains. Old Fezziwig dances a jig. The gloomy spirit of Scrooge's bleak future points a long, boney finger toward the grave, and Tiny Tim finally echoes the words now familiar to us all, "God bless us, every one."

As the evening's entertainment concludes, a tantalizing fragrance floats temptingly from the dining room. We are invited to partake of "Smoking Bishop"—a potent punch made from red Portugese wine, port, cloves and seville oranges. The recipe used at the Hermitage comes from *Drinking with Dickens*, written by his grandson, Cedric Dickens.

Under the candelabra trimmed with ribbons and greens, the dining table is dressed with an antique white lace cloth and set with silver trays laden with holiday "dainties."

We mingle with cast members and other guests and are reminded of the history of the place. It was on this estate that General George Washington in 1778 lingered for days enjoying the hospitality of his hostess, Theodosia Prevost. And here, after the death of her husband, she married Aaron Burr.

A trip to the Hermitage is a trip to the past, and having come full circle, we take our leave. Through the crisp winter evening we head toward the car. Yet, wait . . . do my eyes deceive me? I thought for a moment I saw a waiting coach-and-four. 

Members of the cast as holiday guests in the Dickens Home.

Patricia Reardon is a frequent contributor to NEW JERSEY OUTDOORS and she is also a feature writer for the New Jersey section of the NEW YORK SUNDAY TIMES.

The Hermitage
335 North Franklin
Turnpike
Ho-Ho-Kus, NJ 07423
Phone: 201-445-8311

Parlor Theater by reservation only:

December 4, 5, 11, 12
and 13
at 8 PM

Additional matinees at 2 PM
December 5, 12
at 3 PM
December 13.
Limited seating



Paul Kramel '87

Tools of the Trade

a new wildlife computer system

By STEVE BRUSH

Why do we protect an endangered species' habitat from development? How do we prevent groundwater pollution from a potentially contaminating facility? It has become much easier for New Jersey environmental officials in the past year to make decisions concerning these questions.

After moving into a new East State Street building in Trenton last year, the State Department of Environmental Protection brought on line a Geographic Information System (GIS). This system combines sophisticated computer mapping with database man-

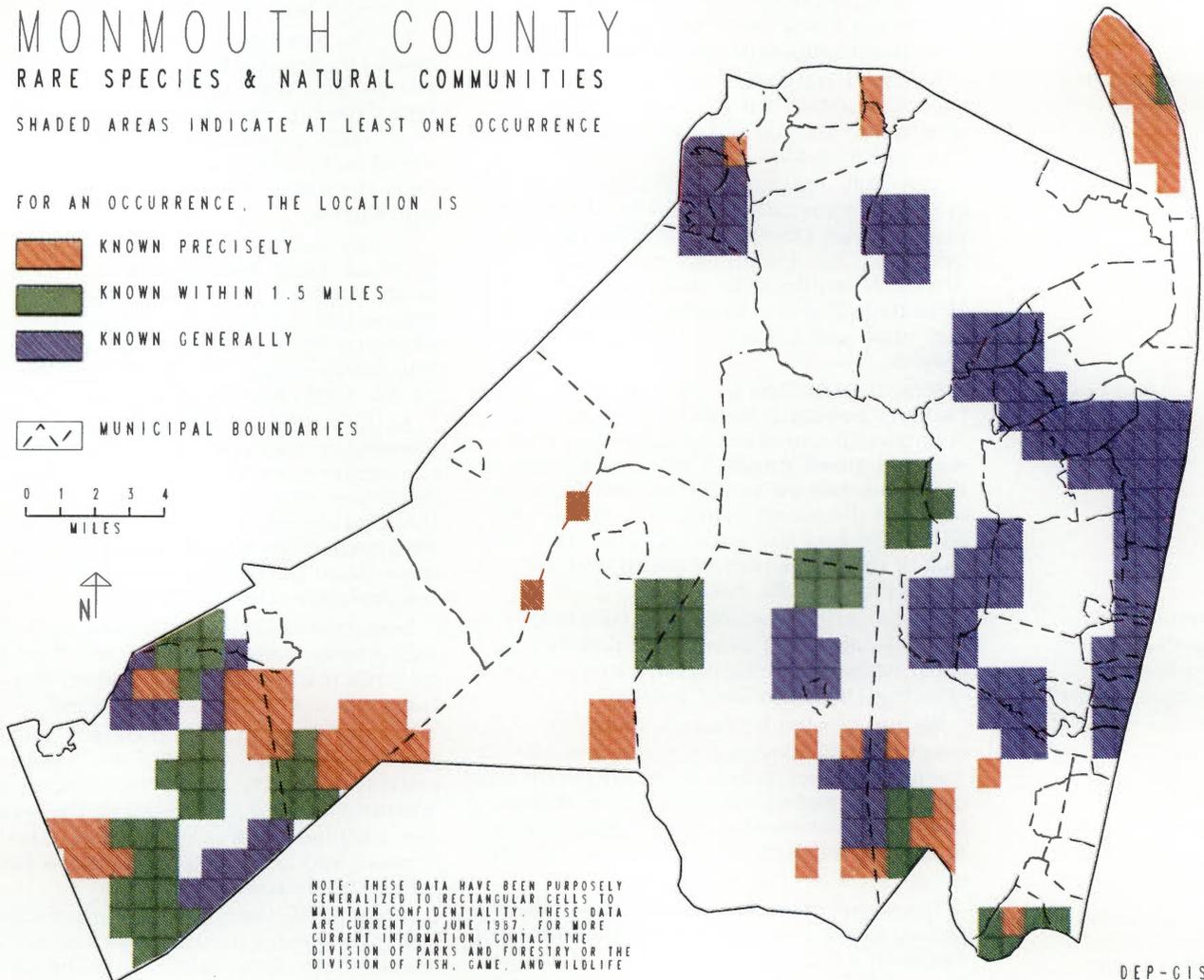
MONMOUTH COUNTY RARE SPECIES & NATURAL COMMUNITIES

SHADED AREAS INDICATE AT LEAST ONE OCCURRENCE

FOR AN OCCURRENCE, THE LOCATION IS

-  KNOWN PRECISELY
-  KNOWN WITHIN 1.5 MILES
-  KNOWN GENERALLY

 MUNICIPAL BOUNDARIES



NOTE: THESE DATA HAVE BEEN PURPOSELY GENERALIZED TO RECTANGULAR CELLS TO MAINTAIN CONFIDENTIALITY. THESE DATA ARE CURRENT TO JUNE 1987. FOR MORE CURRENT INFORMATION, CONTACT THE DIVISION OF PARKS AND FORESTRY OR THE DIVISION OF FISH, GAME, AND WILDLIFE

DEP-GIS

agement and analysis capabilities. This GIS system is based in DEP's Office of Science and Research (OSR) for use by the entire department.

Robert Dahl, an OSR geographic information system specialist, describes the GIS as "an integrated system that provides a way for department officials to access and analyze environmental information efficiently, and thus make more informed environmental management decisions." Dahl, who received his master's degree in geography from Rutgers University, said that the system has three inter-related functions: data management (data entry, storage and retrieval); analysis of the information; and, production of maps and tabular reports.

A major effort is underway to develop a department-wide geographic data base that integrates geographic, natural resource and other environmental information. OSR's Geographic and Statistical Analysis Unit is working with the different divisions of DEP to ensure adequate staff training in data entry and to coordinate use of the GIS for various applications. Persons in different offices are able to access the system from stations in their respective divisions.

The locations of endangered plant and animal species such as the small whorled pogonia orchid, the blue-spotted salamander or Cooper's Hawk are now being neatly stored in the GIS. Before an area is developed, state officials will have immediate access to data revealing what creatures frequent the area. Similarly, the geology of the various segments of the state's highlands and coastal areas also can be accessed on the same system; thus enabling an informed determination to be made of what rock formation lies directly beneath a proposed development site. The location of endangered species and bedrock geology are just two of the geographic data sets DEP is entering into this system.

Other information relating to natural resources such as wetlands, soil types and pollution data from solid and hazardous waste sites will be entered in the system. These categories or "layers" of information can be called up when desired and combined on one map. Since much of DEP's data about natural resources has been recorded on U.S. Geological Survey topographic maps (7.5 minute series), these are used as base maps for the GIS.

Some of the information entered in the GIS will be accessible to authorized personnel only, Dahl noted. His office is sensitive to the need for confidentiality of some of the data. For instance, the exact location of New Jersey's lone pair of bald eagles will not be revealed to pre-

vent possible disturbance of the renowned avian pair.

One of the first applications of the GIS involves data from the Natural Heritage Database. This includes endangered animal information from the Division of Fish, Game and Wildlife and endangered plant and natural community information from the Division of Parks and Forestry. The project was conceived by Tom Breden, coordinator/ecologist of the Natural Heritage Program in the Office of Natural Lands Management, Division of Parks and Forestry. Breden divided the state into more than 17,000 equal-sized areas. The GIS was then used together with the Natural Heritage Database to determine if any endangered species are known to occur within each area. The resulting maps reveal that an endangered species occurs in the general area, but not its precise location. OSR's Jack Schooley, a GIS specialist working with Breden on the project, noted that the mapped information will have many useful applications within DEP and can be shared with the state Department of Transportation as well as others.

The efficiency in retrieving and integrating data provided by the GIS gives DEP personnel access to a large volume of environmental data it maintains, allows staff to analyze the data and frees staff time for work that cannot be done by a computer. For example, when siting hazardous waste facilities, there are specific resources that pose a conflict in locating potential sites. The presence of these resources—cavernous bedrock, trout production waters or public water supply reservoirs, among others—can be recalled on the GIS and mapped out quickly. Consequently, appropriate sites can be easily identified with more time reserved for site inspection, the final step in the determination of feasibility. Likewise, the endangered species mapping will provide biologists with important information to help them look for additional critical habitat areas.

In every occupation, productivity is limited or expanded by the tools available. Equipment such as the chainsaw, bulldozer, and blacktop machine annually transform many square miles of New Jersey land (55,000 acres in 1986). The tools available to environmental managers have not always kept pace. "With the old system for handling information prior to the GIS," Schooley quipped, "by the time you developed an analysis of a threat to a resource, it could be paved over."

The GIS provides DEP with a powerful mechanism to tap and use a wealth of environmental data. More informed decisions on how to protect our natural resources will foster a better environment for all New Jersey's inhabitants. 

Steve Brush is a frequent contributor to NEW JERSEY OUTDOORS.

waiting

BY MAGGIE S. DAVIS

PHOTOS BY BRECK P. KENT

Some wild birds are lucky. When they're sick or orphaned or injured, they end up at The Raptor Trust, one of this country's biggest backyard bird hospitals.

The Trust is nestled in Millington, New Jersey, next to the 6,000-acre Great Swamp National Wildlife Refuge. Though its first patients were raptors (birds of prey), the 15 acre sanctuary has been host to thousands of birds of more than 125 species.

It all began 20 years ago with just one bird—an injured red-tailed hawk—and just one man—Len Soucy, an engraver by profession but a birdman by passion. Over the years, Soucy and his wife, Diane, abandoned all extracurricular pursuits to pour their energy and funds into the well-being and preservation of wild birds.

How do the birds get to the Trust? "With people attached to them," Len quips wryly. Over 50 percent of the birds recover enough to be released—many of them in the refuge next-door and by the very people who took the time to bring them in.

"Patients" arrive in paper bags, shoe boxes, cartons . . . and a tufted titmouse and a pigeon showed in a chauffeured limousine.

Each bird at the Trust lives with dignity. Not all survive. "But *no* birds," Len is quick to point out, "are ever discarded or thrown away"—even the ones that die are donated to science.

Some people claim that raptors don't deserve such respect. They argue that the birds eat small animals. Len counters vigorously. He calls the birds of prey handsome, fascinating creatures that are essential to nature's intricate system of checks and balances.

"You don't have to love these birds," he says, "you just have to realize there's a reason for their being here for millions of years."

Though he knows raptors best, Len plays no favorites. "When people call, I'd have a terrible time saying 'If it's this kind of bird, bring it in. If it's that kind of bird, don't.' The callers usually don't know what bird they've got—they just know that it's hurt."

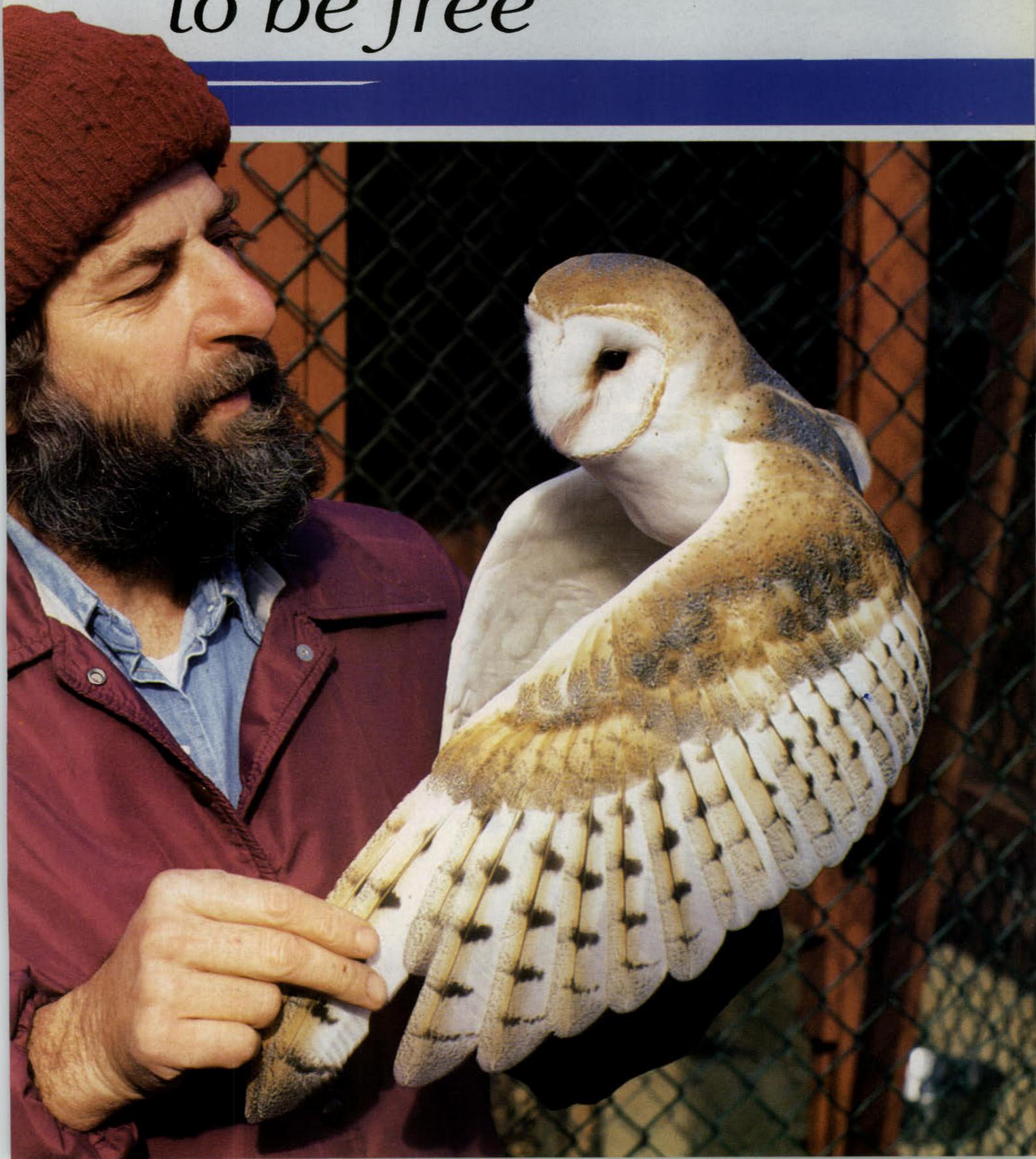
"Besides," the six-foot birdman challenges (sometimes he looks a bit raptor-like himself), "how do you tell a kid that the robin he's saved is less of a priority than a falcon?"

Young people deserve credit, not rejection for their efforts, Len advises. Often they live far from the Trust. Some of them have quite a

Len Soucy with injured Barn Owl.



to be free





Adult Red Tail Hawk, one of the Raptors treated at the Raptor Trust and then freed.

A recovering injured adult Sparrow Hawk.



time convincing their parents to drive them in.

Commitment At Work

Just steps away from the Soucy home are the admitting/intensive care areas and the cages, all of which are tailor-made to specific needs. Some enclosures are designed to permit prerelease flying practice; others are cloistered, complete with screens for privacy (and sometimes a sneaker or ball for a recuperating bird to play with). All the cages are spotless—testimony to the commitment at work at the Trust; but noticeably absent are information signs.

It's not Len's intention to make things easy for visitors or to detract from the birds themselves. "Look," he urges. "Marvel. Then ask questions if you want to." Swapping stares with Mariah proves that wisdom. Despite the wing damage that prevents her from ever flying free again, this golden eagle reigns with majesty.

Here's the idea. People take care of what they understand and don't fear. So in this sense, it's as important for the birds to be seen as it is for them to be healed and released.

They're seen a lot. In the company of non-releasable raptors, Len journeys nationwide to as many schools and organizations as will have him, sometimes lecturing to 100 groups a year. But that's not all. In 1986, 10,000 visitors found their way to his "backyard."

What does Len tell the kids he talks to? That he's sorry because he's part of what messed things up. That everyone has to do better. That he will try.

"The problem," Len declares, "is that no one owns anything wild, so most people don't want to take responsibility.

"The Trust fills the gap," he adds, his voice packed with equal amounts of self-esteem and frustration. "So this is IT for Diane and me—this is what we DO."

A lot of kids don't forget what Len has taught them.

One young man went on for a Ph.D. in ornithology. "Remember me?" he asked, returning after 20 years. A young girl who wasn't doing well in high school ended up volunteering at the Trust. Afterward, she graduated from college and entered the National Park Service.

Len recounts these success stories with unabashed pride.

Early Challenges

Before they could begin teaching others, the Soucys had to educate themselves.

In the beginning, they worked mostly by instinct. Years ago, not much had been written on the care of wild birds.

"Always," Diane says, "the aim has been to put ourselves in the bird's place and sense what would make it comfortable."

One of the early challenges was coming up with a mix that was nutritionally equivalent to what songbirds were used to eating in the wild. Now, the spring feeding schedule still keeps Diane and the Trust staff and volunteers hopping. At any given moment, as many as 300 baby birds may be clamoring for food.

Mistakes were inevitable. For example, rickets was the result of a formula that lacked certain essential nutrients. And the Soucys learned the hard way what would happen if humans maintained too much contact with baby birds.

Lady, a barn owl, could never be released successfully—she'd come to crave Len's company more than she longed for the great outdoors. Until last year, when she died peacefully at the age of 13, this old owl was one of the Trust's most distinguished residents.

The Soucys implemented the foster-parent program so that other birds wouldn't end up unprepared for freedom. While humans stay

Recovering immature
Snowy Owls at the
Raptor Trust.

out of sight, owls and kestrels and other birds teach feeding and flying skills to orphaned nestlings; the "course" includes catching live prey that's been introduced through portholes. Hootie, an old female great horned owl, "raised" 27 orphans last year—some, blown from hollow trees by March winds.

Money Crunch

Running the private, non-profit, tax-exempt Trust is costly. On the up side, area vets William Hobbie and Andrew Major bestow sizable amounts of expertise and time.

Another plus? Raptors eat free. Rodents (most of them deceased) are donated. Without these and other gifts, the Trust's skyrocketing expenses (measuring a hefty \$58,000 in 1986) could well have exploded into the \$100,000 range.

Some income comes from Len's lecture proceeds or out of his own pocket. It's not enough. To ease the ever-present money crunch, Len has had to become a part-time fund raiser in addition to his energy-consuming roles as rehabilitator, teacher, researcher and master bird bander.

Groups give money. Mercifully, so do individuals. "We survive on five dollar donations," Len insists.

Lately, grants have brought in funds from varied sources. The Charles Engelhard Foundation gave generously, and money from the Geraldine R. Dodge Foundation is helping to pay Jean Stamey's salary this year. Jean, a skilled educator, is the Trust's *only* full-time staff person. Aside from her regular Trust responsibilities, she makes two to four trips a week to speak to young people about raptors.

"We need *more* staff," Len says convincingly. "Big is not necessarily good. Sure we can handle 1100 birds now. Maybe we could even handle 4000. But somewhere there's a point where we won't be able to function professionally."

"All we wanted was to live in the country," tease Len and Diane. When they moved from Denville, New Jersey, 19 years ago, they had only an inkling of the "monster" that would manifest itself—a monster that even a loyal volunteer force contributing over 60,000 hours couldn't tame.

Why the enduring commitment to a project that's erased all hope for vacations and nearly all privacy?

"Before our son Christopher was born," Len explains, "Diane and I traveled a lot—enjoyed nature. But I couldn't look on and just keep taking."

The Ultimate Solution

In addition to educating kids, teachers and parents, Len strives toward the *ultimate* solution: a permanent endowment, which would allow the Trust to continue, no matter what, and a teaching center. Having this facility would encourage trained, licensed rehabilitators to visit, and learn, and then go back to their communities to improve their own operations.

"But we'd have to be candid," Len says, grinning, "we'd have to tell them what effect that might have on their lives!

"Please," he would interject here, "tell readers not to descend on us in hordes!" After all, no hours are posted at the Trust. There's no admission charge. One day 150 kids arrived in a school bus, unannounced. Len had to turn them away.

Despite the hardships, the Soucys are grateful. "We've had a lot of fun with all this," Len says, warmly attributing whatever tolerance and staying power he has to Diane. "Our whole view of the worth of individuals and their caring about the earth probably is biased because we see so many good people."

And, of course, so many deserving birds.

Note to NJO readers: Make sure that a bird is an orphan before you try to rescue it. A nestling's parents WILL take it back if it is out of its nest, even if it has been touched by human hands.

Injury is a different matter. Gently, pick the bird up. Put it somewhere it'll be safe—in a dark, warm, quiet place to counteract any shock. Don't try to give it water.

IF YOU REALLY CARE ABOUT THE BIRD YOU'VE RESCUED, GET IT PROFESSIONAL HELP AS SOON AS POSSIBLE!

There are 60 licensed bird rehabilitators in the state of New Jersey. If you have a problem with a wild bird, call the Non-game division of New Jersey Fish, Game and Wildlife (609) 292-9400. There is also a regional office near Clinton. (201) 735-8793.

For additional information, call or write The Raptor Trust, 1390 White Bridge Road, Millington, NJ 07946 (201) 647-2353. 

Maggie S. Davis is a children's book writer who recently moved to Maine. Her interests are in natural science and animal rehabilitation.

The Vanishing Dogs, Birds ... and Neckties



When I was a small boy I learned to love hunting. I suspect, however, that my affinity with it came even before. I fantasized about it and thought about it constantly. As I grew older the sport was changing, and I had a recurring bad dream. I harbored the fear that one day it would be no more; that one day I would go afield to hunt and I would search and search to try to find the birds that were no longer there.

A few days ago, I ultimately gave in to my German shorthair's incessantly nudging muzzle and pleading eyes and took him for a run. It was against my better judgement, for he is far too old. His back quarters are painfully gripped by arthritis, and his vision is weak, but the shivers he makes when he wants me to take him hunting are far less bearable than my having to doctor his aching joints and sore muscles afterwards. He is not unlike all of us, I guess, in that he refuses to recognize the end.

For several days I had endured his pleas, waiting for inclement weather to subside. As soon as it did, I grabbed his belled collar, and he, in his heart at least, was an ecstatic pup again. Seeing him that way reminded me of how special he was. He did things that were difficult to understand—like carrying to bed a tattered cloth we called his blanket. He'd take it to me and I would have to cover him with it before he'd go to sleep. He was also in the habit of gathering favorite toys as some dogs will, but the most unique idiosyncrasy was with that belled collar . . . I'd trained him with it and put it on him only when we hunted. It was used so that I would know where he was in heavy brush, but mostly, I confess, it was for me. Whenever I would hear their dancing jingle stop, my pulse would quicken in anticipation of a point. For him, though, it meant hunting, and whenever I was home during the cooler seasons he would take it off its hook and sit, ears perked and amber eyes fixed on my every move, with that collar draped from his jowls. An accidental bump of those bells in any season was unfortunate, and I'd pay dearly for it.

Because of his age, I was reluctant to put him in rough terrain. Remembering a spot not so distant from my home where I had actually trained him as a pup, I decided to give it a try. It was the place where, at five months of age, he had made his first point. Passing by there once I noted that the county had sold portions of the land to developers and that some clearing had been done, but I did not know to what extent. I had seen some bulldozers and dump trucks stalking there, poised as if to do their evil, but I gave those machines only a desultory thought. It appeared there still remained acreage enough for birds to survive and for a dog to run. So, my quivering old friend and I

piled into my wagon to see about old times and perhaps to have some fun.

My heart sank as we arrived. I knew immediately that my judgement of how much land clearing had been done was wrong. I felt sad for my dog. Although some game could remain in those isolated patches of cover still standing, he'd be hard pressed to find it. Ghastly gray cement foundations spanned acreage that was once a sylvan scene. It was, at one time, an immense field of wispy grasses and milkweed interspersed with tangles of honeysuckle, patches of blackberry and Queen Anne's lace, colored by splashes of bittersweet and dashes of goldenrod. Then, bobwhite and ringnecks reigned, not workmen. Now, contractors rule and those unfortunate birds are the exception, trying to survive on meager fringes where small bands of cover give refuge to those stalwart few. How difficult it is to see this place now. Once, quail were counted by the covey. Pheasants would flush in beavies, and the number of points the dog made in a day was too numerous to recall. But that was a dozen years ago. Now, where the raucous squawk of the cock pheasant once unsettled the composure, the drone of engines shattered the nerves. The din of humans had arrived, and I should have gone. I would have gone, but his whimpering got to me and I let him run.

As I watched the old dog try feebly to find those familiar scents, I was sad again, and again I reminisced. I thought of years beyond his youth of a decade ago; my mind wandered to years four times removed to when I was a youth. Those memories, though fond and treasured, are rarely explored. They made me sad to know they are of delights forever irretrievable to me. More sadly, those memories were of things, times and places my sons and their sons will never know.

I daydreamed of a huntsman—a gentleman huntsman in a necktie. The spirit of youth, the hunt, the child dwelling in me now was that hero to the boy of me then. He was my father and he kindled in me the hunting fever I thought would never subside. He was the very spirit of the sport I love so much and so much loved to share with my dog.

In the 1940's, I was growing up in a rural area of north central Jersey where deer, small game and birds—especially the birds—abounded. This, along with the fact that nearly every adult I knew hunted and fished, was partially responsible for my romance with the enchanting outdoors, but the huntsman was the cupid. Becoming of age to go afield myself in the 1950's only cast in stone what he had molded by his example and his tales. As I explored the imagery of my recollect, I could see that old, stained, corduroy hunting coat he wore. I've never seen a corduroy hunting jacket

BY RUSSELL M. CERA

PHOTOS BY AUTHOR

1930 Photo of Dante Cera, George Tetsch, Buck Lishinski and Alley Nolan

This is **Mr. Cera's** first contribution to **NEW JERSEY OUTDOORS**.

before or after, but I'll never forget it. Nor can I ever forget the tie. He wore a necktie to go hunting! He was a magnificent huntsman in a necktie. No one wears a necktie to go hunting, but he, I thought, was in vogue. It fit the image of a gentleman huntsman who dressed in deference to his sport. The respect he held for the hunt was manifest in his youth when it supplied the table of an immigrant family and was, at times, its total subsistence.

How exciting those stories were that he told, how intriguing to me as a youth who yearned to go along on the hunt. Of course, since I was too young to go, I was kept home. Nothing, however, could keep my imagination at home, and so it flew. Naturally, in my mother's house the hunter need not sustain the family; my dad the railroad engineer did that. Nonetheless, reality seldom distorted my childhood perceptions and I supposed him to be the hunting provider, the grandest huntsman, whose family never went in need.

Whenever he was off hunting, my imagination had me afield, and I, the provider. I was at times the heroic Indian brave returned to a hungry camp with my trappings. I was the successful pilgrim welcomed to the village with needed game. I suppose, philosophically, every hunter feels there is something atavistic in his wont, an innate drive spawned by predatory ancestors. As it was with me, I imagined it no other way. The boy, the child, the spirit in me now, was the hero in me then and so I learned to love the sport that way.

He is gone now. Those days and times are gone now. Gone too is that old, brown, brush-worn corduroy coat; and I never see a hunter in a necktie any more. Oh, how I yearn for that old time step and the return. How I wish I could look once more upon those decrepit sepia photos of him and his hunting friends displaying abundant game. As a child I would look at those pictures over and over, fascinated by the proud, unsmiling, gentlemen hunters, the birds, and more especially, the neckties. A carelessness has lost those photos, and so even they are gone.

Where he hunted and taught me to hunt is changed now. I am changed now, too, but that spirit of the hunt is not. To this day my youngest sons greet my return from the field with all of the enthusiasm and questions I once had, and I'm thankful. No one could cherish more the prizes I bring home—especially the gaudy cock pheasants. Those boys are the spirit of the hunt for me as I must have been for my father. No one could have been more enthusiastic about his return from the hunt, and no one could have made more a demigod of the huntsman in the necktie.

Somewhere within my daydreaming and the

watching of that aged, German dog, my melancholy gave way to lightheartedness. I became glad for my dog, content to know he had lived the life he had during that particular time. What times they were! Then he had done what he most loved to do—hunt.

As I watched that unstinting Shorthair labor along, my thoughts drifted again to those years when we teamed up to hunt those game-filled fields. It was during that time that the pastoral scene began to change so drastically. As I stood and saw him check to see if I were near, I recalled how difficult the last few seasons were. Once, the bucolic landscape was a haven glorious for him and me. We'd take our limit of native roosters many times within a season and have quail and woodcock to fill any void. Now it is changed.

Some time ago a friend who owns a perky female of the same breed proposed we mate the two dogs. We gave the plan a try, but it was fruitless. I was hoping to get a pup that would carry on my dog's tradition. Now I am glad none was forthcoming. The heartbreak of watching my dog search those game-barren places where I must go now has convinced me. My having an animal with the inbred desire to hunt and nowhere to do so would be abhorrent to me. And so it is that I'll be content in what we've had in those innumerable hours afield, countless hunts and myriad birds. They afford me my dearest memories and his most fulfilled part of life.

As I looked for the dog, I realized that these times and places were lost forever. And so as I strained against the extraneous noises of civilization to hear if the waltz of the bells had stopped, I made a decision I never dreamed I'd make. It seemed so remote from my every pleasure but necessary to preserve those perceptions we all must keep. Now I knew I did not want to hunt any more—at least not for birds and certainly not without that great dog. I would continue my deer hunting and take the archery seasons more seriously, but I just knew I didn't want to walk another field without him.

From beneath my necktie, within my thickened throat, that tear-barring lump that arises on such occasions, came a shaky call: "Atta boy Spark, go get 'em old guy. Go get 'em."

I knew full well my urging would serve only to make him try harder, though the last thing he needed was to exert more effort on those staggering casts. But, what the hell, he was having fun, and had I not tended him as I always have, he may have thought I was disappointed in his work. I could not stand that, so I'd make the tremulous call again, and again he'd course and check the wind to find the birds that were no longer there!



Scenic Trails in the Ramapos

BY KENNETH W. DAHSE



New Jersey has miles and miles of hiking trails, and some of the most scenic ones are in the Ramapo Mountains in Ringwood and Oakland. Three of my favorite walks are all short, easy and, if you're energetic, able to be completed in one day. Despite their ease, they all lead to fantastic vistas overlooking the lakes, forests, and mountains.

It's not uncommon to see hawks or even an eagle soaring high above the forests, whipping through the clouds like fighter planes on a bombing run. If you hike quietly, you may spot a deer or a groundhog browsing in the bush. And don't limit your hikes to one season; each season has attractions all its own.

The Ramapo Fire Tower Walk

The walk to the tower is easy enough for the entire family, even if you're pushing a baby in a stroller. The trail is on a paved road and takes about half an hour round trip. If you travel north on Skyline Drive, the road is just before the Ringwood border, directly across from the natural gas transfer pumps on the right. The road is marked "Private" and has a gate across it, but you are allowed to walk on it to the tower. There's a picnic table and plenty of grass to sit on, should you like to spend some time enjoying the forest setting.

The observation booth is usually locked but

you can climb up just below it for a superb panoramic view of the New Jersey Skylands. The day my wife, Linda, our daughter, Shannon, and I climbed the tower, it was crystal clear. We had a 360° view of northern New Jersey. Looking west, we saw the mountains of Sussex County standing boldly against the blue horizon. To the north, the ridges of the Ramapos crawled their way towards Harriman State Park in New York State. To the east, Bergen County drifted into the Hudson River, and high rise buildings of Fort Lee and New York city tore at the underbelly of the heavens. Below us the Wanaque Reservoir wove its way through mountain passes.

Shannon hadn't mastered the word "bird" yet, and certainly not "hawk," but she pointed at the sky and said excitedly, "BAA, BAA!" which is what she calls all wildlife. And sure enough, sailing on the wind currents right in front of us were two hawks. They zoomed by us far out over the reservoir and out of sight. We watched for awhile, but they didn't return. Instead we enjoyed the refreshing scent of the mountain wind blowing over us and silencing all other sounds.

Erskine Lake Overlook

The Erskine Lake hike is longer and more difficult; it takes about an hour and a half to

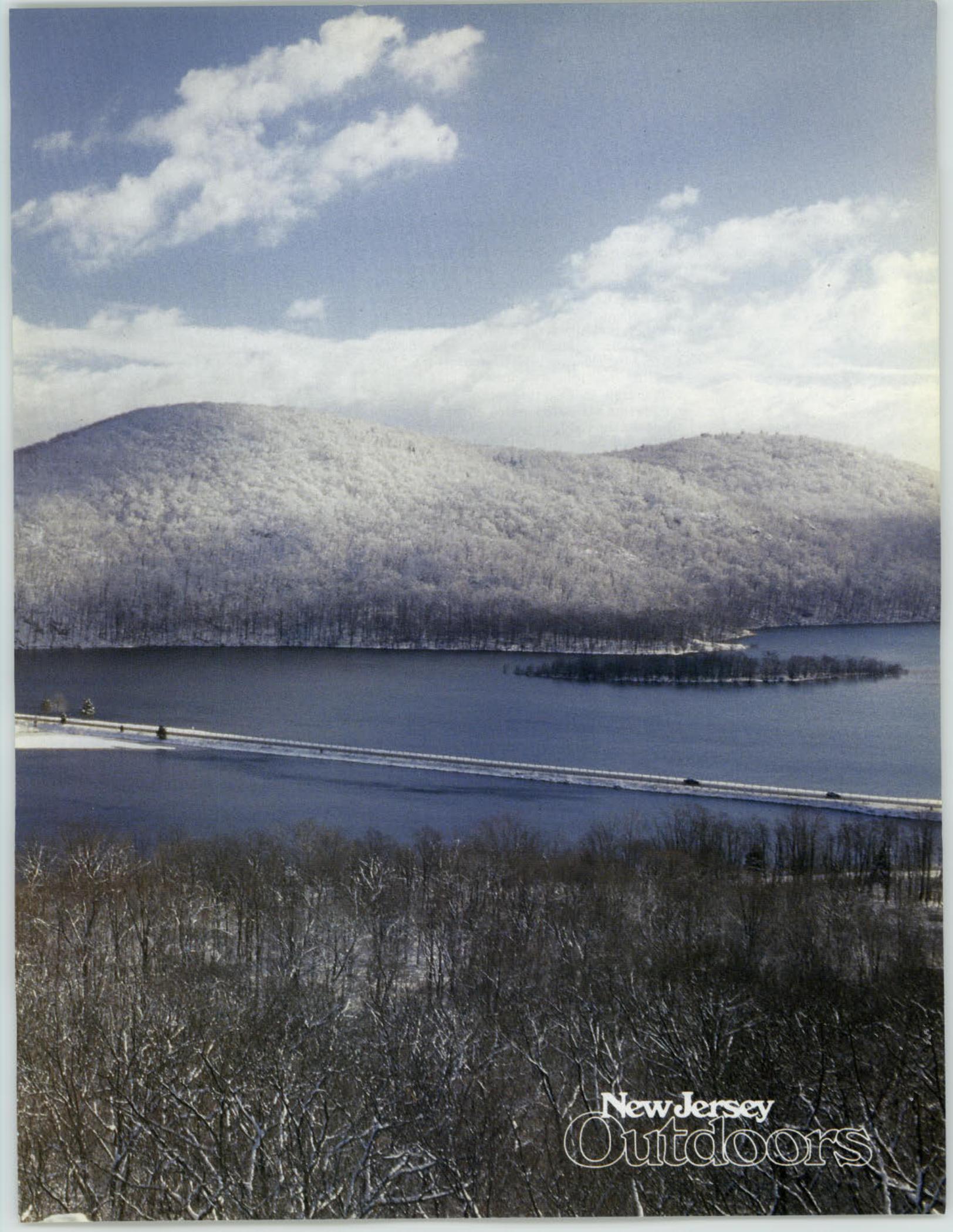
The overlook and author's dog, Shane.

PHOTOS BY
AUTHOR

*Snapout poster
on following page*

*Scenic views from
Wanaque Reservoir
Overlook Trail in winter.*





New Jersey
Outdoors

Author's wife, Linda and daughter, Shannon, Ramapo Fire Tower Hike.

complete. Take Skyline Drive north to the end and make a right onto Greenwood Lake Turnpike. Take the first right onto Skylands Road, follow it to the entrance gate of Skylands Manor and park there. Walk through the gate into the park, make a right at the intersection and walk to two fire roads. Take the one on the right and hike for about five minutes until you reach a small clearing. Immediately beyond the clearing is a red marked trail. Follow this trail into the forest.

The trail weaves through the forest and blends into two paths: go left at each and continue on the red trail until you reach the top of the hill. Make an immediate right onto a unmarked overgrown trail, within a few feet there is a clearing used as a campsite. Continue along the ridge of the mountain you just climbed. There isn't a trail, so you must bushwhack (hiking without a trail) along the ridge for a few minutes until you reach a rocky clearing.

From this overlook, you can see Erskine Lake glittering at the foot of the mountains, the northern tip of the Wanaque Reservoir, and the green mountains of Ringwood. It's a lovely spot to sit and relax while drinking in the rustic views.

To return, take the same route back to your car. If you want to extend the hike, simply turn right at the red trail rather than left. Make a left at the first junction after passing a swamp. At the next junction, you'll see a meadow and several dirt roads to walk on. It's a lovely meadow to explore with a pond and mountains rising around it.

Wanaque Reservoir Overlook Hike

Follow the same driving directions for the previous hike to Skylands Road. When you reach Cupsaw Plaza, turn left off Skylands and onto Carletondale Road. Immediately following a church on the left is a small parking area on the right. After parking, cross the street and follow the yellow trail markers into the forest. As you start to climb the mountain, there is a trail junction with two yellow trails. Continue straight; the one on the left is your return route.

When you reach the summit, there is a small clearing on the right. You can see the top of the new Monksville Dam spanning two mountain ridges. Continue on the yellow trail a few steps down the mountains and you will reach a rocky clearing. The view from this point is awe-inspiring as sparkling water of the Wanaque Reservoir winds its way along the shoreline and the lush forested mountains rise majestically from the water's edge. Below the cars on Greenwood Lake Turnpike appear as small as Tinker Toys. To the west, the



mountains rolled on in apparent affinity into the horizon; their rocky cliffs are boldly visible in the morning sun.

One winter I hiked this trail after a snow storm and found myself in a wonderland of forest trees and mountains painted a puffy white. Without the leaves, the views were even more expansive. It was then I met a fellow New Jersey hiker, Art Rippas, from Ridgewood. He told me enthusiastically, "This is one of my favorite hikes. I hike here at least once each season to appreciate the changing views. In the spring, the forest is bursting into life with flowers and buds. During the summer, everything is a lush green, and in the fall, the mountains are aflame with raging colors. But winter is my favorite, with its crisp white purity and peaceful solitude." I couldn't have agreed more.

To return, continue hiking along the ridge following the yellow markers and this will bring you back to the junction at the beginning of the hike. It's a beautiful walk through the forest, and the entire circuit takes about an hour and a half. Just before you reach the trail junction, there is a magnificent old pine tree of impressive size and beauty. It must be several hundred years old. I stopped to admire it and discovered a perfectly formed spider's web spanning the trail. Marveling at its intricate design, I realized it's important to take the time to stop and appreciate even the most common wonders of nature.

I drove home thankful for the foresight of our citizens and public officials for preserving the beauty of this land for all future generations. And I hoped that same foresight would continue to prevail and save more of New Jersey's precious outdoors. NJ

The author is a Reading Specialist with an MA from Montclair State College, and a teacher for twelve years. He is an avid outdoorsman and a native of our state. **Mr. Dahse's** work has appeared in numerous publications nationwide including *Bestways*, *Trailer Life*, *Family Motor Coaching*, *Motorhome*, *The Greater Buffalo Press*, *Northeast Outdoors*, *New York Alive*, and *New Jersey Outdoors*.

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.

Citizen C. Citizen
607 Place Street
Anywhere, NJ 08000



Dear Editor

As a lifelong resident of New Jersey, and frequent user of the ocean beaches, I feel qualified to comment about the high bacteria counts being found this year in the water. On the weekend of August 1, three Seaside Heights beaches were closed due to high bacteria counts; dead porpoises (cause of death—bacteria in their systems) were washing up on the shore at Island Beach, and large amounts of toilet paper were found in the sand at the high tide mark between C&D streets in Seaside Park. Not exactly a normal, pleasant summer weekend.

The "official" report from Seaside Heights said a large bird population was the cause of the bacteria there. Since when do birds use toilet paper? And are we led to believe birds created the bacteria that killed the porpoises just to the south of Seaside?

R.M. Kowtko
Long Valley

*The New Jersey Department of Environmental Protection shares your concern for the quality of our coastal waters. Although the dolphin deaths were a tragedy, no evidence has been developed correlating water quality with the deaths. The dolphins' systematic infection with the common marine bacteria, *Vibrio sp.*, was unrelated to the nearshore presence of the intestinal bacteria group, fecal coliform, the indicator for the presence of fecal material.*

*The State Departments of Health and Environmental Protection concluded that, in Seaside Heights, a large and varied bird population roosting under the pier increased the fecal coliform concentrations in the surf in excess of the bathing standards. This conclusion was reached only after intensive monitoring of the area was performed over an extended period of time. The presence of the marine alga, *Ulva* (commonly called sea lettuce), in a sun-bleached condition on the beach in Seaside Heights and elsewhere has often been confused with toilet paper and has been the basis for many false reports of raw sewage in the ocean.*

In 1986 and 1987, no beach closures resulted from legal ocean sewage sludge disposal or from coastal wastewater facilities' discharges. The predominant cause of beach closures based on the water quality criteria was surface runoff directed to coastal waterways subsequent to rainfall.

In 1988, the upgrading of all coastal wastewater facilities to secondary treatment, completion of the phase-out of the 12-mile sewage sludge dump site in favor of the 106 mile site and continued NJDEP assistance in the development of land-based alternatives for sludge disposal will ultimately improve coastal water quality.

Public support of the legislative efforts to advance Governor Kean's proposed Coastal Commission, designed to approach the coastal issues of water quality, shore protection, land use management and project funding on a regional, coordinated basis, will prove a great benefit to the shore communities.

David B. Rosenblatt
NJDEP Division of Water Resources



Recently I took friends who were visiting from Alabama on a tour of my favorite New Jersey attractions. We started in Ocean Grove and walked the well kept streets, visited the quaint shops and ate ice cream at Days. We enjoyed the majesty of the "Great Auditorium" and admired its architecture. Then we made our way to the beach. Something was terribly amiss when we got to the boardwalk. In spite of it being an ideal beach day no one was in the water. When I inquired the reason for this of the badge seller, he pointed to the red flags which signalled the beaches were closed. I asked why, his reply was that a lake had polluted the ocean. It didn't seem plausible to me but he had no other explanation. My friends then wanted to visit famous Asbury Park. As we drove past the lake that divides Ocean Grove from Asbury Park we were shocked by the appearance of that small body of water. It looked like what you would see if you peered into a cesspool.

The next day we visited the Statue of Liberty. As the ferry pulled away from the shore we looked down at the water. What we saw was broken plastic garbage bags, various bottles, cartons and debris floating everywhere. My friend remarked "I thought you lived in 'The Garden State'." What a sad but true commentary. We have been blessed in New Jersey with so much natural beauty; the ocean, rivers, lakes

and mountains. We must get serious about preserving these gifts from God. Along with acquiring more land, we must clean up and enforce laws to preserve what we already have. *Please law makers, don't let this beautiful state become 'The Garbage State'.*

Phyllis Giglio
North Brunswick

The New Jersey Department of Environmental Protection (NJDEP) has recommended to the six sewage authorities in northern New Jersey which use the 12-mile sludge dump site to expedite the phase-out of this site in favor of the 106-mile site. This phase-out is scheduled to be completed by the end of this calendar year by the New Jersey and the New York sewage authorities as the United States Environmental Protection Agency (USEPA) ordered two years ago. In addition, the NJDEP is assisting the New Jersey authorities in developing land-based alternatives to ocean dumping for the organic floatable materials periodically removed from the sewage treatment mechanisms and deposited at the 106-mile site.

The NJDEP and the USEPA have initiated a study to determine the source(s) of floating debris which wind and coastal currents wash ashore. Drifters designed to simulate the movement of the floatables have been released from potential sources and tracked to the impacted beaches to verify the sources. Based in this field verification, the appropriate steps will be taken to control floatables in our coastal waters.

All coastal wastewater facilities are scheduled to have been upgraded by July 1988 to secondary treatment, further improving coastal water quality. The NJDEP Cooperative Coastal Monitoring Program routinely provides for the water quality evaluation of 300 coastal areas.

As for Wesley Lake, the New Jersey legislature has appropriated \$150,000 for restoration activities to improve the lake's water quality and aesthetic appeal.

Let me assure you that the ocean water quality and the development of coastal management strategies to increase this quality are and will continue to be priorities.

Douglas M. Clark
Monitoring & Planning Element

BY PETE MCLAIN

PHOTOS BY AUTHOR

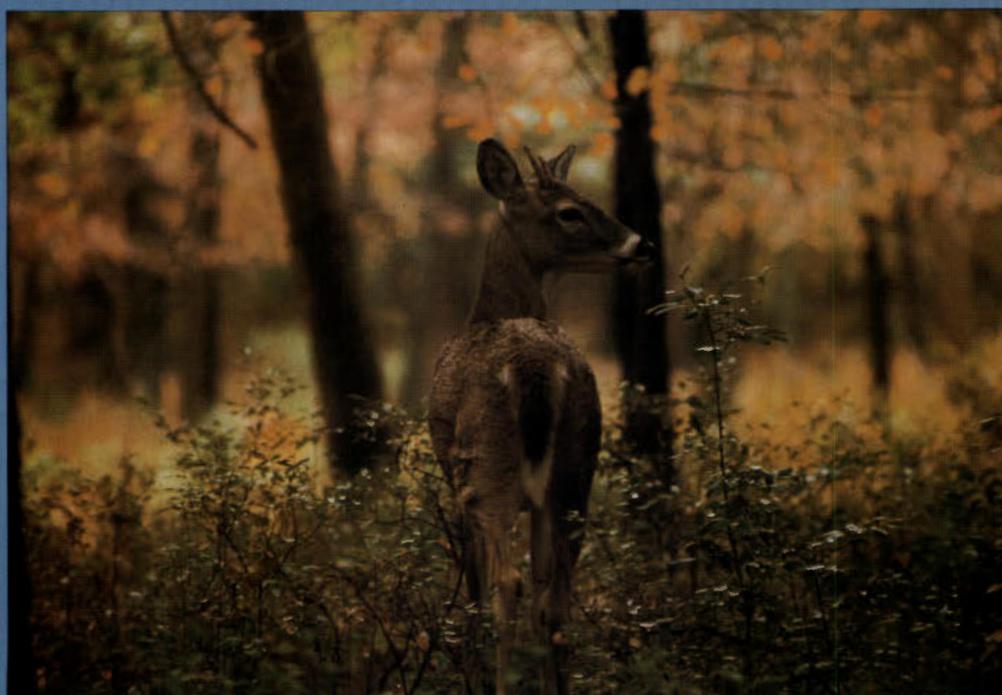
The peak of the New Jersey fall and winter hunting season is "deer week," usually the second week in December, when upwards of 115,000 firearm deer hunters take to the woods seeking a trophy-antlered buck but would be satisfied with one having antlers a little over three inches long. Over 20,000 antlered deer are taken a year.

Buck season in Jersey is almost a state holiday for the sportsmen. Thousands of deer hunters devote part of their precious annual vacation to deer week; school kids may be "sick" on Monday, the first day of the season. Many hunters sneak out early in the morning and late in the evening for a chance at a buck, and the last day of the season, Saturday, is always a popular day for the final crack at a buck.

New Jersey deer hunters pursue the white-tail deer using different hunting techniques and expenditures of time. Down in the South Jersey Pines, and in some northern counties, the deer hunting clubs may own a substantial hunting lodge or cabin. During deer week the membership, sometimes 70 men, move in the Sunday before opening day of buck season and spend the entire week living in the woods and hunting deer. Deer hunting is combined with a week of camaraderie away from the job and comforts of home.

Buck Season

a hunting tradition



A doe or a buck? Hunter must look closely to determine if it's a doe or a buck. This "spike" buck can have antlers over three inches long and be legal.

Other deer hunters may hunt close to home for a couple of hours before and after work and on opening Monday and Saturday, the last day of the season by taking a stand or still-hunting by walking slowly and quietly through the woods.

Another popular method of hunting deer in New Jersey is the organized deer drives, which are conducted by the clubs or groups of hunters banding together. Usually there is a leader or leaders who know the terrain and lay out a drive whereby the drivers will walk abreast in a line, about 60 yards apart, for a mile or so toward the "standers." Deer move out ahead of the approaching drivers, and the aim is to push them to the standers who are positioned at strategic deer crossings or in locations where the deer might come out.

This is an effective method of hunting and has the advantage of making the deer move when they would prefer to be bedded down in heavy cover most of the day. Lest anyone think that driving is taking unfair advantage of the deer, any experienced driver will tell you of the wily bucks that sneak back through the drivers or lie quietly in a small clump of laurel and allow the hunters to pass within a few feet.

There is little question that the whitetail deer is the craftiest big game animal in the

world. They need to be to live in close proximity to man.

The whitetail deer has an acute sense of hearing and the ability to spot a strange scent from a long distance. A twig that snaps or a rustle in the brush 100 yards away may sound like thunder to a deer. The deer's eyesight is only fair, unless there is a movement in the woods or field. This he will see immediately and respond to in a flash.

Aside from superb hearing and scenting, the deer knows his territory and moves about slowly and quietly in almost ghost-like comings and goings. Some hunters feel whitetail deer have a sixth sense that tells them that something is wrong or different and to be careful. This has never been proved.

There are many techniques for deer hunting, but stand-hunting, still hunting, and driving are the most popular. Hunting deer with dogs is popular in some states but illegal in New Jersey.

I would guess that the three most important ingredients to successful deer hunting are (1) scouting the area prior to the season to know where the deer are feeding, resting and traveling; (2) having the patience to spend the extra time in the deer woods, waiting for a chance



During the buck season, the big racks frequently lie quietly in the woods, and still hunters, those who walk-up their deer, must approach quietly.

at a buck and (3) being constantly alert and positioning yourself to take best advantage of the prevailing wind, topography and vegetation and to protect yourself from interference by other hunters.

Weather conditions have an effect on deer hunting. A light, fresh snow the evening before not only will reveal deer tracks and tell you where and when the deer move but also will permit you to walk quietly. A rain will soften the leaves, making the woods quieter. Recent research has shown that deer move about more on clear and cold days rather than on cloudy, warm ones.

The whitetail deer is a creature of habit that generally follows a rather well defined daily routine, if he is not disturbed. Utilizing pre-season scouting, the hunter looks for deer tracks, rub marks on small trees, deer droppings and the well-worn deer trail. With this background knowledge the hunter will enter the deer woods long before daylight and select a stand down wind of a deer trail, where there is just enough vegetation to hide him but not interfere with seeing or shooting. He will stand or sit perfectly still and wait while constantly watching the woods, not for a deer, but for movement or something out of place in the woods. Some hunters expect to see a deer ma-

terialize looking like a cover on *Outdoor Life*. However, in reality you may see a leg, a brown or dark form, and finally part of a deer, which may or may not be a buck. Continuing to watch and study, you search for the deer's head and antlers or a slight flash of an antler catching the sun.

By now your gun is on your shoulder and your finger on the safety. The deer turns out to be a doe, but you remain alert and ready to fire, since a buck frequently follows one or more does. A dozen does may pass your stand as your shotgun remains hard against your shoulder and feels like it weighs a ton. As the last doe passes, you cuss your luck and are ready to lower the gun. Then into the opening, about 45 yards away, comes an eight-point buck with its head down, slowly trailing the does. This is what you have been waiting for all year, or perhaps a lifetime.

Carefully, you follow the buck with the shotgun's front sight positioned just above the deer's front leg and about 1/3 of the way up the body. You remember that a deer's vital heart area is only the size of a piece of typing paper. A deer hit in the stomach or hind-quarter may run for miles!

You look for an opening in the vegetation where the deer will provide a reasonably clear

Checking deer at a check station.

In a herd of several deer, a trophy buck may be difficult to pick out.



shot. Again, you wait, and the second he comes into full view, you squeeze the trigger. The deer may drop in its tracks, fall down and then stand up and start to run, or simply bolt into the brush and disappear as if he hasn't been hit.

Now comes the hard part of deer hunting. A deer that is down is approached quietly from behind as you watch for any sign of movement. If it should try to stand, it should be quickly dispatched. If the deer is not present, look for a fresh blood trail and note the direction the deer moved. It may be only a 100 yards away lying dead, or it may be half a mile away looking for a place to lie down. The secret is to wait, if possible, for at least a half an hour, and then slowly and quietly follow the blood trail. If there are other hunters in the woods, or if it's raining, this may not be possible. By waiting you don't push the deer, and it will usually lie down without going too far.

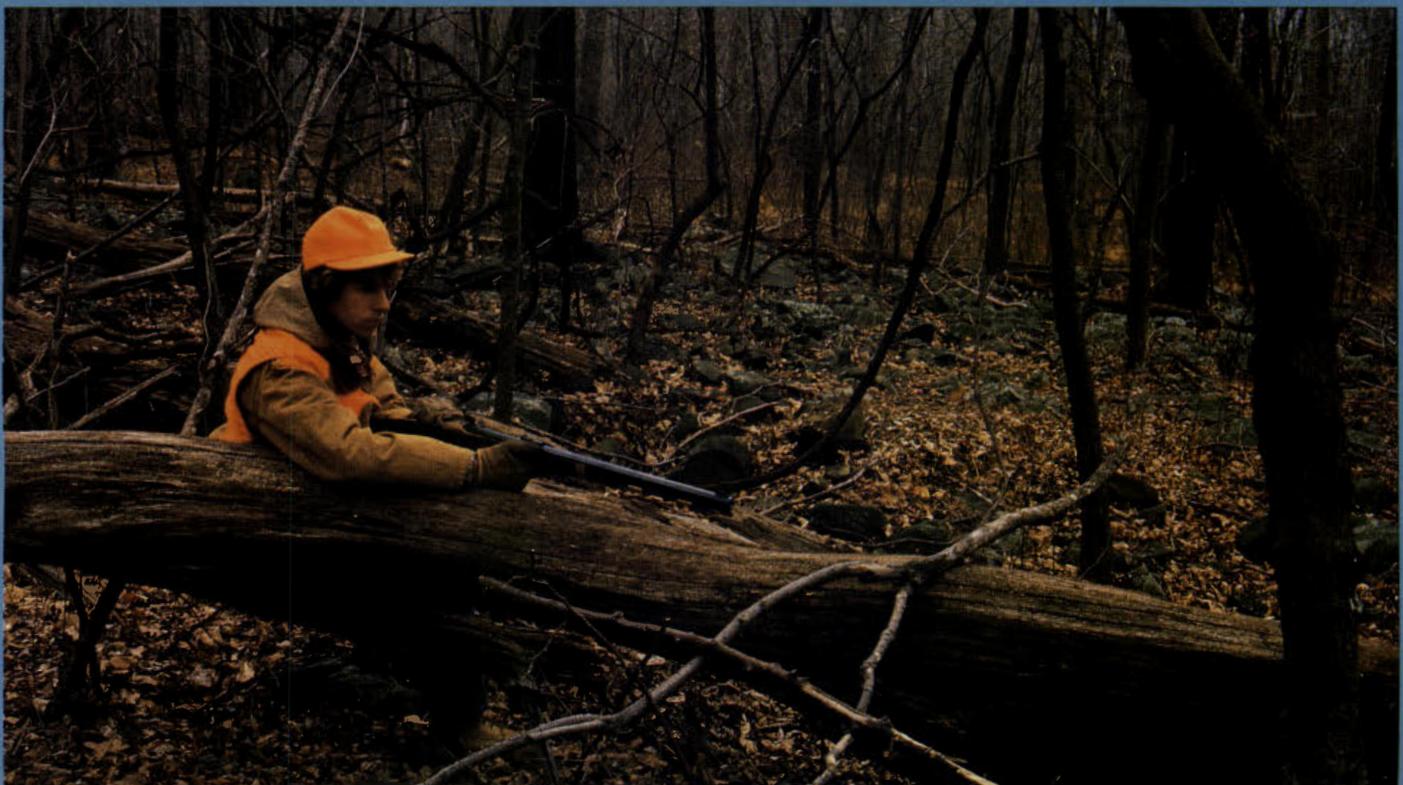
In New Jersey the legal missiles are buckshot and rifled slugs. Some hunters swear by the rifled slugs, and if they have practiced and know how their gun shoots, and at what range, slugs are excellent and have a somewhat longer range than buckshot. However, in thick cover where you need to shoot close and quickly, buckshot may be better. Generally, the

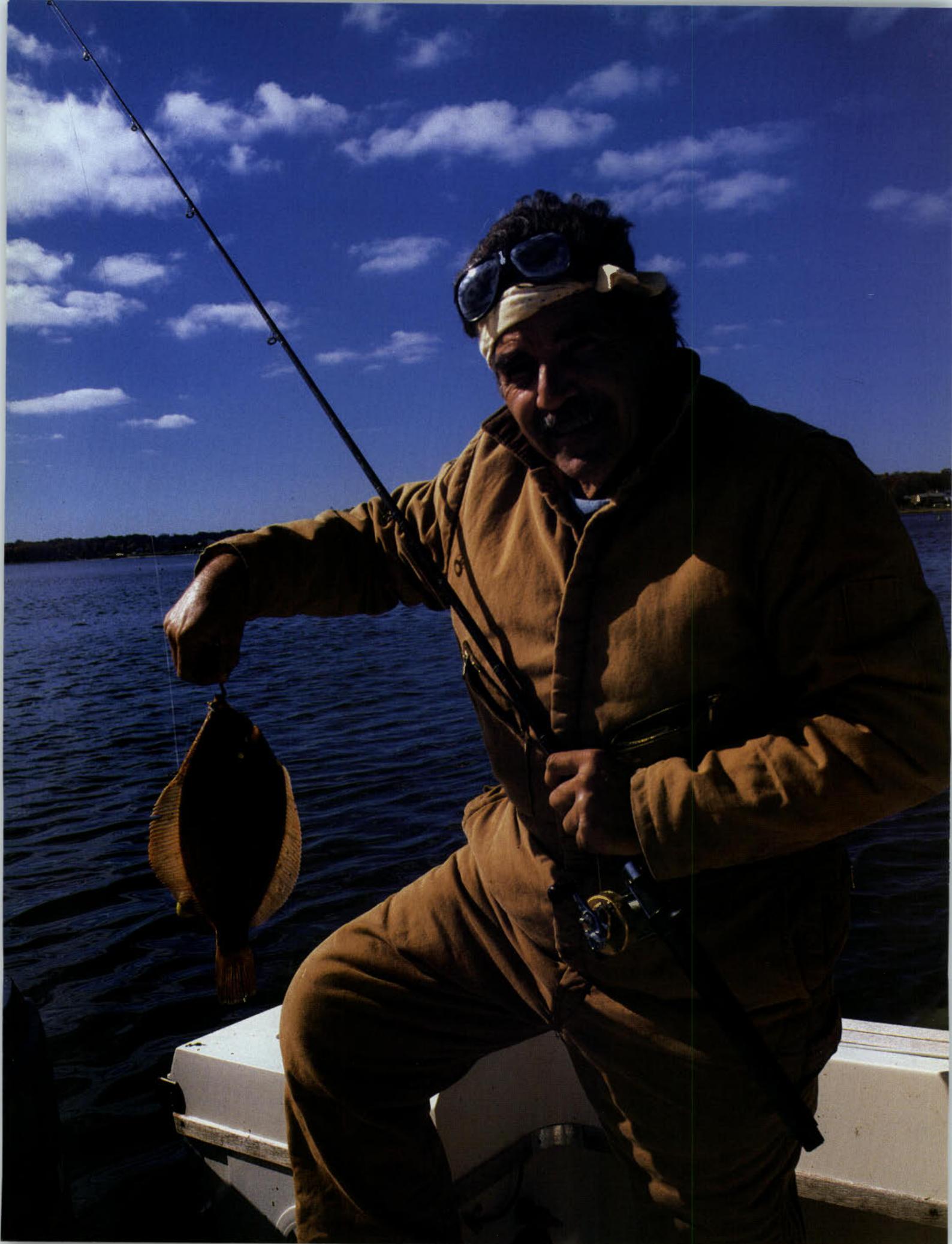
large No. 000 buckshot is better for longer ranges, up to 60 yards, whereas the smaller sizes are better for ranges of less than 45 yards. Whether you shoot buckshot or rifled slugs, it pays to know how your shotgun patterns with the different sizes and brands of ammunition at 40, 50 and 65 yards.

Above all in deer hunting, as in all other hunting, SAFETY is the first concern. The accident rate in New Jersey during the hunting seasons is low, but one accident is too many. It's absolutely essential that a deer hunter clearly identify the deer, get it within 60 yards and be certain that no person or thing is behind the deer before firing. The tensions and excitement of deer hunting can play strange tricks on the human imagination. If there is the slightest doubt or uncertainty about your target, don't shoot.

There is a good chance that the New Jersey deer harvest this November and December will top 33,000 animals. This amounts to about 1.25 million man days of outdoor recreation and \$75 million to New Jersey's economy. The citizens of New Jersey are blessed with a large and healthy deer herd, and through its proper management, deer hunting will continue to remain at the top of the hunting totem pole in the Garden State. 

Pete McLain is a regular contributor to NEW JERSEY OUTDOORS. He is known to many as the former (retired) Assistant Director of the New Jersey Division of Fish, Game & Wildlife.





New Jersey's Winter Flounder

Charlie Fiorillo and I were bundled up like a pair of overweight Polar bears as we braved the biting winds and near freezing air temperatures. It was mid-December and the north-west winds were whistling straight across the back bay causing white caps to smack against the boat, and sending frigid salt water spray onto our foul weather gear.

Although the air temperature was above 40 degrees, the wind chill factor and flying spray made it seem more like 10 below zero. What any person in his right mind would be doing on the water under conditions like these escaped me for the moment. A gentle tap-tap registered up the line and brought me back to reality. As I lifted the rod tip sharply, I felt the satisfying surge of a hooked fish fighting for its life. It was immediately obvious as to why we were enduring the elements.

After a brief but determined battle, I cranked not one but two fat blackback flounder to the surface and unceremoniously hoisted them into the boat. Quickly unhooking the fish, I turned just in time to see Charlie snap his rod back and grunt happily as he too set the hook into another hefty winter flatfish.

For sure, it was cold, but in the hour or so we'd been dunking our sandworm-baited hooks in the murky waters of Shark River we had already taken more than two dozen flounder and were well on our way to filling the 86-quart cooler with enough tasty fillets to carry us through the long winter months when snow covered the ground and fishing tackle gathered dust in the basement.

Not too shabby when you consider the fact that New Jersey is one of the most densely populated and highly industrialized states in the nation. Recent surveys indicate more than two million anglers fish New Jersey's coastal saltwaters. Fortunately, the winter flounder is a very prolific spawner and can withstand heavy fishing pressure without severely depleting the brood stock.

The blackback flounder is not a large fish, seldom weighing much more than 1½ to 2 pounds and more often averaging only 1/2 to 3/4 of a pound. The New Jersey state record, taken several years ago, weighed a few ounces more than 3 pounds and was caught from Barnegat Bay during the spring season.

Any time you catch a winter flounder weighing more than 2 pounds from New Jersey waters you have bragging rights. However, what these cold water flatfish lack in size is more than made up in numbers. It is not at all uncommon to see experienced flounder fishermen take 50 to 100 keeper size flats on a single tide and even the novice angler can gather up enough flatties to provide a family

repast when fishing most any of the coastal rivers or bays.

The best time to catch fall-run flounder will normally occur during October, November and December. Some rivers, including the Shark and Manasquan will continue to produce reasonably good catches of flounder during January when the weather is mild and there is no ice present on the rivers.

Flounder follow a definite migration pattern, coming into the coastal rivers and bays in the early fall when easterly storms push flood waters into the estuaries and trigger the spawning instinct in the winter flatfish. Usually by mid-November the blackbacks are firmly established throughout the coastal waterways and sharpies at fishing for these tasty little flatfish will probe the deep channels and back bay areas from then until a blanket of solid ice covers the rivers and bays.

Fall flounder fishing can be extremely rewarding for the fish are generally full of fight and will weigh quite a bit more than those during the spring. Most of the female flounder that enter the coastal estuary waters will be fat with roe and the males that are mature will carry milt to fertilize the eggs when the spawning season is underway in the spring.

The blackback is a cold water fish and can withstand water temperatures of 34 to 36 degrees before losing the desire to feed. Once temperatures drop below the comfort level, flounder become very lethargic and will burrow into the muddy river where they will stay semi-dormant until the warming rays of the sun again bring renewed interest in spawning and feeding.

As the fish leave their muddy winter home they will first attend to spawning chores and then begin to feed in earnest before starting their migration back to the offshore depths.

The actual date when spawning occurs will vary from one waterway to another, but as a rule the fish will have completed spawning in most areas by the middle of March or at the very latest, the first or second week of April.

Recent surveys and tagging programs being carried on by the Marine Fisheries Administration of the Division of Fish, Game and Wildlife, indicate there is more research needed to determine the full extent of the state's flounder resource.

Biologists say the best bet for catching winter flounder is to fish the channels on the western side of the bay near Forked River, Oyster Creek Generating Station or Manahawkin.

You do not need fancy tackle to catch these tasty little winter flatfish. Many experienced flounder anglers carry light spinning or casting outfits of the type normally seen in use

BY RUSS WILSON

PHOTOS BY
AUTHOR

NEW JERSEY
OUTDOORS subscriber
Charles Fiorillo of
Neptune with a typical
fall flounder taken
from Shark River.

Russ Wilson, Neptune, New Jersey, has been fishing the waters of New Jersey for over 45 years. He is the Outdoors Editor of the TRENTON TIMES and outdoors columnist for the ELIZABETH DAILY JOURNAL, the HUDSON DISPATCH in Union, and the NEW TRIBUNE in Woodbridge. Russ is a frequent contributor to NEW JERSEY OUTDOORS.

when seeking fresh water fish. Rods measuring 5½ to 6½ feet are about ideal for boat or bank situations, and anything longer than 7 feet is too much rod for the fish.

Mid-size reels loaded with 6, 8 or 10-pound test soft monofilament line are preferred by knowledgeable fishermen. Cold weather does strange things to monofilament. A line that is soft and pliable during warm weather situations may be springy as stainless steel wire when used in cold weather. The thinner diameter and lighter test monofilaments are softer and much easier to cast. You may give up some line strength to get the casting control you desire; however, since the fish are not large this is not overly important. Additionally, lines with smaller diameters are less visible to the fish and will normally provide more strikes.

Two hook rigs are virtually standard fare among most experienced winter flounder fishermen. Commercially tied flounder rigs are available at bait and tackle shops throughout the shore area and can be purchased for a dollar or less. Anglers fishing on party boats can purchase rigs directly from the captain or mates at equally realistic rates. You can, of course, tie your own rigs using lighter leaders, bright beads and whatever style hook you wish.

We generally tie our flounder rigs to allow the addition of a single yellow, pearl or bright red bead ahead of each hook. Many experienced New Jersey flounder fishermen feel bright yellow, pearl, white or red beads will greatly increase the fish attracting effectiveness of a flounder rig and we tend to agree with this theory having used rigs with and without the beads. There is no doubt beads will increase your flounder scores on a day-to-day basis even though on occasion a plain hook will produce as many fish.

It must be remembered winter flounder have extremely small mouths and take their food by sucking it in rather than biting it as do many species of saltwater fish. The small, rubbery lipped mouth of a blackback necessitates the use of hooks that have a narrow bend.

The Chestertown style hook has been around for decades and is still a very popular hook among flounder anglers. Other models that are equally effective include beak styles, long shank models like those used when tying streamer flies, or the English wide-bend styles in sizes 6, 8 or 10.

Flounder are strictly bottom feeders. They will not come up off the bottom to inhale a tasty morsel, which means if you hope to catch them you must present your bait at fish eye level. Water depth, tidal movement and casting

distance will determine what size sinker you will need.

In shallow waters or areas where there is little current to create drag against the line you may find a 1/2 or 1 ounce sinker is sufficient, but when fishing deeper waters or areas where the current is strong or where a long cast is necessary you may need three or four ounces of lead to keep the baits anchored on bottom.

Sand or blood worms are probably the most popular baits for catching winter flounder, and both are available at most shore area bait and tackle shops. Strips of clam or whole mussels can also be very effective and will often outproduce the worms by a wide margin.

Garden worms or night crawlers can be used if other baits are not readily available. However, they are definitely an inferior offering and should be used only as a last resort.

Worms, either the sands or bloods, should be cut into bite size pieces. Strips measuring 1½ to 2½ inches in length are about right for most flounder fishing. When using clam follow the same principle by cutting the tongue (yellow mantle) into strips measuring 1½ to 2½ inches in length and no wider than 1/4 inch. Mussels are excellent bait for catching winter flounder also. We've used both the ribbed type, which can be found in the coastal marshes, and the black mussels that attach to pilings and bulkheads. Both are very soft and mushy, and must be threaded onto the hook so the baits cannot be pulled off by a hungry flounder.

"Sharpies" at catching winter flounder will generally work their lines. A gentle lift and drop back technique is employed to "feel" the little flatfish as they take the bait. Often, a flounder will swim up to the bait, suck it in and just lay on bottom, giving no indication whatsoever of having eaten. By lifting and softly dropping the rod tip you can sense the fish and react accordingly.

This lift and drop method can not be used when fishing from shore. A similar, and equally effective technique used by shore-based fishermen is to slowly "walk" the baits across bottom. When fishing from the beach, dock or bulkhead, baits must be cast to the deeper fish-holding waters.

Because of the blackback's habit of eating and not giving any indication of having taken the bait, you are, at times, unaware a fish has sampled the bait. By slowly bringing the rig back toward shore using a very slow stop and go retrieve, those undetected hits are converted to fish in the cooler.

There are many, many places along the New Jersey shore where good winter flounder fishing can be found. The Sandy Hook/Raritan

Bay is a blackback hotspot of the highest order, annually attracting thousands of fall season fishermen.

Party boats sail on a daily basis from Perth Amboy, Atlantic Highlands and Highlands starting sometime around the middle of March. Most of the rowboat rental shops will also open their doors to coincide with the spring run of flounder.

Captain Marty Haines, who skippers the Sea Pigeon from the Municipal Basin at Perth Amboy, said he expects to kick off the spring flounder season on March 15 this coming year and will concentrate on the upper bayshore area throughout March and into April on a daily basis.

Haines supplies all bait with the daily cost of a trip aboard his 70-foot ship and also offers a discount to senior citizens. The Sea Pigeon is the only party boat sailing for flounder from Perth Amboy.

Several party and charter captains will be operating from the Municipal Basin at Atlantic Highlands. All offer equally good opportunities for catching flounder since most skippers will be fishing the same waters.

Captain Gary Fagan, whose Big Mohawk II is berthed at Belmar Basin on Shark River, said he intends to sail for flounder this year. Fagan will be running everyday on a half day only basis throughout March and April.

The Norma K II, berthed at Ken's Landing in Point Pleasant Beach, has been running spring flounder trips on a half day basis for years. Captain Dick Kuhn recently announced he will again be running for flounder starting in March with half days scheduled seven days a week.

Rowboat rentals are available during the fall season and again starting around mid-March at Atlantic Highlands, Highlands, Rumson, Red Bank, Belmar, Manasquan, Bricktown and throughout the western bayshore area of Barnegat Bay. Most of the rental outlets also offer outboard motors and a full line of bait and tackle.

At Belmar Basin, (Fishermen's Den) you can rent a boat or purchase any necessary bait or tackle supplies from the well-stocked tackle shop. Outboard motors are not available.

Throughout October, November and December most of the coastal area bait and tackle shops will be stocking fresh worms, clams and mussels and will be open on a seven day per week basis to accommodate winter flounder anglers. Most of the rowboat liveries throughout the northern coastal area will have boats and motors available until mid or late November and will reopen again early in March to cash in on the early spring run of flounder.

Trailer boats will find excellent launch facilities throughout the Sandy Hook/Raritan Bay area and at Navesink and Shrewsbury rivers which empty into lower Sandy Hook Bay at Highlands. There are several launch ramps at Shark River and two decent ramps situated along the Manasquan River. One ramp is at Manasquan and a second is located way up-river near where salt and freshwater meet. Barnegat Bay boasts of many good launch ramps, most located along the western shore from Bayville to Forked River.

Some of the launch sites throughout Barnegat Bay and at Sandy Hook's tributary rivers will be closed during November, December, January and February. It pays to call before driving to the shore only to discover that the launch ramp is closed for the season.

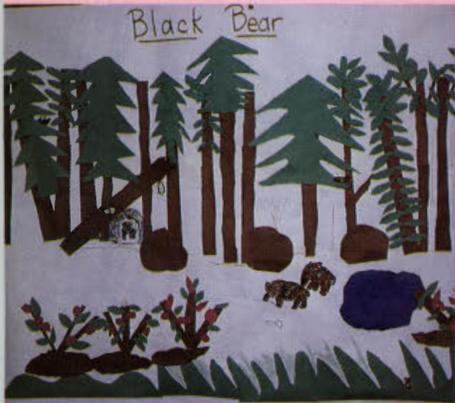
Remember, dress for the weather. Late fall and winter weather can be treacherous, with air temperatures often dropping twenty or more degrees in a matter of hours. A day that starts out bright and sunny can quickly change from mild summerlike weather to near freezing and if you haven't planned for the worst you are in for a miserable day.

I'd suggest wearing woolen outer garments and bringing a set of foul weather gear in addition to waterproof boots, woolen socks and a pair of light weight cotton gloves. You may not need the foul weather gear, but if you are caught in an unsuspected rain squall, or get a chill from the cold winds, it will come in very handy.

If you've been reluctant to give the flounder fishing a try, make it a point to remedy that situation this season. Discover as many others have, winter flounder fishing is a superb way to extend the fishing season while at the same time providing plenty of excellent eating flounder fillets to carry you through the long cold winter months. 

Point Pleasant party boat Norma K II, is captained by Dick Kuhn sails twice daily from Ken's Landing during spring flounder season.





BY LOUISE BELNAY

THE SCENE: A class of 25 children wandering through the forest adjoining a nature center as a staff naturalist, clad in hiking boots and wool shirt, points out the bark of white oak, shows where to look for squirrels' nests and finds deer tracks in the mud.

Described above is a view of what some people think environmental education is all about. It's a growing field, reaching beyond nature centers, lacing together traditionally separate fields of study and spreading around the globe. And while field trips have not disappeared, environmental educators have taken on a broader, perhaps more serious mission: exploring through nature the problems of our world. Educators hope that by teaching children, teachers and communities about the laws of nature, an environmental ethic will develop.

Although approaches to environmental education are diverse in scope and style, most educators stress the awareness, knowledge and participation in activities that enable students to develop attitudes and skills necessary to help them solve the problems that will continue to plague the world. All educators should recognize their responsibility in helping prepare our children to be "world caretakers."

In response to this need for a global approach to quality environmental programs, we are now experiencing a shift from traditional, passive curriculum to active, cooperative and dynamic approaches. New interdisciplinary studies are based on ecological relationships and renewable uses of resources. Teaching strategies that develop "right-brain" skills are encouraged and include guided imagery and inductive thinking strategies. These strategies give the brain the freedom to expand and explore beyond memorization and provide an ideal model for learning.

One such program that encourages diverse teaching methods and focuses on the environment is Project WILD. An acronym for Wildlife

PHOTOS BY AUTHOR

Environmental Education Goes 'WILD'

In Learning Design, WILD was developed by the Western Regional Environmental Education Council and the Western Association of Fish and Wildlife Agencies. In New Jersey, WILD is sponsored by the Department of Environmental Protection.

In WILD workshops, teachers use activity guides designed to supplement basic school curricula. WILD's thematic approach is focused on wildlife and its habitat and contains over 80 activities for use in grades K-12. The guides provide an abundance of direct experiences for children in urban, suburban and rural schools.

Project WILD was introduced to Hackensack Public Schools last year, and students there have been going "wild" ever since. Project WILD is opening many new doors and kindling interests in the students at all grade levels. Activities provide a supplement to the core curriculum, which stresses interrelatedness. WILD become immersed into core areas and increases the children's understanding of nature and wildlife.

The children at Jackson Avenue School began their exposure to WILD with an observation of crickets (a variation of the WILD activity on grasshoppers). Following their introduction to crickets and their habitat on the school grounds, the children went on to learn about food chains, behavior, population dynamics, crickets in literature, insects in general, observation and drawing, creative writing and man's interaction with insects. This was obviously more than a lesson on bugs!

This activity was especially useful in encouraging children to read. Children's books *Never Say Ugh to a Bug* by Norma Farber and *I Am Better Than You* by Robert Lopshire helped children to better understand and appreciate the environment once they had some first-hand experience.

Hackensack students in elementary social studies classes have been going "wild," too. Skills such as information gathering and pro-

cessing and problem-solving are honed by WILD activities. Activities identifying basic needs of people and wildlife serve to acquaint students with important concepts. WILD activities entitled "What's that Habitat?" "Everybody Needs a Home," "Make a Coat," and "What Bear Goes Where?" were high on the students' list of favorites.

Ecological principles were introduced to fourth and fifth grade students through WILD activities like "Classroom Carrying Capacity," "How Many Bears Can Live in This Forest?," "Oh Deer" and "Deadly Links." These activities taught concepts of carrying capacity, components of habitat and food chains. After physically participating in the activity, the class compiled the resulting information, made and interpreted graphs and hypothesized about future situations. The activities combined math, reading and language arts skills as well as science concepts.

WILD activities not only correlate well with curricular goals, but are relevant to city children. In an activity for second grade students entitled "Too Close for Comfort," students are asked to look at the effects of crowding on people and wildlife. City children were able to identify well with this activity and to empathize with wild animals. Other activities actively involve students with hypothetical choices about their urban surroundings. "Ethic Reasoning," "Planning for People and Wildlife," and "To Zone or Not to Zone" involved students in positive and negative consequences of decisions made every day.

Every day people make decisions that affect wildlife and other natural resources, for better or for worse. Our children will inherit the products of these decisions. Hopefully, what is happening in places like Hackensack will help prepare them to accept their roles in these real-life situations. The experiences of the classroom and the playground, with Project WILD as their guide, should help lay a sturdy foundation for future roles. For the sake of wildlife and people, we wish them well! 

Louise Belnay is an elementary teacher at Jackson Avenue School in Hackensack, and facilitates Project WILD workshops for teachers.

One product of a fourth grader's experience with the WILD activity, "What Bear Goes Where?" is a mural.

Students from Jackson Avenue School in Hackensack participate in an activity called "Oh Deer" which demonstrates the components of habitat.

Simulating a habitat in which food, cover and water are all present in sufficient quantities, students form a "habitat lap sit."

One Way Trip . . . *Almost*



BY EDWARD BROWN

On the other side of the windows the temperature is in the thirties and hail is spattering like spent birdshot on the double glazed panes. There's still some of the snow out there that came down this morning, and the wind that brought it is hanging around. But here in front of a stove crammed with white oak, the light poking through the vent slots casts the rooms in amber and genial warmth, and it's as cosy as anyone could ask for.

This gray day reminds me of another just like it, one I'll never forget, 15 years ago. I've



Half-frozen lake in Pine Barrens: typical of what we saw and went around on the long, cold walk out.

The author another day on cross-country skis in the Pigmy Pines area of the Pine Barrens.

PHOTOS BY
AUTHOR

been outdoors in pursuit of the sporting life in a good many areas of the world, from Scandinavia to California, but the closest I've come to making it a one way excursion was that time not 20 miles from my home, in the million acre New Jersey Pine Barrens.

Bill Gallagher and I were off on our annual autumn outing in the Barrens, usually a weekend walk with a couple of overnights, a trip we'd been making every fall for half a dozen years. Sometimes we'd get out in late October after the summer heat was gone and the Jersey mosquito had migrated south; sometimes, for one reason or another, we would go later. This was one of the later times—Thanksgiving, in fact. Later only meant chillier nights, more bracing mornings, less chance of hearing campfire whippoorwills and more of catching the sound of geese against a hunter's moon.

We got a tardy start and had to walk through the dusk into the dark. Somehow we missed the blazes in the failing light and got off the Batona Trail, a 28-mile footpath that goes from Lebanon State Forest south to the Wharton Tract. It was mild, with a misty rain. After coursing back and forth a few times through the gloaming, we decided not to spend any more time trying to relocate the trail and just continued heading south. We'd get back on track in the morning light.

We stopped for the night about seven, in thick pine stands and plenty of duff underfoot. We didn't know it, but we'd opted for some very low ground indeed—ground bordering a cedar swamp to the east. It was a bad bivouac site. The night was still gentle, with the continuing misty rain and temperatures well up into the fifties. After a freeze-dried dinner of stew, Gallagher and I sat under a poncho rigged as a fly, yarned and passed a couple of hours in front of a squaw fire with a few swigs of cognac. Except for the slight rain, God was in his natural heaven and all was right with the world—we thought.

The first thing that we'd done when moving into the overnighting spot, of course, was to get our shelters up, and now it was time for the sack. Bill crawled into his one-man coated nylon mini-tent, and I got into a 10 by 10-foot waterproof trail tarp, rigged so that a fold of the tarp served as a ground cloth. The woods quieted down, and we slept.

In the early hours of the next morning, it happened. A rogue weather front moved into the region from the northwest, bringing first rain, then dropping temperatures, then sleet and snow. A rising wind went along with all this, and the first thing either of us heard in the dark was the keening of this great wind in the treetops. The rain soon began—

absolute sheets of it—and it fell until daylight. By then the ground was saturated (the water table here must have been only a foot or two below the surface), and our campsite had become a stream bed. Sleeping bags, spare clothing, stove—everything including us—were soaked.

We thought the best course was to pack up and get back on the Batona Trail, then perhaps have a light breakfast and consider what next to do.

While we were hurriedly packing up to move out, the temperature really began to go down. Before we finished loading up, we could see the breath in front of our faces, it was getting difficult to use our hands, and the wind was driving the cold through our soaked clothes with an unremitting mercilessness.

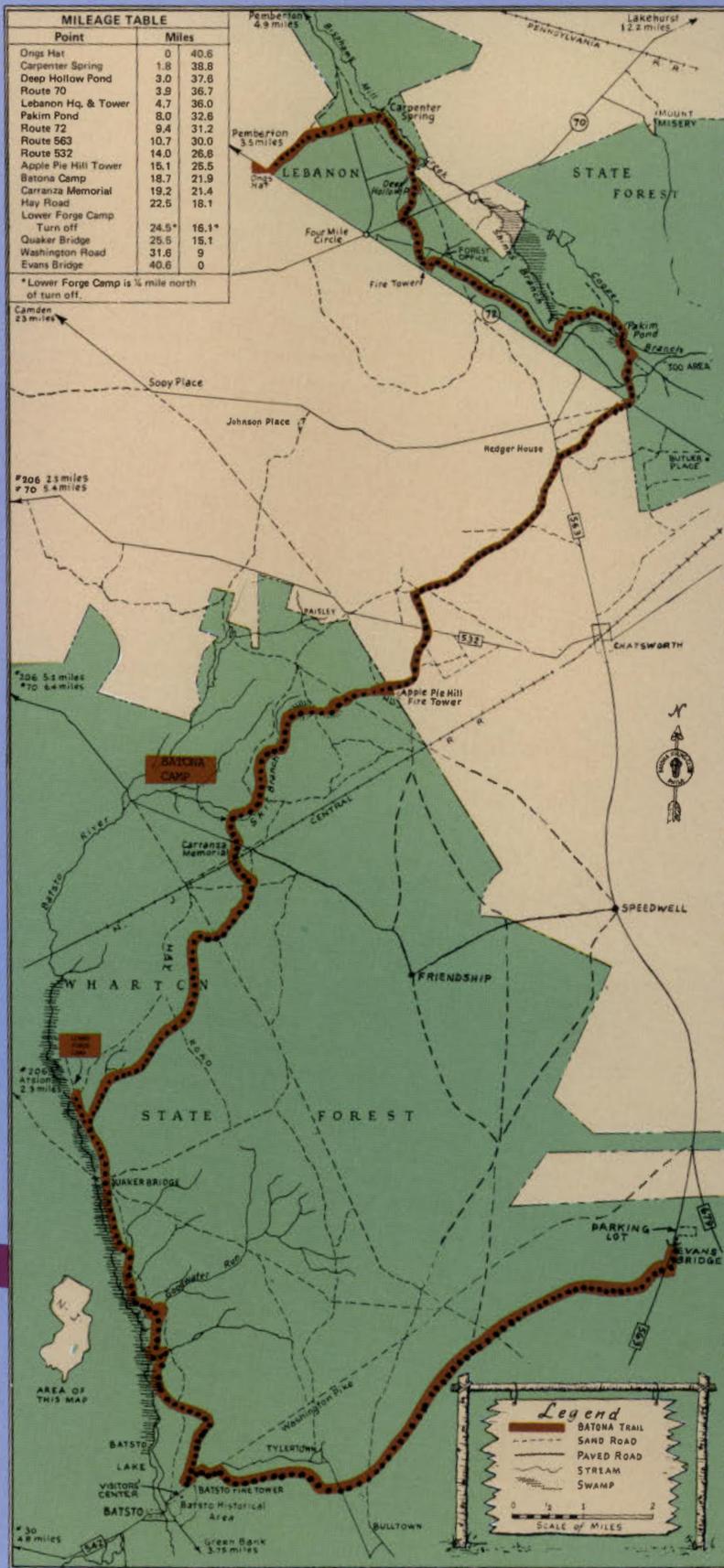
I started shivering in great spasms as my body temperature went down, probably at this point from around 99 to perhaps 96 degrees Fahrenheit. The surface blood vessels were constricting in an effort to protect the falling temperature of the body's core. My hands and feet were probably at 50 degrees or lower as a result of this process. I was in the first stage of hypothermia, the outdoorsman's hazard that had killed many a man under the name of "exposure" in the old days.

Gallagher hadn't gotten as wet as I and wasn't in as much trouble, but the situation was becoming a dangerous one for both of us. We were off the trail, miles from anywhere, wet and freezing. There was a long way between us and any kind of help or shelter, and when we finally got organized to head west to get back on the north-south footpath, there was yet another nasty surprise to cope with.

Water lay on the ground in great puddles, some a foot or more in depth. There was no way to go around most of this water, so we had to wade through it. The freezing water was halfway to our knees.

The wind was still there, and the temperature was now hovering around 20 degrees. The situation began to look dangerous. It was unbelievable: This was happening not in some faraway mountains or harsh northerly waste but in the woods I had walked, hiked, hunted and canoed for most of my life—the South Jersey Pine Barrens, as genial and forgiving a wilderness as could be found.

The shivering continued, and I seemed to be having trouble keeping my mind focused on matters at hand—body temperature probably down to 93° or so now, and beginning to affect not only my thinking but my capacity to speak properly. I was staring at my rucksack and thinking about my wife. Would she be able to start the Volvo today? It could be difficult to crank up on a wet morning.



A full-size Batona Trail map and brochure is available from the Division of Parks and Forestry, State Parks Service, CN 404, Trenton, NJ 08625.

The route of the Batona Trail has been extended an additional 10 miles from Rt. 563, Evan's Bridge in Wharton State Forest to the end at Stage Road in Bass River State Forest.

Gallagher was talking to me, but I couldn't make out what it was he was saying. He came over and grabbed me by the shoulder and pulled me to my feet roughly. This woke me up, and I took a sight with my old Marble compass, which was always around my neck when I was in the woods. If we headed due west—270 degrees—we would run into the old New Jersey Central Rail Road tracks. These were no longer in use, but this section angled from the heart of the Pine Barrens westerly to Lake Atsion. This was a quicker way out than the Batona Trail, and there was a ranger station there, manned all the time. If we could reach it, we'd be all right.

But there were wet and cold miles between us and this ranger station. Could we make it?

The wind had sleet in its eye now and we had to walk right into it to get to where we were going. Our clothes began to freeze up on us, and we made crackling sounds as we walked. The water we had to wade through was getting a scum of ice on it, and the cold was intensifying; 18 degrees now by Bill's small thermometer.

I kept the Marble out in front of me to make sure we didn't deviate from a westerly march. God, it was miserable. I looked over at Bill and saw he had frosting on his eyebrows and deep circles under his eyes. I knew I was as bad. But we kept moving, trying by dint of expending energy to break through the chill in our bodies. I wasn't shivering so much now and was feeling a bit less muzzy in the head, but still I had legs going back and forth like a jerky metronome, panting, vaporous breath, hands all but useless.

After an hour's hard slogging, we reached the railroad. This was a mixed blessing in a way, since by turning south here we'd have some relief from that punishing wind, but if we walked the rails we would be out of the shelter of the trees and completely in the open. It turned out to be better going down the tracks, however. At least we didn't seem to be getting any worse, and just being on the track gave us the sense that we were getting somewhere despite all and that we were going to make it.

Windblown snow was beginning to cover the spaces between the rails when, about three hours later, we saw the railroad sign up ahead at the old logging road that branched off to the Atsion Ranger Station. We almost double-timed the last stretch.

Bill and I tumbled into the station and made for the potbelly stove in the middle of the outer room. I felt like wrapping my arms around the thing and got as close as I could for a good basting.

The ranger behind the counter was eyeing us curiously. "You guys look pretty beat," he

said. "Were you out last night in this weather?" Between mouthfuls of trail gorp we told him the whole story. "Well, you walked away from it," he replied. "At least we didn't have to come out hunting for you to put you in body bags."

He then went on to tell us of some of the impact of this surprise late fall storm. North and to the west, in the Pocono Mountains of eastern Pennsylvania, the snowfall brought by the storm had closed practically all the mountain roads and had even stranded travelers on the Pennsylvania Turnpike. It had really caught everyone flat-footed.

We used the station phone to call my wife to pick us up: It seemed a couple of weeks since she'd dropped us off at trailhead. We stayed close to the stove while waiting for her to show up, and talked about what we'd done wrong and how close we'd come to disaster. Not making an immediate effort to get back on the Batona Trail after we strayed off it probably would have helped our peace of mind, at least, and we should have scouted out our campsite more carefully before settling in on such low ground. The mild weather lulled us into a sense of false security. We ought to have taken more care in "weatherproofing" our shelters.

On the other hand, our wool clothing was a real plus. It didn't wick out body heat as sodden cotton would have done. And we did have a compass and knew the best direction to take as a result. Finding our way without the old Marble under that leaden sky might well have resulted in "dead reckoning." What about laying up somewhere out of the wind, cranking up the stove and getting some hot food and coffee into us? Given the ferocity of the day, our already wet clothing and the difficulty of building a warming fire on this sodden day (Daniel Boone himself probably couldn't have done it), such enforced immobility could only have made our condition worse.

On balance, the best thing to do was what we had done: saddle up when there was enough light to navigate by and begin moving as fast as we could, each step bringing us closer to shelter and warmth. Though we were still plenty cold on the march and our hands were almost useless, the work of hustling along with packs seemed to have something to do with arresting the progress of our hypothermia. We were thick in the head and thoroughly chilled, but step two of the condition, which robs one of the will to go on, makes for a creeping surrender of the body's cold defenses. A finish with collapse and ventricular fibrillation just wasn't in the cards for us.

But it was as close as I ever care to come. 

The author has been writing outdoor pieces for the past dozen years or more, for publications as diverse as the NEWYORK TIMES, SKI, SUMMIT, MOUNTAIN GAZETTE, PHILADELPHIA INQUIRER, TREASURE, and SMITHSONIAN, but this is his first article in NEW JERSEY OUTDOORS. **Mr. Brown**, from Medford, New Jersey, is a member of NEW JERSEY OUTDOOR WRITERS, and the MARINE CORPS COMBAT CORRESPONDENTS.

Eastern Gray Squirrel

David Chanda, Chief of Information and Education, Division of Fish, Game & Wildlife, is a frequent contributor to *New Jersey Outdoors*.

The eastern gray squirrel is a forest-dwelling animal found throughout New Jersey. Familiar to most Garden State residents, they prefer to live in hardwood forests but are also quite common in towns and parks.

Squirrels prefer to frequent mature nut-producing trees such as oak, hickory, walnut and beech, mixed with other hardwoods—maple, elm, basswood, tulip poplar, ash, and gum. Their diet consists mainly of acorns, hickory nuts, walnuts and beechnuts. They also eat wild berries, fruits, leaves, seeds, insects, bird eggs and bird nestlings.

As the name implies, these squirrels are grayish in color, with a very bushy tail. Actually, their color can vary from a pale gray to black. Squirrels are small mammals, usually about 20 inches in length, weighing 1 to 1½ pounds. Their large fluffy tail is about 10 inches long and is bordered with white-tipped hairs.

The gray squirrel builds a nest of leaves and twigs among the branches or in the holes of trees. Squirrels usually live in an area of less than 10 acres and will breed twice a year, once in February and again in May. Gray squirrels have litters of two to four young, which are born blind and hairless. The young squirrels grow rapidly and are on their own within three months. The male plays no part in raising the young.

Squirrels are active throughout the year. Although they do not hibernate, during a bitter cold spell in winter they will remain in the nest for several days coming out to feed once the weather breaks.

Squirrels have many potential predators including snakes, hawks, owls, fox, bobcats, weasels, raccoons and even domestic cats and dogs. They rely on their keen eyesight to avoid these potential dangers and scamper up the nearest tree at the first sign of trouble. If the squirrel can not reach the safety of its nest, it will generally try to climb as high as possible and hide in the tree tops. They also have a knack of hiding on the other side of a tree. They will continue to circle the trunk, keeping the tree between themselves and the potential threat.

Young hunters know this tactic very well, as they are often introduced to the sport of hunting with an outing for squirrels. Gray squirrels are abundant, provide the young sportsman with ample challenge and are excellent table fare.

The gray squirrel resource is currently underutilized in New Jersey. The state's early

squirrel season provides excellent hunting recreation during the pleasant autumn months, and the addition of a late winter muzzleloader season in special hunting areas should provide more recreational opportunities and stimulate interest in squirrel hunting.

Management of the gray squirrel is relatively simple but it usually requires much time to show results. Good forest management is the most important method. This includes the controlling of "stand" composition to encourage growth of nut-producing trees, the preservation of den trees, and the planting of food-bearing trees and shrubs. Fencing farm woodlots to control the grazing of livestock is also useful. Setting bag limits, controlling illegal hunting, and regulating the time and length of the hunting season are other management tools.

Unfortunately, gray squirrels are often considered a nuisance. Each year the Division of Fish, Game and Wildlife receives numerous complaints about squirrels. Frequently, the animals set up housekeeping inside a dwelling, usually in the attic, where they can chew the insulation on electric wires. Gray squirrels also dig holes in homeowner's flower beds or rob seeds from the winter bird feeder. These problems can be handled with repellents, or by trapping, or other legal means subject to the regulations of the Division.

Squirrels play a very important role in reforestation. They are relentless workers, usually up before dawn gathering nuts. They are active throughout the day and, following a brief mid-afternoon break, they continue gathering and burying nuts until it is dark.

The gray squirrel buries each nut individually. They bury so many acorns and nuts throughout the day it is impossible for them to find where each is hidden. Many new trees grow as a result of a squirrel burying an acorn that it was unable to find.

The squirrel does not locate its hidden cache of food by remembering its hiding location. Squirrels have an excellent sense of smell and are capable of locating buried nuts and acorns with their nose. They also will not hesitate to dig up an acorn buried by another gray squirrel.

Gray squirrels certainly are a part of our valuable wildlife resources. In addition to recreational and aesthetic contributions, they play an important role in the ecosystem of the Garden State. Perhaps that large tree in your backyard, which provides shade at your summer picnics, grew as the result of a gray squirrel's efforts.

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