



November/December 1981

New Jersey
OUTDOORS

State of New Jersey



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From The Editor

Happy Holidays

Although this issue is mailed on or about the first of November, it is our holiday issue. So enjoy while you celebrate Thanksgiving, Hanukkah, Christmas, and may you all have a happy and prosperous New Year.

This is also the time to order gift subscriptions of *New Jersey Outdoors* for your family and friends. Give a gift that lasts and lasts . . . for one, two, or three years. A *New Jersey Outdoors* gift subscription is a thoughtful gift and the cost won't break you. Do it today!

In this issue:

The lead article is entitled *The Blue Angels*. Author/photographer Robert J. McDonnell was one of 150,000 people to welcome the U.S. Navy's "ambassadors of goodwill" back to Lakehurst in May after an eight-year absence from the state. His photographs capture various flight maneuvers performed by the "Angels" on that day.

Alden Stahr, in *The Road Through the Woods*, takes the reader on a historic journey down Old Mine Road, said to be the "oldest highway in America." The photographs are his, too.

The Hunt for the Jersey Devil is a humorous account of how New Jersey's most infamous legendary character has eluded capture despite the many attempts on his life and the rewards offered for him. The article is written by Patsy Bontempo and illustrated by Tony Hillman.

Pete Barrett recreates an old craft in *The Decoy/A New Jersey Tradition*. Read this article and you'll see that decoy-carving, though rich in tradition and old family names, lives on today. Barrett's photographs of Herman Bennett, a carver from Barnegat Bay, accompany his story.

Writer Deborah Boerner gives an up-to-date report on the *Pequest Trout Hatchery and Natural Resource Education Center*. She says, "If all goes as planned, it will be open to the public in the late spring or early summer of 1982," certainly good news for all New Jersey residents. The photos are by Harry Grosch.

New Jersey's Got It All! is a proud proclamation by Dr. Charles A. Platt. In his article, he delights in the fact that our state has many habitats and outdoor settings where so many diverse outdoor activities can be enjoyed. Illustrations were provided by Tony Hillman.

South Jersey Deer Hunting in the 1890's was written some 50 years ago by the late John Snagg, a south Jersey woodsman. It was sent to us by his niece, and the photographs were provided by the Lacey Township Historical Society, the Twin County Rod & Gun Club, and Leonard Lee Rue.

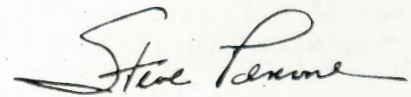
Ruth Sculthorpe, in *The Backyard Despot*, introduces us to "Pugnacious," a mockingbird that's made her backyard his kingdom. Tony Hillman illustrates him performing some of his antics.

The Hudson River Waterfront, written by Barbara Kauffman, is an informative article about what's being done to spruce up the Hudson River Waterfront (and others) so they once again become important places in our cities and towns.

Robert Seeley tells us that a good way to enjoy New Jersey this time of year is to go hiking. In his article, *Hiking the Appalachian Trail in New Jersey*, he describes some of the places he's seen and people he's met while hiking with the Union County Hiking Club.

And if you think just because it's November, it's time to hang up your fishing pole, read this next article by J.B. Kasper. In *Cold Water and Good Fishing*, the author encourages us to continue fishing after the summer crowds have disappeared and he gives tips on how and where to do so. Photographer Harry Grosch already caught some folks enjoying cold water fishing.

A pictorial spread, *Autumn in New Jersey*, depicts the colorful fall season in our state.





Commander Denny Wisely, Flight Leader guides plane #1 down the runway in preparation for takeoff.

Photographs © 1981, Robert J. McDonnell

THE BLUE ANGELS

ROBERT J. McDONNELL

Their saga began in 1946 when, on the 15th of June, the U.S. Navy's "ambassadors of goodwill"—the "Blue Angels"—gave their first flight demonstration while piloting four propeller-driven Grumman Hellcats at speeds of up to 375 mph. Now, 35 years later, the "Blue Angels" continue to demonstrate precision flight maneuvers before millions of spectators each year.

Yes, technology has changed drastically over the years, but the "Angels" have kept pace by graduating through a series of modern air-craft, each permitting more maneuvers to be added to their repertoire. In 1946-1949, they piloted Grumman F8F Bearcats. Then came the jet era and such craft as Grumman's F9F Panthers, F9F-8 Cougars, and F11F-1 Tigers. In 1969, the "Angels" switched to McDonnell-Douglas F-4J Phantom II's.

Presently the team flies McDonnell-Douglas A-4F Skyhawk II's. The switches in 1973 to the Skyhawk—a slower plane than the Phantom—was due in part to the energy crisis, since the Skyhawk is a single-engine craft as opposed to the twin-engine Phantom. But, one

also has to believe that the decision to change was more deep-seated. In 1973, at the Lakehurst Naval Air Station in New Jersey, tragedy struck. During a practice session in preparation for a typical "Blue Angel" show, two Phantoms met head-on in midair, costing the team three members and two aircraft. Lakehurst, where disaster blasted the airship *Hindenburg*, delivered a catastrophic knockout blow to the "Angels." Understandably, performances for the remainder of the year were cancelled.

The following year saw the return of the "Angels," now flying the Skyhawks. The Skyhawk is a remarkable airplane that has been around since the 1950s. It is a highly maneuverable craft with a single engine delivering 11,200 pounds of thrust. Its rate of climb is 13,500 feet per minute; its roll rate is 700 degrees per second. Even more important, the plane requires less maintenance than does the Phantom.

The use of Skyhawks seemed to solve a problem for the "Angels." However, one big question remained: Would the team ever return to Lakehurst to demon-

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After takeoff, the "Angels" join up to form their famous DELTA formation from which they will execute up to 6 different maneuvers.

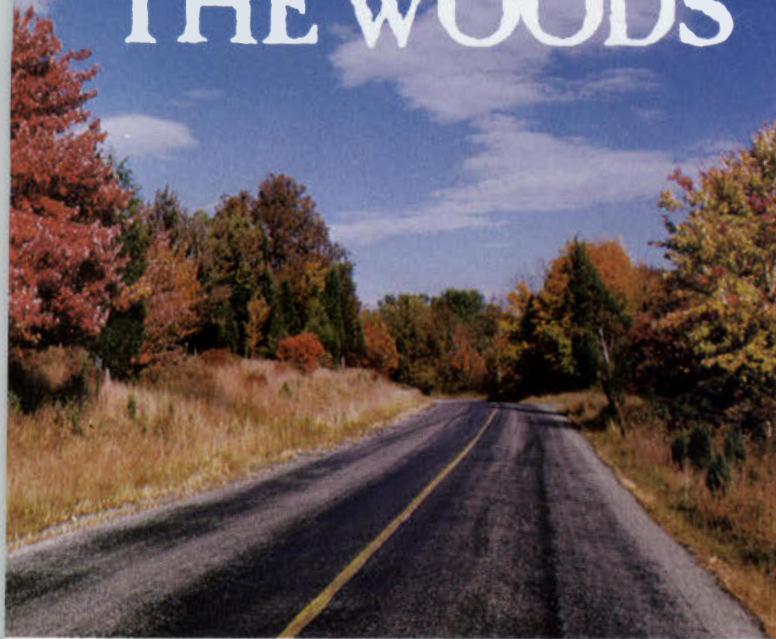


UP, UP AND AWAY! PLANES # 1-4 during initial takeoff. Planes 5 and 6 follow shortly. Plane 5 does the DIRTY ROLL on takeoff—rolling the plane in a circle at 170 mph and an altitude of 50 feet. Plane 6 follows and then all 6 craft group into their trademark formation—the Delta.



The Delta Vertical Break With Six-Plane Cross: starting at an altitude of 8,000 feet, all planes break off from formation toward 6 points on the compass. Each pilot then performs a 1/2 Cuban 8 turn and then they roll their craft 180 degrees in unison such that they are heading back toward an imaginary "center-point" at a combined rate of speed approaching 1,000 mph. When the planes reach the center (it doesn't take long!), they cross with minimum clearance. This photo shows the planes as they descend from 8,000 and break.

THE ROAD THROUGH THE WOODS



PHOTOS BY AUTHOR

ALDEN STAHR

Concealed in the dense woodland that embraces my cabin and extends over Mount Tamney is a hole in the side of a ravine. And equally well hidden is the identity of the ancient road that was born in the womb of the mountain. The hole is the main exit of a 330-year-old copper mine at Pahaquarry, just north of the famed Delaware Water Gap between New Jersey and Pennsylvania, and it was the metal in that mine that caused Dutchmen to hand-hew the road through virgin forest around 1650, 100 miles from Esopus on the Hudson River to Pahaquarry on the Delaware River. This is "The Old Mine Road," oldest highway in America.

There are older town roads in the USA, but this was our first highway of any considerable length. Yet this road, variously named "That Ancient Trail," "The Trade Path," "The Path of the Great Valley" (1682), "The Old Mine Road" (1787), "The Good Esopus Road" (1770), "The Queen's Highway," is so little known today that I lived beside it for several months in Sandyston Township, New Jersey, before I learned of its antiquity from neighbor Depue, who told me it was the oldest highway in America. My neighbor's ancestor, Sam Depue, had welcomed surveyors Lukens and Scull in 1730 when the two men came up the Road on an exploration for the sons of William Penn. Later, Sam's son, Nicholas, used the Road in winter to haul produce to Esopus, his only market. He wrote: "In the summer of 1789 when I began to build onto this place, there came two venerable gentlemen on a surveying expedition: General James Clinton (father of Dewitt Clinton) and

Entrance to Pahaquarry Copper Mines



Christopher Tappan, Esq., clerk and recorder of Ulster County, New York . . . In order to learn some history from gentlemen of their knowledge I accompanied them into the woods. They both knew well the mine holes and mine road . . . that it was undoubtedly the first good road of that extent ever made in any part of the United States."

Curiosity drove me to drive the Road southwestward from Sandyston to explore the "ancient trail" and the mine itself, which was then (25 years ago) on the property of a Boy Scout camp. It was the off-season, but the caretaker, Leonard Rue, told me it was all right to go in the mine, so I climbed up a ravine along a turbulent brook and past a thicket of rhododendrons and tall trees until I stood before that 330-year-old hole in the side of the mountain.

After I photographed the seven-foot-high entrance I switched on my flashlight and stepped cautiously into the dripping shaft, half-expecting to encounter ghosts of burly Dutch miners long gone, half-hearing their guttural language and the thud of their hammers on chisels, almost seeing the flickering candles by which they must have

*Old house
and well
at Millbrook*



worked, meanwhile ducking my head involuntarily to avoid brushing bats off the ceiling. About 100 feet into the mountain the tunnel made a turn to the right, and when I went on to the end I turned off my flashlight and experienced total blackness. I stood still then, wondering how men could have gone to such extremes of labor, hacking through the adamantine rock, carrying out the ore and loading it into wooden wagons for the long slow haul over hills and across streams to faraway Esopus, just to obtain a quantity of copper. The wondering produced no answer, so I turned around and, when I reached the angle of the shaft I was glad to see the light at the end of the tunnel and look out from the entrance at the same scene the miners saw when they, too, emerged.

When I made that first trip along The Old Mine Road there were many summer shacks and neat retirement cottages perched among the trees on the hillside and along the river bottomland. There were boarding houses and hotels, working farms and ancient stone buildings. This had been a busy road for more than three centuries, busy with commerce and hunting and travel. Busy, too, with conflict—Indian raids, the French-and-Indian War, the Revolutionary War, and America's first "Civil War" (border clashes between New York and New Jersey from 1730 to 1767). More recently occurred the "War of the Hippies," when squatters had to be evicted when they refused to move out of abandoned homes destined for demolition.

Although I've lived beside and near The Old Mine Road for many years, only recently did I make a journey into the past over its entire length. There is no marker at the southern end of the Road. In fact, it doesn't terminate at the mine any more—an extension links it with Route I-80 where that cross-country highway passes through the Delaware Water Gap. There used to be a parking area seven miles northeast of the Gap, where the trail up to the mine begins, but now earthen barricades prevent cars from parking there.

After revisiting the mine hole I slowly descended the ravine, still envisioning the centuries-old scene. Here it was the same as the miners and wagoners had seen it and,



strangely, it continued to be almost that way as I drove northeast along the Road. Gone now were the shacks and houses and hotels, and seedlings were springing up in the blank places where foundations had been filled in—the forest was reclaiming its fief.

Since the mine and lower 50 miles of The Old Mine Road are entirely within the Delaware Water Gap National Recreation Area, I inquired of the National Park Service as to what, if any, plans they have for managing the forest in the newly depopulated areas. I learned that the few fertile fields in the bottom along the Delaware River will be kept open for future recreational purposes by issuing permits to local farmers to work them. But the hilly fields and former building sites will be allowed to revert to forest. Thus almost the entire 50 miles within New Jersey will remain in perpetuity in its primal state as first seen by the Dutch road builders.

Continuing my nostalgic journey I stopped at a sign "Van Campen's Glen," parked and followed Mill Brook to

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ILLUSTRATIONS BY
ANTHONY HILLMAN



The hunt for the Jersey Devil

PATSY BONTEMPO

On a bone-chilling night in the dead of winter a policeman doesn't expect to see too much action. But on January 22, 1909, Louis Stehr of the Camden police force was suddenly catapulted into the role of hunter of the biggest game New Jersey has to offer.

At 4 AM, as he was about to report in from his patrol box at 3rd and Cherry Streets, Stehr's attention was caught by "uncanny shrieks." Turning in their direction he saw through the fog an unearthly sight. A beast with wings like a bat and antlers like those of a deer was alighting on the water trough in front of John Carroll's saloon.

It was the Jersey Devil!

Now everyone knows that the Jersey Devil, or Leeds Devil as he is also called, is purely a legend. Yet over the centuries sober, church-going citizens have insisted that he is real—and that they've actually seen him. During the week of January 16-22, 1909, literally hundreds of South Jerseyans were reporting devil-tracks in the snow and some

claimed to have spotted the creature itself. Stehr now joined the ranks.

As was later reported in the local press, Stehr said that the creature, which had the head and body of a kangaroo, began taking a drink from the trough. Seizing the opportunity, the patrolman raised his gun and fired at the winged monstrosity. The shot went wild. Before he could fire again the beast was lost in the fog.

Forget your deer. Don't mourn the departure of the bears from our fair state. New Jersey has bigger game than these to offer those brave enough to take the challenge. But before you go stalking the phantom of the Pine Barrens, you had better know a little about him.

He is old—very old. Tradition says he was born in 1735, the product of his mother's curse. Already burdened with 12 children she is said to have cried out, "If I must give birth to another child, may it be a devil." The mother, Mrs. Leeds, soon had reason to regret her words, for devil it turned out to be.

While there are many versions of his birth, most agree that the Jersey Devil is shaped like a kangaroo but with a horse's head, a collie's face, and horns. Along with his bat-like wings he possesses a long, forked tail and cloven hooves. The more melodramatic claim that he breathes fire.

Tame or wild? It depends on whom you ask. Some say it is as meek as a lamb, but others allege that it killed its own parents, devours small children, and mauls the strongest of men. It is said to be so hideous it can dry a cow by looking at it and its breath is so foul that fish in a pond float dead to the surface after it breathes on the water.

One of the first to hunt it may have been the ex-king of Spain, Joseph Bonaparte, who once resided near Bordentown. He spotted it while hunting deer, but tradition is unclear as to whether or not he shot.

One man who did was Commadore Stephan Decatur, hero of the wars with the Barbary pirates. The beast put in an appearance while the Navy man was testing cannons made with Jersey bog iron. He fired a shell at the creature only to see it pass harmlessly through him.

Still want to try? You may have no better luck than Bristol, Pa, patrolman James Sackville, who came across

the beast while making his rounds near Buckley Street on January 17, 1909. The howling of dogs caught his attention and he saw the Devil, complete with wings and feathers.

Fearlessly Sackville ran toward it. The beast beat a retreat, a horrible scream coming from it as it took to flight. Sackville fired his service revolver, but with no luck. The elusive terror soared out of sight.

It was indeed open season on the Jersey Devil back then. Back in Camden, on the 21st, Policemen Cunningham and Crouch answered a call on Pear Street. A housewife claimed that the Devil had seized her dog and was about to fly away with it until she advanced on the monster with her broom.

By the time they arrived, 100 people had gathered at the scene. As they left, they heard shrill screams in the distance. Following the sound they discovered what must have been the culprit in question on top of a water tower. The officers emptied their revolvers at it but it just winged away.



But maybe as Decatur found out, shells don't faze it. If not, then neither does water. In West Collingswood two men who saw the Jersey Devil called firemen instead of police. The firefighters did their best and played a stream of water on it. It was the wrong thing to do. The beast-bird apparently became enraged and swooped down on the men, sending them flying in all directions. Sticks and stones were also useless against it and the beast finally just flew away.

Perhaps, you're thinking, the idea is to track him down rather than wait for him to catch you unawares.

Forget it. They tried that too back in '09.

In Columbus, farmers formed a hunting party and tried to follow the tracks, but at the first scent the dogs turned tail and ran. The same thing happened to young farmers in Jacksonville.

When the men tried tracking it themselves, as two search parties did in Haddonfield, they found that the tracks mysteriously disappeared. The speculation was that the creature took to the air from the middle of an open field.

One party, led by a station agent named Kirkwood in Collingswood, found the beast at the end of the tracks, but even then they couldn't catch it. George Snyder of Maple Shade saw it while fishing for snappers and gave chase, only to have the ice give way underneath him before he could latch on to it.

But if you do go after the Jersey Devil try to bring him back alive. Harry Hunt of the Hunt Brothers Circus in Florence twice offered \$100,000 for its capture. Rumor has it that he wants to team it up with the Abominable Snowman.

And then there is the \$10,000 reward offered by the Broadway Improvement Association of Camden back in 1960. No one has claimed that yet. The enterprising businessmen have offered to build a private zoo for the creature.

Now the first thing you'll want to know is where you can find this valuable animal. Well, he likes the shore area, but the problem with that is he never seems to visit it alone. Sometimes he is in the company of a lovely mermaid, whom he serenades on an autoharp; at other times he is with a golden-haired lady in white.

His other companions are not so nice. One is the spirit of a buccanneer whose ship was wrecked centuries ago in Cape May County. If this fierce-eyed, cutlass-wielding ghouel doesn't frighten you, there is also a headless seaman who stands guard over the ill-begotten booty of Captain Kidd.

Or you can find him in West Orange, where he has been described as a flying lion, or in New Brunswick, where he was seen in the form of a winged deer. His favorite haunts are in the Pine Barrens in such deserted places as Ong's Hat, Quaker Bridge, and Batso.

Of course you'll want to get him in season. Some people say that this occurs every seven years, others once every ten years. One thing everyone agrees upon: he is always spotted before some great disaster, especially wars.

What kind of equipment will you need? One Philadelphia museum owner claims to have caught him using animal trainers armed with nets, javelins, marlinspikes, and cobblestones. But this later proved to be a hoax. According to one Piney, nothing short of a silver bullet will do.

If you do catch the Jersey Devil there could be repercussions. One tale says that he has friends in high places, having had breakfast every morning for years with a Republican judge while discussing the state of GOP politics.

Perhaps the best place to look for him is in the imagination of Garden State residents, young and old, who have nourished and cherished this legend for so long. If so, the only weapons you will need are a sense of humor and a taste for fantasy. □



Herman Bennett puts a few finishing touches on a Brant decoy and admires his handiwork.

THE DECOY / *A New Jersey Tradition*

PETE BARRETT

PHOTOS BY AUTHOR

To most waterfowlers the hand-carved decoy is something special. It recalls the romance of a time passed when game birds were far more plentiful and of a time when men relied more on good old American inventiveness and hard work while living with an independence of spirit. You only earned back what you spent in time and effort.

The first settlers learned the basics of decoying ducks and geese from the local Indians, but soon used their own more efficient tools to whittle even more lifelike creations. Carving was a necessity and a man's talent with a blade often meant the difference between lean times or a well-fed family.

Barnegat Bay, nestled comfortably

behind the safety of the New Jersey barrier dune islands, is steeped in waterfowling and decoy-carving history. In bygone days the marsh-lined waters boasted some of the best duck and goose shooting to be experienced along the Atlantic Flyway. Hunting lodges dotted the shore and provided warm beds and robust meals for Presidents, financiers, and wealthy hunters while seemingly endless flights of Brant, Canadas, Teal, Mallards, Blacks, Canvasbacks, Eiders, and Scaup rested in the nearby waters.

Bay hunters have made several notable contributions to waterfowling that are unique to the region and still in use today. Probably the best-known is the Barnegat Sneak

Box, a duck boat renowned for its stability, adaptability and safety. Also inseparable from the area's waterfowling history are the legendary decoys whittled and carved out of rough cedar blocks from the nearby forests.

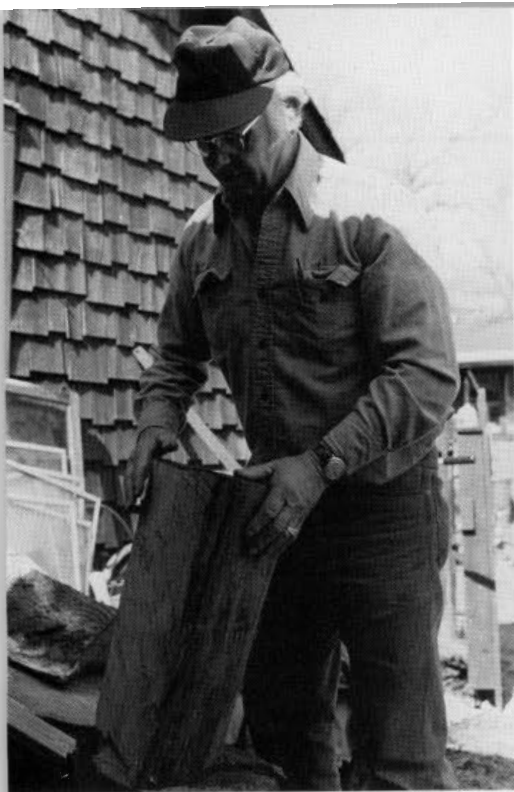
Representative of the era were talented artists such as Dawson, English, and Parker. Families such as the Ridgeways, the Grants, and the Gales lived close to nature at the edge of the Bay eking out a living by fishing, hunting, and guiding, and by carving some of the finest decoys. Probably the most famous carver was Henry Van Knuckson Shourdes from Tuckerton, who developed a distinctive style to his carved birds that became much in demand west to California and north to Maine. At 50 cents per decoy he never became rich despite his fame. Today, a decoy carved by any of these artists is worth a considerable sum of money, and is greatly prized by the few hunters and collectors fortunate to own one.

Delightfully there are still active carvers carrying on the traditions of decoy carving and turning out a limited number of handmade working decoys. One such gentleman is Herman Bennett.

He embodies that spirit of an American from an earlier day. An easy talker, he can tickle your ear with stories of the Bay and the families who lived there long before the proliferation of summer houses, bulkheads, speedboats, pizza parlors and highway bridges. His family has lived near the bay since the War—the Revolutionary War, that is, and he still resides only a stone's throw from Beaver Dam Creek at the head of Barnegat Bay in a handmade log cabin.

Warmed by a coal-fired stove, he carves in a workshop just off the house, sitting at a bench surrounded by bird patterns, half-finished carvings, reference books, and a set of old, mostly handmade tools. "Many of my carving knives were custom made for me to do special things. You know, every decoy carver gets his own way of doing things and uses cutters and knives differently from any other carver."

Offering a closer look at one particular tool, he'll say, "Notice the Mason's seal on that one. Now, you



Decoy carver Bennett first selects a prime piece of Jersey cedar block.

don't find tools like that one anymore. Why I bet I've used that draw knife for better'n forty years and it still carves just fine."

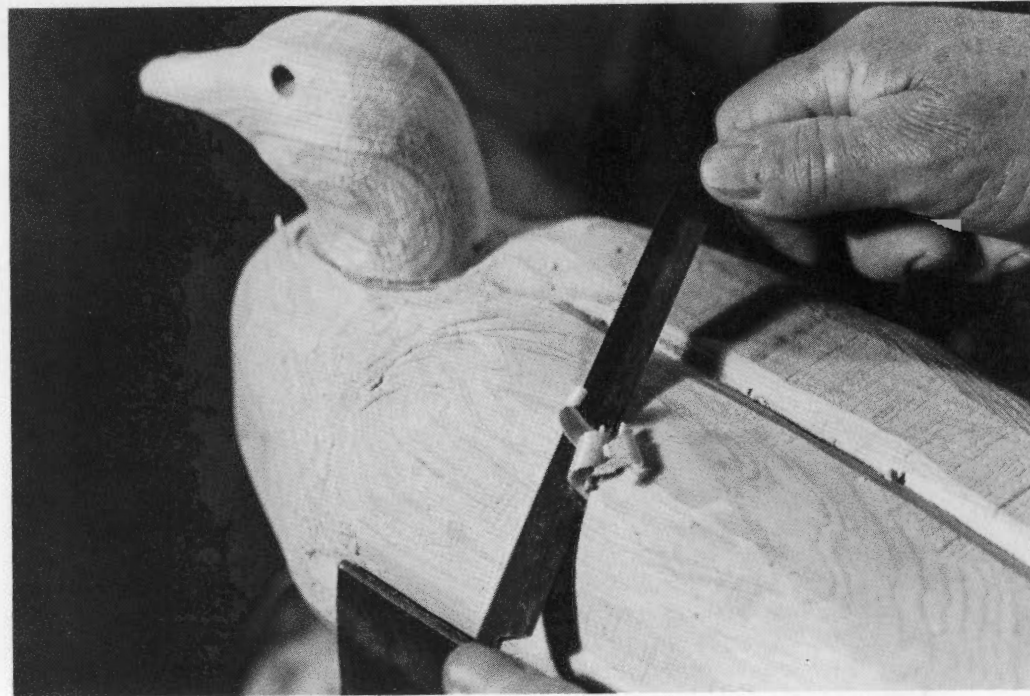
Although a band saw, table saw, and drill press assist in the roughing out of a decoy, the actual carving is all done by hand. "Sure, the saws save a lot of time, but once you cut the patterns, then it's all up to your own hands. I keep a set of patterns for each kind of bird and check it frequently to be sure the shape and proportion is accurate, but the fine finishing comes only from the eye."

Decoy carving has come full circle in the last 30 years. Herman started out making stools for his own hunting, then made some for friends and neighbors. "People liked what I carved and I began to do more and more work for folks who liked not only ducks and geese, but also other shore birds like egrets, bittern, plover, and snipe."

Collectors began asking for decorative carvings, detailed down to the smallest feather, and lately most of his work has been to satisfy the demand for these decorative birds. But that trend is changing. "I guess some folks are now beginning to realize that it is getting harder and harder to find a true hand-carved working decoy so I've been getting more requests to do these traditional birds."



A modern drill press speeds the hollowing out of the inside of the decoy.



The actual carving is all done by hand, often with tools made by hand or to suit Herman's special carving techniques.

Herman enjoys the increasing interest in working decoys, commenting, "The decorative birds are beautiful to look at, but carving has its roots in the old-time working decoy like the kind made by our fathers and their fathers." The decoys he carves are a living part of history.

Museum curators call the old decoys "folk art" and in some areas local historians have gone to great lengths to preserve these fragments of waterfowling history. Notable is the Waterfowling Museum in Chin-

coteague, Virginia, where some of the best examples of this art form are preserved for public viewing.

There's something intangible yet so very real about hand-carved decoys. They seem to come alive in your hands. Hold one of Herman's decoys and your fingers can sense the touch and clean edge of his sharp tools, his skill in carving, and the energy of the work he put into it. The handmade decoy truly captures the spirit of waterfowling, and for a time, the spirit still lives on. □

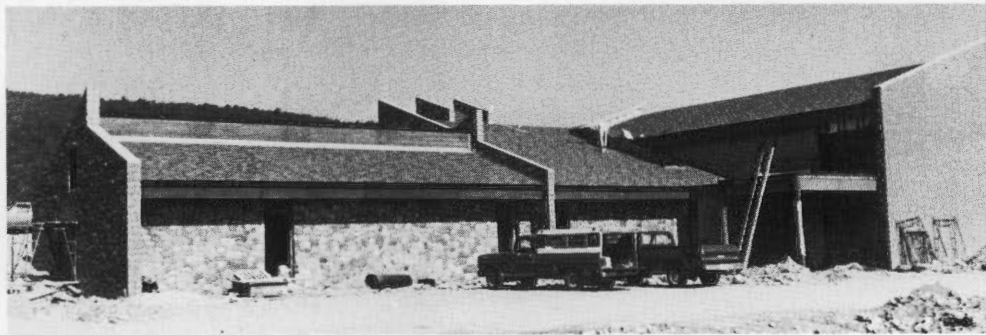
Pequest Trout Hatchery and Natural Resource Education Center

by DEBORAH A. BOERNER

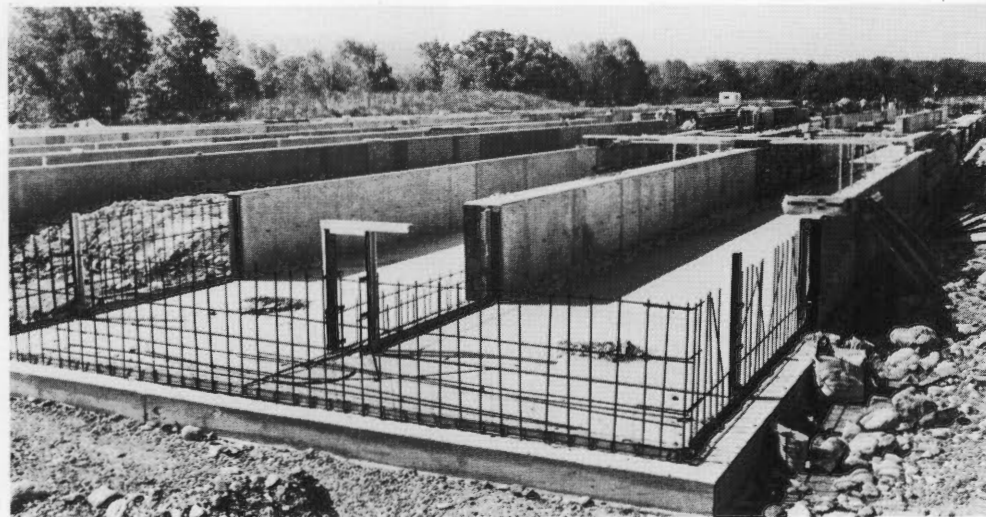
Ever since ground was broken for a new state trout hatchery at the Pequest Wildlife Management Area in Warren County, people in New Jersey have been anxiously awaiting its completion. If all goes as planned, it will be open to the public in the late spring or early summer of 1982. However, Robert McDowell, a wildlife education specialist with the Division of Fish, Game, and Wildlife who will manage the education center at Pequest, doesn't expect the first big influx of visitors until the summer of the following year. It's going to take at least that long for an access road to be built off Route 46 to the hatchery. Until then, the only way to get to the center is to take a winding county road off of Route 46, through Townsburly and westward to Route 31.

The Pequest Trout Hatchery, a cold-water facility, will be used to raise trout—brook, brown, and rainbows. The traditional state hatchery at Hackettstown will then be used to raise warm-water fish; it will also house fish received from other states so as to minimize the chances of introducing disease to the trout at Pequest. Unlike the surface-fed raceways at Hackettstown, the new facility will operate using water pumped from wells. The well system will be easier to control and a safeguard against pollution or chemical accidents. Because of the high volume of water constantly being pumped through the system, the new hatchery will require fewer people to raise as many fish (of a more uniform size) in a smaller area than what it now takes in the Hackettstown raceways.

The raceways at Pequest, however, will not be racing with fish until the fall of 1982, about a year from now. So what's a fish hatchery without fish, and why would people want to go there as early as this coming spring? As a matter of fact, the Pequest facility is going to be much more than just a fish hatchery. Located amidst farms and woodland on the 150-acre Pequest Wildlife Management Area, the hatchery will



Natural Resources Education Center



Fish Raceways under construction

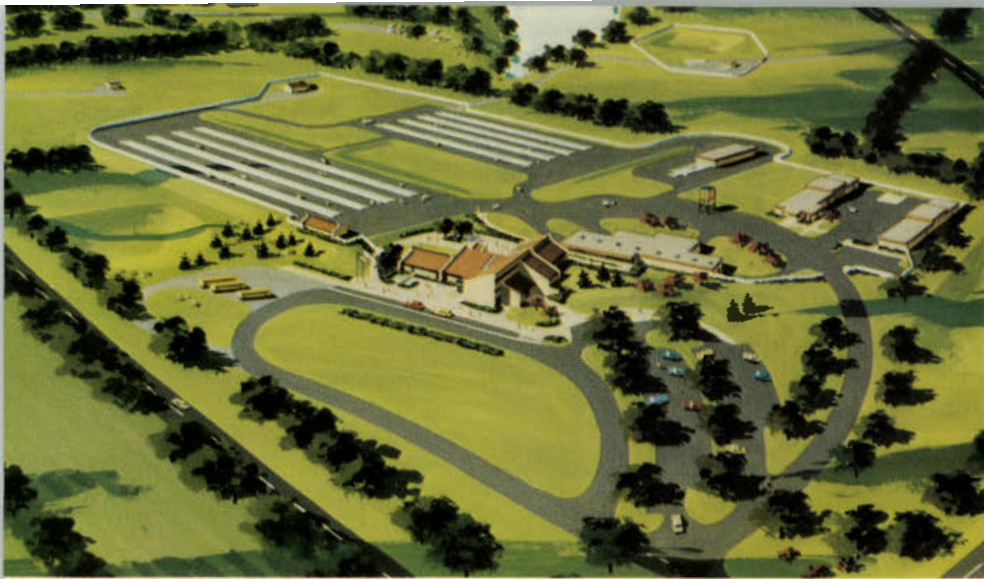
PHOTOS BY HARRY GROSCH

be part of an extensive natural resource education complex. One of the buildings almost completed is the Natural Resource Education Center. It has an exhibit hall, which will include the cross-section of a stream behind glass and a warm-water pond. The building has an auditorium, which will be the setting for audio-visual programs. Also, there will be self-guided tours, a two-acre "fish-for-fun" pond, a picnic area, and a natural resource trail through the woods leading to a wildlife observation blind. The education center is equipped with elevators and ramps for the handicapped, and the fish-for-fun pond will also have special safety devices.

McDowell, who is currently head of the Wildlife Education Unit at Hackettstown, says, "The programs at Pequest will be aimed at the educational community. Certainly, we welcome families, small groups and the individual visitor. The hatch-

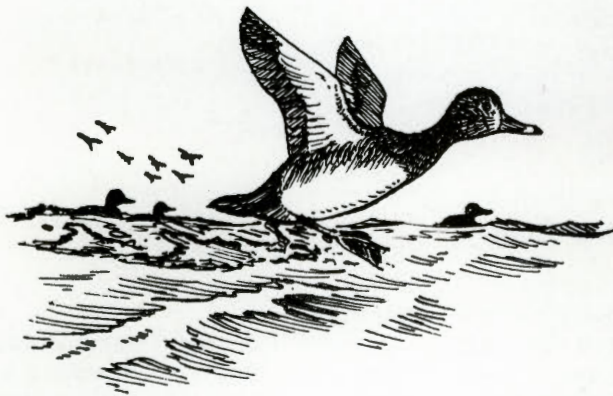
ery and center will be designed so that no one visiting them will go away without learning something about the resources that they didn't know when they came. But we're going to make a special effort to get school groups to come. We've already started to develop programs for various grade levels which will be a supplement to what the children are learning about natural resources in their schools. Also, we'd like to get organizations that deal with natural resources to use our facilities. By offering the center to them as a place to hold meetings, demonstrations, and seminars, we hope to expand and reach out to as many people as possible. This can also be done," he added, "by having the natural resource groups hold their wildlife art shows, nature photography shows, etc. at the center."

McDowell estimates that starting in 1983, 200 to 500 thousand people will visit Pequest each year. That's



Artist's concept of entire complex

not so hard to believe when you think of the 10,000 people who came to the Open House at the Hackettstown Fish Hatchery on one spring day in 1981. And when completed, the Pequest Wildlife Management Area will be a showplace for the proper management of all natural resources, not just fisheries. People will go there and see fisheries management, wildlife management, forest management, soil conservation, and modern agricultural methods all blended into a workable system. No matter how long it takes, Pequest will be well worth the wait. □



CARVING DUCK DECOYS

With Full-Size Templates for Hollow Construction

Harry V. Shourds
and
Anthony Hillman

Wooden duck decoys have long been one of America's most popular collectibles. They are remarkable for the skill and craftsmanship required in their making and represent a unique aspect of American folk art that is both aesthetic and highly practical.

This easy-to-follow manual offers 16 patterns with clear instructions for mounting the templates, cutting and shaping the body, and detailing the head, as well as sound advice on painting and finishing and on types of wood and tools. Included are patterns for:

Mallard	Widgeon
Golden-Eye	Pintail
Ruddy-Duck	Blue-winged Teal
Green-winged Teal	Wood Duck
Surf Scoter	Hooded Merganser
Canvasback	Shoveler
Scaup Duck	Redhead

Red-breasted Merganser Bufflehead

The instructions also provide numerous variations for creating the male *and* female in a variety of natural poses. All patterns follow the essential characteristics of the South Jersey decoy and can be used immediately. Simply remove the staples of this book and lay the pages flat. You can cut out the patterns and use them directly as templates or follow the mounting instructions and make permanent patterns for repeated use.

Original Dover (1981) publication. Instructional text. 16 double-page spreads of fullsize templates. 13 figures. 70pp. 9¼ x 12¼. Paperbound.

Autographed copies are available from:

Anthony Hillman
1818 Shore Rd.
Seaville, NJ 08230

\$6.00
postpaid

—THE EVENT:—

Barnegat Bay Decoys Show

—WHERE:—

Ocean County Historical Society Museum
26 Hadley Avenue, Toms River, NJ

—WHEN:—

October 20 through December 1

—WHAT:—

- About 65 decoys featuring waterfowl and shorebirds carved by famous New Jersey craftsman
- Historical photos
- Barnegat Bay sneakbox
- Old hunting weapons

—HOURS:—

Tuesdays and Thursdays—1 PM to 3 PM
Saturdays—10 AM to Noon
Donations are welcomed

"NEW JERSEY'S GOT IT ALL!"

Dr. Charles A. Platt

ILLUSTRATIONS BY ANTHONY HILLMAN



"Three shots were fired"

The highlight of my duck-hunting ventures (so far) happened one cold December morning on Barnegat Bay. Ev and Doc and I were hunched down in a box at the edge of one of those low-tide islands. Ev was the lookout for flyovers; Doc and I sat unmoving with our eyes below the six-inch freeboard of the box. The bay was generously supplied with ice crystals, and the box was only partially watertight. The wind was fresh, which made the windchill factor something to be reckoned with. But duck hunters don't mind such trifles.

Ev gave the alert softly, "Three coming in at nine o'clock!" We didn't look up; we just sat there with our guns ready, knowing the "nine o'clock" direction would bring those ducks in front of us. We waited for the signal; and Ev watched motionless until just before the birds put down their landing gear.

Then he gave the shout, "Let 'em have it!" Three ducks flew in; three shots were fired; three dead ducks hit the water. We didn't have time to choose which bird each would aim at, or whose turn it was to take the first shot.

I wonder what a mathematician would say the odds were that three of us shooting three ducks simultaneously would knock down all three. Even if he had some way of knowing the accuracy of our individual marksmanship, what would he calculate the odds to be? A thousand to one? A million to one? Who knows? But we got the three ducks; and if any of us had had the slightest notion of giving up duck hunting prior to that morning, from then on we were hooked for life.

Then I think of another hunting partner, Bill, who came up the back steps the other day with a number of neatly wrapped packages frozen solid. I knew he had been successful during the deer season, but I did not know I would be one of the beneficiaries. He laid the packages on the kitchen counter. We have had two meals of venison chops already.

And his friend, who is as much of a fishing enthusiast as Bill is a hunter, had asked him to bring us some of his latest catch—neat packages of frozen whiting, cleaned and ready for the pan. The one larger package we haven't opened yet. It is a venison roast we are saving for a special

occasion.

Venison from the Kittatinny Mountains, ducks from the tidewaters, and fish from off the coast! New Jersey has it all. I am reminded of the day a group of us chartered a boat and brought home several hundred pounds of albacore.

Then there was the ever-flowing banter I had been having with the undertaker in our town about lobster fishing along the New Jersey coast. He had a houseboat at the shore, and every time he told me about those wonderful lobsters his stories became taller and the crustaceans grew larger. I kept reminding him that I was from Missouri, the "show me" state, and I hadn't been shown any such magnificent specimens.

At long last his car rolled up our driveway and on the back porch he deposited the largest lobster I had ever seen. It must have weighed more than 25 pounds; it was even larger than the one that had hung for so many years on the wall at Hackney's in Atlantic City. He had won the argument and I gladly admitted defeat, because we got to keep the lobster.

But how were we to cook it? We

had no pot to approximate the size of that dark monster. So we took it to the church kitchen, where we found an eight-gallon boiler used for the big church dinners. But even that was not large enough. Then my wife had an inspiration. She got a few inches of water boiling lively in the pot and we lowered our lobster head first, claws and all, into the steam. We clapped a companion boiler over the top. After some 15 minutes we reversed the process and steamed the posterior.

Our next problem was how to crack the shell. I solved it by putting the claws in a machinist's vise in my workshop, and closed in. The claws were a half-inch thick in places. But what delicious meat! We cut it up, placed it in canning jars, and shared it with the neighbors. Everybody had lobster salad that week.

But don't think I am obsessed with food. It is the hunting and fishing that adds zest to the eating. And New Jersey's got it all.

The flyways for ducks follow the wetlands along the coast; the deer, the rabbits, the grouse, and numerous other game animals populate the farms and forests; and the bays furnish the clams. I was asked to speak to a graduating class in a high school in a shore community, and the president of the board of education invited my wife and me to his home for dinner beforehand. He was a clam digger; his wife served a clam dinner that was too good to describe

adequately. Suffice to say we had clam broth, clams on the half-shell, steamed clams, minced clams, clam patties, and other delicacies unidentifiable but super-delicious. I am sure the meal was far better than the speech.

Of course, everybody knows New Jersey is a corridor state; but how many know of its great outdoors? Our state has the highest population density of any state in the union; but how many know that almost one-third of it is covered with pine forests? In northern New Jersey some sections have a population of 40,000 per square mile; but in the Pine Barrens to the south there are as few as 15 persons per square mile. The forests cover an area larger than Yosemite National Park, and almost as large as Yellowstone.

I have hiked those sandy roads and hunted pheasants and quail there. I have talked with the cranberry farmers and asked permission to hunt on their property. I have seen evidences of communities that flourished before the American Revolution, and talked with descendants of Tories who took refuge there when the fighting began.

Bog iron was mined and smelted in that wilderness for use by the Continental Army cannoners. Wagon trains carried supplies from Tuckerton on the coast to Philadelphia through this vast forest when other Atlantic ports were blockaded by the British.

These Pine Barrens have a natural reservoir of pure water lying just beneath the surface. It is estimated to contain enough fresh water to supply the needs of a city the size of Detroit.

So we let the cars whiz by on Turnpike and Parkway, as America at work and play hurries on, while we take a hike along the Appalachian Trail to the shelter on Sunrise Mountain in Sussex County—1,653 feet above sea-level, the benchmark says. We look east over a broad valley with Culver Lake gleaming in the south and a half-dozen communities punctuating the rich farmlands. On another day we walk the sandy roads in the Pine Barrens, almost completely unchanged since colonial times, and dream of an era long gone. But we do so with extreme caution, not because of native unfriendliness, but because it is so easy to become confused in the vastness of thousands of acres of forest and not a hill to climb to get one's bearings.

At High Point in the northwest corner of the state we are opposite Peekskill, New York, miles north of Manhattan island; at Atlantic City we are below Philadelphia; and at Cape May we are opposite Washington, D.C., on the 39th parallel. State parks are along the way; county parks offer a variety of interests; history comes alive in a hundred places; lakes beckon boaters and bathers; and the shore has its particular charm for surfers.

Three raccoons have been enjoying a midnight snack at our feeding station, and a myriad birds take their turn during the day. A 'possum lives in our barn, eating the feed my horse leaves on the ground, and another lives under our back porch. The deer nibble the shrubs all winter and a good many of the flowers all summer. The hawks soar north in spring and south in autumn, using as their "turnpike in the sky" the great Atlantic Flyway.

If winter storms roar over the Kittatinny Ridge and drop a few feet of snow in our area, well, it's a good deal milder in Cape May just across from Washington, D.C.

And, oh yes, don't forget that the most famous statue in the world is on New Jersey soil—the Statue of Liberty. You see, New Jersey's got it all! That's why we love it. □

*But how
were we to
cook it?*





A deer hunting photo taken in the 1920s—Photo supplied by Lacey Township Historical Society.

SOUTH JERSEY DEER HUNTING IN THE 1890'S

BY
JOHN SNAGG

Editorial Comment: This article was written about 50 years ago by John Snagg (1879-1947), a South Jersey woodsman and hunter. The author writes about his early experiences as a hunter (he was 14 years old) in the 1890s and at the turn of the century. Although we edited the material to make it easier to read, we tried to preserve the flavor and language of John Snagg's time.

The article was sent to us by Alvina D. Bailey, a niece of John Snagg's by marriage. Mrs. Bailey tells us that John had three half-brothers, and all three were professionals: one was a doctor, another a dentist, and the third was a college professor (Ivy League college) and a well-known naturalist named Dallas Sharp. According to Mrs. Bailey, much of Dallas Sharp's "knowledge of the woods was imparted to him by John, who preferred his life to one that kept him indoors."

The photographs used in this story are from various sources—the Lacey Township Historical Society, the Twin County Rod & Gun Club in Ocean County, and Leonard Lee Rue. Although none go back quite as far as the times John Snagg speaks of in this article, they reflect old-time deer hunting in south Jersey.

In the following lines I am going to record some observations and other information derived from reliable sources relative to the habits in general and a few individuals of the deer family as found in Southern New Jersey.

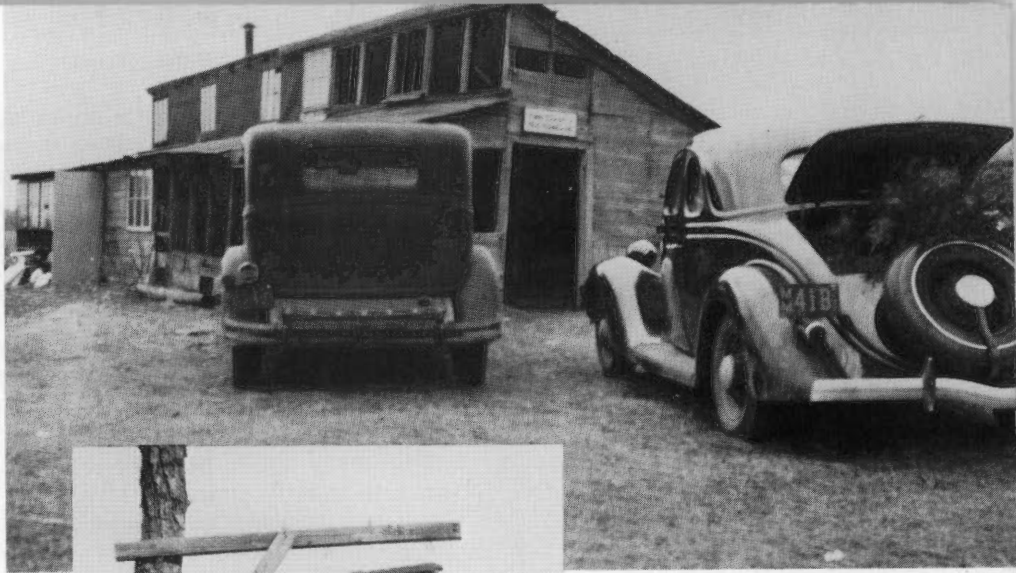
When just a mere youngster it was bread and meat for me to sit and hear the men (and occasionally woman) tell of some then famous hunters including the McClures, McCalebs, Petersons, Smith Applegate, Billy Gruff, and Hartzog boys, and needless to say I would walk a mile to see a dog (hound) that could and would run a fox—much less a deer—and always used to think that these dogs held a very exalted place and should the time ever come when I could own one of these marvelous creatures heaven would have than appeared for me!

When about 14 years of age I made my first trip to the deer woods and helped to "drive" in the last legal open season that we were ever allowed to use dogs, and at that date there were very few deer in South Jersey and the thicker cover surrounding Tuckahoe had caused most of them to be located there for since the world has stood and as long as it stands will deer be hunted illegally.

To begin with a "drive" was the swamp or other laying ground for deer, and each "drive" had its "stands" and the old style of hunting—that of sending the standers some miles apart—was even then going out of style, for owing to the ever-increasing number of hunters it was found that when a deer got out of the drive you were making you were only running it for someone else, and the many, many fights and even lawsuits that arose from whose dogs were "on" the deer first, etc., made a great many bitter feuds and in lots of cases lifelong enemies. Suffice it to say that we endeavored to surround our "drive" and either kill the deer when it jumped out of the bed or let a "stander" kill it—but at all odds to catch the dogs when they came out of the drive. For then we could use them to start another, but if not stopped they would run the game to water and we'd get no more use of them for that day and likely several days to follow, and again I can tell of some remarkable cases of endurance and courage displayed by some famous old hounds.

What was then and is even now a great mystery to me was why the old hunters wouldn't tell you one thing about the mode or manner that their years of experience told them was the best way to kill a deer. Whether they knew it so well that they thought you too should know it, or whether it was a jealous feeling that you might equal their records I can't say, but I am inclined to believe the latter as I look back now. They used to send me, a boy, only in the thickest "drives" where there was not one chance in a hundred of ever seeing a deer jump. I have since learned it was so full of briars I would have to pull the dogs along until I found a track before they (the dogs) would hunt. But when the more open drives were found to have deer in, then the old timers would go in and rarely failed to have a shot (sometimes two or three), but aside from only three or four of these famous old hunters, they were according to my opinion, all poor shots, caused (they stated) by the use of breech-loading guns and smokeless powder. Could we only believe some of the wonderful kills those old smooth bore mass-leaders made, it would far eclipse these modern high-power twisted bores.

The breeding season for deer in South Jersey begins around the latter end of October and lasts until January



Twin County Rod & Gun Club Shack, and autos in the mid 1930s.

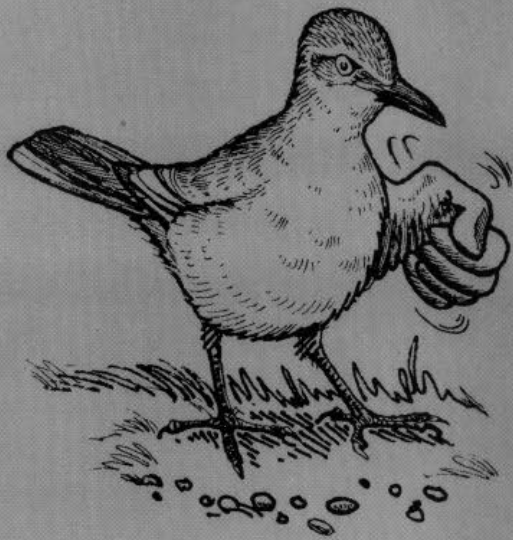
Photos supplied by the Twin County Rod & Gun Club in Ocean County.

Charles Krauss and Edwin I. Leaycraft at the Twin County Rod & Gun Club in Beckerville.

1st but the major portion is in November. Of course very early fawns or yearling does that dropped later the season previous come in season later than the older or better fed ones do, hence I have seen spotted fawns as late as November 1st although the old saying is: when the "turkey-beards" bloom it's then the does drop their fawns. And fawns I've been told are always dropped out on the upland on a whitesand spot in which place they remain for a period of three days after which they are led back to thick cover by the does. Usually two fawns are born, normally a male and female although in rare instances three have been known to a doe, and I once saw four following one doe, but whether she had stolen two as cows on the range often will, I know not. The fawns remain with the does until weaned by the

bucks—at just before the mating season—and were it not for this weaning I firmly believe a fawn would nurse all winter, for I have never seen a doe skinned after she has once bred but what there was milk in her udder. The size of the fawn at weaning time depends altogether on the size of their dams and their age. A small doe invariably has a small fawn while a big doe the reverse. I have seen two fawns killed on the same day that one was very nearly double the size of the other, and the smaller one was without a doubt the older as his horns were the more extended—about two inches long whereas the bigger fawn's hadn't yet broken the skin. After weaning by the bucks the fawns as a rule still stay as close to the dams as possible and follow her until late in winter when they are abandoned, for she then sneaks off

Continued on page 26



the backyard despot

RUTH SCULTHORPE

ILLUSTRATIONS BY ANTHONY HILLMAN

"Pugnacious," our resident Mockingbird, is the self-appointed ruler of the birds in our backyard. He has taken over one of the two Bradford Pear trees for his throne. From this tree he busily rules over his backyard kingdom with an iron wing!

In the fall, when the pear trees were laden with their miniature fruit, Pugnacious occupied his time keeping the other birds from eating too much of his private stock. He allowed only the sparrows to share the tree with him, mainly because they were not too interested in the fruit.

Now that winter is here and the pears are gone, Pugnacious has found other sources of food. In the birch tree by the back fence hangs a suet feeder, at which two Downy Woodpeckers ate every day, until Pugnacious decided to seize it for himself, and so he promptly banished them from the kingdom. We

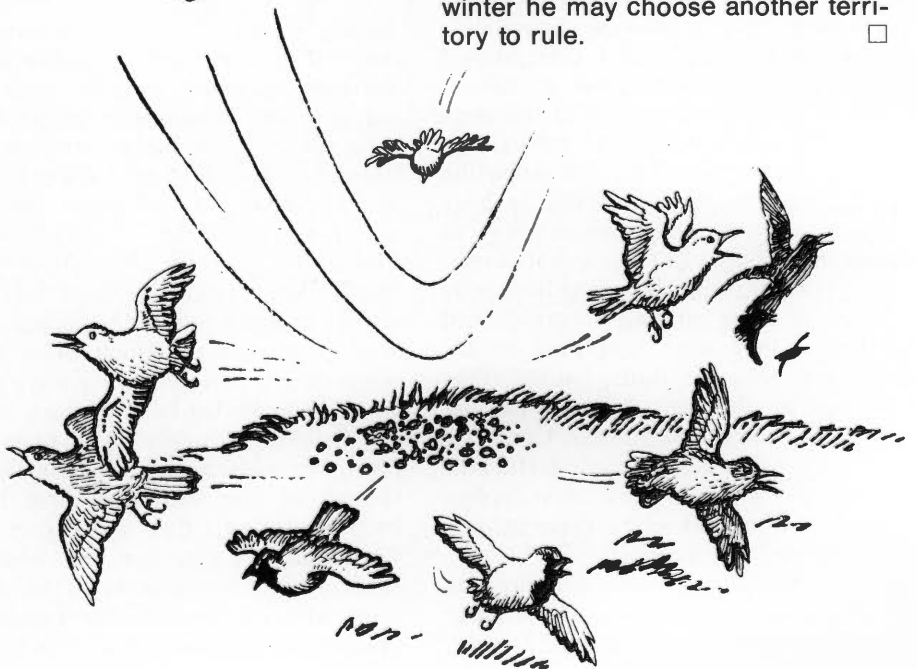
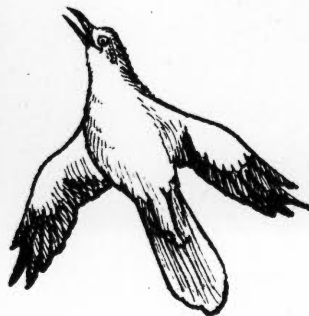
decided to hang another suet feeder from the clothesline, thinking there would be one for Pugnacious and one for the rest of the birds. Perish the thought! Pugnacious immediately appropriated the second feeder too, and was kept busy chasing any birds who would dare to sample a bit of the suet from either feeder. The Downys came back only once, and then only for a minute or so, till Pugnacious spied them and chased them away again. Meanwhile, every minute that Pugnacious has free—between chasing birds—he gorges himself with suet, until he is now quite a rotund fellow. The color of his feathers seems to have darkened—perhaps from all the fat he has greedily devoured.

Once every day, and twice on the bitter cold days, we sprinkle a cup of sunflower seeds and a cup of mixed seeds on the ground in addition to the seed in the feeders. Pugnacious sits in his tree and watches until the ground is covered with birds. Then he swoops down, scattering birds in

every direction! He eats a few seeds and then resumes his watch from the tree, until the birds gradually gather again at the seed—then the air raids are repeated, until he tires of the game. We have seen him take a Starling by the neck and fling it away from the seed! Pugnacious is careful, however, never to tangle with the bigger birds, like the Blue Jays or crows or the occasional gull visitor.

We usually put out cooked food scraps for the birds to eat. One day we put out a large ham bone with some meat scraps on it. When Pugnacious discovered this new item, he immediately took possession of it and considered it part of his private larder. However, this just complicated his life. He now had one more thing to guard, so he spent his time flapping from tree to suet feeder #1 to seeds to ham bone to suet feeder #2 and back to his tree, scattering birds at each spot.

You may wonder why we enjoy having this bellicose bird monopolize our backyard, but we can't forget how this saucy fellow sat on our TV antenna all last summer and thrilled us for hours at a time with his singing. Besides, in nature's scheme of things, the Mockingbirds have to eat too. The bird world would be monotonous if all birds were as sweet as the little Carolina Chickadee, who flies off with one seed at a time. So we'll enjoy Pugnacious while he's here. Next winter he may choose another territory to rule. □





Environmental News



MARGARET SHARP

RECYCLING PAPER SAVES MONEY, ENERGY AND LANDFILL SPACE. At a press conference in Trenton on September 28, state department commissioners, from left, John Horn (Labor and Industry), Joel Jacobson (Energy), and Jerry Fitzgerald English (Environmental Protection) jointly announced the start of demonstration project for high grade, used paper recycling in government buildings. The Labor and Industry (L & I) building on John Fitch Plaza, which houses L & I and DEP offices and a combined workforce of about 2,000, is the site of the state's first large-scale program to recover recyclable paper. If the program is successful, it will be expanded to other state buildings in the Trenton complex.

The commissioners are shown placing recyclable waste paper into one of the bins that have been placed in areas convenient to offices on each floor of the building. When the bins are full the maintenance staff will collect the paper and bring it to a safe storage area. When sufficient quantities have been accumulated a paper dealer will buy the paper. About 43 percent of office waste is recyclable high-grade, white paper, and at present it can be sold for about \$80/ton. This program will not only save money and energy (making paper from recycled paper uses 60 percent less energy—a savings of 2 1/2 barrels of oil for every ton of paper), but also will make a useful contribution towards reducing the amount of material going into our fast-disappearing landfill space.

WATER SUPPLY HOLDING BUT STILL BELOW NORMAL

A drought watch remained in effect through late summer and early autumn while northeastern New Jersey reservoir levels held steady, about midway between normal and the radically short supplies of one year earlier.

In late September, the combined average of northeastern reservoirs was at 61 percent of full, compared with only 45 percent at the same time in 1980. The normal level is 73 percent. September turned in near-normal rainfall in 1981 but

Continued on page 16D

N.J. SUES U.S. TO GET 'SUPERFUND' MONEY TO CLEAN UP TOXIC WASTE DUMPS

New Jersey filed suit in U.S. District Court, Washington, D.C. on September 17, 1981 to force action on the "Superfund" by the Reagan administration. The state Attorney General's Office, contending the safety of New Jersey residents has been endangered by the more than 300 abandoned hazardous waste sites in the state, is suing for release of "Superfund" money for cleanup of the dumps.

Congress approved the "Superfund"—a \$1.6 billion reserve fund for the clean up of abandoned toxic waste sites throughout the nation—in December 1980. About \$68 million was scheduled for use this fiscal year, but despite 26 applications for assistance under "Superfund," New Jersey has not yet received any money.

New Jersey contends that the Reagan administration's failure to fulfill provisions of the "Superfund" law that directed that emergency guidelines and a national contingency plan be enacted by last June 9 is jeopardizing the \$68 million appropriated for cleanups this year. (The contingency plan for distribution of the money is to be based on a ranking of states according to need, with each state entitled to a minimum of one site to be among those selected for the initial cleanup list.) New Jersey contends that the health, welfare and safety of the state's residents is being imperiled by the government's procrastination in delivering the funds. □

Updated GREEN SHEET

DEP's second GREEN SHEET, a listing of current environmental capital projects, is the center snapout in this issue. A comparison between this and the first GREEN SHEET published in NJO May/June 1981 will show that—

- More than 50 capital projects have been completed, and others have progressed from the planning phase to design or from the design stage to construction; and,
- More than 70 new capital projects have been initiated.

Commissioner's Spotlight on . . .



Pineland Acquisition Program

The Pinelands, which cover all or part of seven south Jersey counties—Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Ocean—is the last vast natural resource in New Jersey. Underneath the sandy tracts covered with oak and pine forests there lies an estimated 17 trillion gallons of pure water which is the source of drinking water for most of the southern part of the state. The sandy soil, which easily catches and holds rain, is not very good at filtering out contaminants/pollutants. Should they find their way into the aquifer in sufficient quantity they will travel long distances and eventually destroy the potable water supply, depriving future generations of its use.

The Pinelands region contains the state's largest tracts of wilderness and some of New Jersey's most scenic rivers. It is "home" to many of the creatures and plants on the endangered and threatened species lists. The fragile nature of the Pinelands has been well documented by scientists and the need to protect the region from incompatible development understood.

The combination of the National Parks and Recreation Act of 1978, which established the Pinelands National Reserve; the New Jersey Pinelands Protection Act, which was signed by Governor Byrne in June 1979; and the subsequent state and federal approvals of the New Jersey Pinelands Commission's master plan for management of the region, enabled DEP to actively pursue a program to purchase recreational, ecologically important and environmentally sensitive areas, using state Green Acres money matched by federal funds.



Howard Wolf, director of DEP's Pineland Acquisition Office, in the article below, discusses the program, its accomplishments and goals.

In May 1979 DEP established the Office of Pineland Acquisitions to purchase lands solely within the Pinelands region for open space preservation. The office

identified *acquisition project areas* based upon recreational need, critically threatened and environmentally sensitive features, cultural and historic resources, and scenic values. This planning process included meetings with staff members from DEP's divisions of Parks and Forestry and Fish, Game and Wildlife, and from the state Pinelands Commission. The *acquisition project areas* were then ranked for priority acquisition by the office and endorsed by the other three agencies. DEP's acquisition strategy conforms to the Land Acquisition Program within the Pinelands Comprehensive Management Plan.

To date, 10 major *acquisition project areas* have been identified and 38 separate active acquisition projects are on file. The amount of acreage purchased within such an area that gains priority status will be totally dependent upon federal and state funding resources. Initially, a combined total of \$60.5 million was available for the acquisition of 96,000 acres over a five-year period. However, because of recent federal funding constraints, it now appears that roughly half that amount will be available for land purchases, as follows:

State Funds	Anticipated	Appropriated \$
Green Acres 1974 Bond Issue	\$10,000,000	\$10,000,000
Green Acres 1978 Bond Issue	13,750,000	2,250,000
Federal Funds		
502 Pinelands Fund Land and Water Conservation Fund	8,250,000	8,250,000
	5,272,693	5,272,693
	\$37,272,693	\$25,772,693

The identified *acquisition project areas* cumulatively comprise every characteristic land-type from upland pine-oak forest through white cedar swamp and bog to estuarine wetland. Purchase of these areas describes an arc of continuous state ownership, which follows a path from Double Trouble State Park (SP) along the Cedar Creek to Greenwood State Forest (SF), crosses Rte. 72 West of Rte. 539 through the West Plains into Penn SF, and south along the eastern edge of Wharton SF to Swan Bay Wildlife Management Area (WMA), and east through Bass River SF into Stafford Forge WMA.

Before any land purchases under the Pineland Acquisitions program, 167,619 acres in the region were already in state ownership. Through DEP's Office of Pineland Acquisition another 9,600 acres have been purchased and an additional 2,820 acres contracted for purchase, as of September 1. Of the acreage purchased, 5,328 are the unique West Plains pygmy forest and other acquisitions include additions to Double Trouble SP, Green Forest WMA, Lebanon SF, Peaslee WMA, Belleplain SF, and Wharton SF. By the close of Fiscal Year 1982 (June 30), an estimated 29,600 acres of Pinelands will have been purchased through the office.

Cleaner air

DEP APPROVES 'BUBBLE' PLAN FOR DUPONT PLANT

DEP Commissioner English recently announced approval of the nation's first state-supervised air pollution control "bubble" plan. Under the new strategy, E.I. DuPont's Chambers Works in Pensville Township (Salem County), will cut its output of smog-related pollutants by more than 90 percent while saving \$10 million over the cost of less-effective conventional control techniques.

"By treating an entire plant as if it were under a dome or bubble, this innovative approach allows industry to decide the best way to meet total pollution emission limits instead of requiring controls on each individual pollution source," said the Commissioner. She said that in addition to lowering the capital cost, the bubble provides faster compliance with state emissions standards since fewer sources of pollution need be controlled.

Under the approved plan, DuPont will put tighter-than-required air pollution controls on seven major sources of volatile organic substances (solvents) at the plant in exchange for not increasing control of 112 smaller sources. Existing control devices on 84 of the smaller sources will remain in operation. The new controls being installed on the large sources will cost about \$5 million as compared with an estimated \$15 million for individual controls required by conventional strategies.

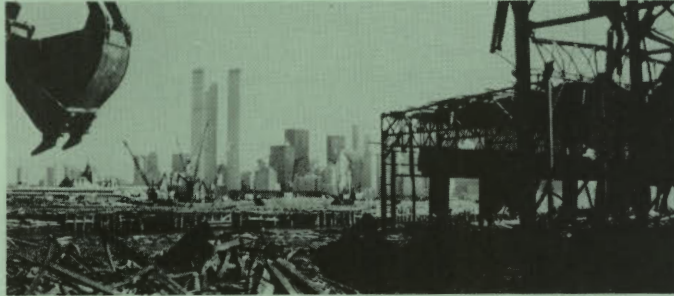
Commissioner English said, "Using the bubble approach, DuPont will reduce

Continued on page 16D

In January 1981 the U.S. Department of the Interior obligated \$8.25 million in 502 Pinelands Funds for acquisition within the Cedar Creek Watershed project area after a thorough review of a lengthy environmental assessment and application prepared by Pineland Acquisition and Green Acres staff.

The next major acquisition proposed, fitting into the arc described earlier, is the Oswego River Extension of 7,700 acres that connects into Wharton SF along the eastern bank of the Oswego River. This area is one of the most intensely used recreation corridors in the Pinelands for canoeing and many consider the Oswego the most scenic of the Pinelands rivers. Funding approval awaits a federal Fiscal Year 1982 Pinelands appropriation.

Anyone interested in learning more about the Pinelands than the overview given in this article may obtain literature and the "Canoeing in the Pinelands Rivers" brochure by writing to Office of Pineland Acquisitions, CN404, Trenton 08625. □



Harbor Cleanup, Jersey City Waterfront

DEP



Parks Development, Shepherd Lake Bathhouse Complex, Ringwood

MARGARET SHARP



Historic Site Restoration, Physick Estate, Cape May

MARGARET SHARP



Liberty State Park Development, Education Center

DEP

DEP CAPITAL PROJECTS

The New Jersey Department of Environmental Protection, created by law in 1970, has remained steadfast in its efforts to make New Jersey a better place to live and work, for present and future generations, through the protection, conservation, preservation and restoration of our natural resources and historic heritage. Although the enforcement of rules and regulations promulgated by the state and federal governments is vital to the effort to solve certain environmental problems, the answers to others are found in the massive employment of capital funds.

The pipes and bricks in the "Green Sheet" logo represent the capital projects aspect of DEP's responsibilities. This "Green Sheet" not only explains where the money comes from but also where the money goes.

New Jersey voters, recognizing the need for capital-intensive solutions to solve specific environmental problems, have approved several bond proposals: The 1969 Water Conservation Bond Act, the 1976 Clean Waters Bond Act, the 1977 Beaches and Harbors Act, the 1978 Emergency Flood Control Bond Act, the 1971, 1974, and 1978 Green Acres bond acts, and the 1980 Natural Resources Bond Act. These bond acts authorize a total of \$1.1 billion. The \$652 million obligated to date from these bond funds has levered \$2.3 billion in federal money. Local matching grants to date total \$653 million. Thus, over the past 11 years, nearly \$3.6 billion has been invested in the improvement of New Jersey's environment through DEP's capital programs. (Current projects listed below.)

STATE DEVELOPMENT PARKS, FORESTS, AND FISH & GAME LANDS

D-Design C-Construction S-Study

Project	Type	Project Cost
Administrative and Maintenance Facilities—		
Lebanon	C	\$ 2,553,000
Island Beach	C	454,000
Cheesequake	D	745,600
Wharton—Atsion	D	481,000
Parvin	D	468,000
Senator Farley Marina	D	99,000
High Point	D	613,000
Day Use Facilities—Lake Marcia	D	50,000
Day Use Facilities—Cheesequake	D	22,000
Day Use Facilities—Hooks Creek	D	50,000
Day Use Facilities—Lebanon-Reeves Bog	D	200,000
Twin Lights Historic Site—Exterior Renovations	C	478,000
Ringwood Historic Site—Workers Chapel Restoration	S	25,000
Fort Mott, Allaire Mansion and Dormitory, Indian King Tavern, Wawayanda Furnace, and Rockingham—Historic Sites Restoration	S	145,000

(Continued)

Project	Type	Project Cost
Monmouth Battlefield	D	\$ 350,000
Von Steuben House	C	350,000
Drumthwacket—Exterior Gardens		800,000
Absecon Lighthouse	S	75,000
Allaire Visitor Center	D	900,000
Batsto Visitor Center	C	980,000
Sanitary Facilities—Spruce Run and Washington Crossing	C	356,000
Sanitary Facilities—Stokes, Voorhees, Worthington, and Cheesequake	D	235,000
Sanitary Facilities—Round Valley and Stokes	D	60,000
D & R Canal Multi-Use Trail	D	50,000
Recreational Development—Belle Mountain, Lock #11, and Bogens Meadow	D	125,000
Development—Master Plan	S	125,000
Various Parks—Access Roads	C	3,000,000
Pequest Access Road	D	1,500,000
Ringwood Access Road	D	2,200,000
Ringwood—Shepherd Lake Bathhouse Complex	C	1,992,000
Ringwood—Shepherd Lake Lakefront Facilities	C	408,000
Ringwood—Skylands Manor Phase II	C	433,000
Skylands Manor Phase III	D	745,000
Sewerage Facilities Expansion	D	75,000
Dam Rehabilitation Program—		
Hampton Bogs	D	35,000
Double Trouble	D	45,000
Greenwood and Swartswood	S	10,000
Bearfort Waters	S	15,000
Green Turtle Pond	S	22,000
Bear Swamp & Sally's Pond	D	15,000
Ramapo Pond	D	10,000
Allamuchy Lake	D	10,000
Columbia Lake	D	30,000
Hopatcong, Musconetcong, Saxton Falls & Waterloo	D	90,000
Lake Nummy	D	25,000
Parvin	D	25,000
Cranberry Lake	S	10,000
Weyble Pond	D	26,000
Imlaystown & Prospertown	S	60,000
Fisherman Access—Kingwood	D	69,000
Fisherman Access—Mad Horse Creek	D	76,000
Fisherman Access—Round Valley	D	190,000
PEQUEST TROUT HATCHERY	C	9,350,000
FIELDVILLE DAM	D	100,000
GREAT BAY FISH FACTORY DEMOLITION	D	325,000
Liberty State Park Development—		
Peninsula Dredging	C	1,426,000
Environmental Education Center	D & C	979,012
North Embankment Site Work	C	1,849,000
Terminal Restoration—Phase III	C	2,338,000
Marine Walk—Black Tom	D & C	1,385,400
Interpark Roadway	D & C	1,300,000
Demolition of Remaining Structures	C	1,000,000
Seawall	C	25,000,000

SHORE PROTECTION

Project	Type	Construction Cost
Aberdeen Township—Beachfill	D	\$1,200,000
Neptune City—Beachfill	D	108,000
Fort Mott State Park*	D	500,000
Middletown Township—Stone Seawall	D	800,000
Sea Isle City—4 Stone and Timber Groins	D	800,000
North Wildwood—Stone Seawall	D	1,200,000
Asbury Park—Rehabilitate Groin	D	450,000
Cape May City—Rehabilitate Seawall	D	600,000
Aberdeen Township—Fossil Exposure	D	150,000
Carney's Point Township—Revetment	D	500,000
Sea Isle City—Sand Dune Stabilization	D	30,000
Keansburg Flood Gate*	D	100,000
Longport—Rehabilitate Seawall	D	800,000
Storm Damage—October 25, 1980		
Sea Isle City—Beachfill	D	700,000

Upper Township—Beachfill	D	\$ 1,400,000
Borough of Avalon—Rehabilitation of timber bulkheads	C	45,000
Avon-by-the-Sea Rehabilitation of bulkhead	C	47,700
Ocean City—Sand Dune Development	C	35,000
Cape May Point—Sand Dune Stabilization	C	2,400
*100% State Funds		

WATER SUPPLY

Project	Type	Project Cost
Perdicaris Place Waste Gate—Rehabilitation	D	\$ 37,236
US 1 Storm Water Bypass—Mapping	P	850
Sullivan Way Aqueduct—Rehabilitation	D & C	448,060
Hackettstown Res.—Engineering Analysis	D	330,000
Manasquan Reservoir—Mapping	D	38,000
South Branch Rockaway Creek—Discharge Improvements	D & C	580,000
Spruce Run—Round Valley Dams—Rehabilitation	D	400,000
Raritan Confl. Reservoir—Force Main and Pump Station Study	D	218,896
U.S. Route 1 Conduit Cleaning	D	1,109,520
Shipetaukin Creek Culvert	D	819,000
Elizabethtown—Newark Interconnection	C	7,200,000
Improvement at Passaic Valley Treatment Plant	C	1,000,000
George Washington Bridge Interconnection	D & C	6,600,000
Design of Raritan—Passaic Pipeline	D	4,000,000
Emergency Interconnections between D & R Canal and Raritan River	D & C	560,727
Underground Wellfield Study	P	350,000
Raritan Basin—D & R Canal permanent Interconnections	D	90,000
Spruce Run—Round Valley Entrophication Study	D	60,000
D & R Canal Dredging from Prallsville Lock to Kingston Lock	D	315,000

DREDGING

Project	Type	Construction Cost
Shark River—Back Channel	C	\$450,000
Spicers Creek	C	350,000
Long Reach Thorofare*	D	450,000
Waackaak and Thorns Creek	D	425,000
*50/50 Cost Shared with Local Municipality		

HARBOR CLEANUP

Project	Type	Project Cost*
Exchange Place, Jersey City	C	\$998,000
Jersey City	P	325,000
Hoboken	D	700,000
Elizabeth	D	600,000
*State Share 1/3—Federal Share 2/3		

SEWERAGE CONSTRUCTION GRANTS

Grantee	Description	Type	Project Amount
Mt. Holly S.A.	Treatment plant expansion	C	\$ 13,490,063
Ocean County U.A.	Interceptor	C	9,642,500
Hamilton Twp.	Interceptor	C	6,680,000
Cape May Co. M.U.A.	Treatment plant	C	19,468,620
Trenton City	Interceptor	C	8,314,843
Camden Co. M.U.A.	Treatment plant	C	11,933,640
Lambertville S.A.	Treatment plant expansion	C	4,552,129
So. Toms River	Collection system	C	3,324,208
Barneget Twp.	Collection system	C	2,956,219
Stafford M.U.A.	Collection system	C	7,157,657
Pasippany-Troy Hills	Advanced treatment	C	27,046,000
Morristown Town	Treatment plant modifications	C	3,519,112
Berkeley Hts. Twp.	Treatment plant	C	8,824,200
Bergen Co. U.A.	Treatment plant expansion	C	60,665,800
Rockaway Valley S.A.	Interceptor	C	24,242,746
Ewing-Lawrence S.A.	Treatment plant additions	C	12,393,706
Sussex County M.U.A.	Regional system	C	5,570,000
Warren County U.A.	Regional system	C	2,752,306
Warren County U.A.	Regional system	C	3,801,709
Northwest Bergen Co. S.A.	Interceptor	C	10,203,828
Bridgewater Twp.	Interceptor	C	4,063,036
Middlesex Co. U.A.	Interceptor	C	116,500,000
Rahway Valley S.A.	Sludge facilities	C	4,165,615
Linden-Roselle S.A.	Sludge facilities	C	3,859,898
Passaic Valley Sew. Comm.	Sludge facilities	C	9,471,000

(Continued)

(Continued)

SEWERAGE CONSTRUCTION GRANTS

Grantee	Description	Type	Project Amount
Middletown Twp. S.A.	Sludge facilities	C	\$ 4,485,977
Wayne Township	Treatment plant modification	C	20,250,559
NE Monmouth Co. Reg. S.A.	Sludge facilities	C	2,264,513
Franklin Borough	Interceptor	C	5,855,645
Bridgewater Twp.	Interceptor	C	2,692,265
Secaucus Town	Interceptor	C	9,616,917
Oxford Twp.	Collection system	C	2,217,759
No. Plainfield	Collection system	C	1,923,041
Ramsey Borough	Collection system	C	7,258,754
Belvidere Town	Collection system	C	2,405,913
Randolph Twp.	Collection system	C	218,660
Parsippany-Troy Hills	Collection system	C	10,031,122
Bridgewater Twp.	Collection system	C	2,692,265
Wall Twp.	Collection system	C	5,690,122
Monroe Twp. M.U.A.	Collection system	C	9,143,504
Bridgewater Twp.	Collection system	C	12,392,859
Passaic Valley Sew. Comm.	Plant upgrading	C	386,000,000
Burlington Twp.	Facilities plan	P	467,051
Moorestown Twp.	Facilities plan	P	355,926
Northwest Bergen Co. S.A.	Facilities plan	P	530,000
Manchester Twp.	Facilities plan	P	65,903
Cape May Point	Facilities plan	P	33,600
Florham Park S.A.	Facilities plan	P	211,650
Edgewater Borough	Facilities plan	P	351,787
Pequannock River S.A.	Facilities plan	P	17,663
Camden County M.U.A.	Facilities plan	P	1,527,819
Jackson Twp. M.U.A.	Facilities plan	P	58,923
Roosevelt Borough	Facilities plan	P	59,344
Pine Beach Borough	Facilities plan	P	44,571
Oakland Borough	Facilities plan	P	238,160
Rockaway Twp.	Facilities plan	P	192,804
Woodstown S.A.	Facilities plan	P	57,000
Pompton Lakes M.U.A.	Facilities plan	P	279,751
Jefferson Twp.	Facilities plan	P	268,765
Willingboro Twp.	Facilities plan	P	436,775
Monmouth County	Facilities plan	P	304,420
East Brunswick S.A.	Facilities plan	P	219,051
Warren County U.A.	Facilities plan	P	79,916
Western Monmouth U.A.	Facilities plan	P	157,890
Wyckoff Twp.	Facilities plan	P	156,448
Upper Millstone Group	Treatment plant expansion	D	578,899
Cape May Co. M.U.A.	Regional system	D	705,449
Stony Brook Reg. S.A.	Treatment plant	D	488,652
Hudson County S.A.	Regional system	D	8,885,000
Keansburg M.U.A.	Collection system	D	335,029
Hudson County U.A.	Regional system	D	2,075,000
Hudson County U.A.	Regional system	D	4,100,000
Carteret Borough	Interceptor	D	516,800
No. Haledon Borough	Collection system	D	824,345
Manville Borough	Collection system	D	912,463
Old Tappan Borough	Collection system	D	387,423
Cape May County M.U.A.	Regional system	D	400,517
Ringwood Borough	Collection system	D	996,024
Ocean County	Facilities plan	P	48,151
Landis S.A.	Facilities plan	P	106,533
Delaran S.A.	Facilities plan	P	336,603
Pequannock, Lincoln Park and Fairfield S.A.	Facilities plan	P	16,984
Green Brook Township	Facilities plan	P	92,771
Wood Ridge Borough	Facilities plan	P	110,000
Ocean Township S.A.	Facilities plan	P	97,927
Raritan Borough	Facilities plan	P	11,011
Western Monmouth U.A.	Facilities plan	P	56,707
Pine Beach Borough	Collection system	D	211,673
Camden County M.U.A.	Regional system	D	3,446,525
Denville Township	Collection system	D	380,749
Livingston Township	Rehabilitation	D	614,655
North Haledon Borough	Collection system	C	5,040,693
Little Egg Harbor M.U.A.	Collection system	D/C	1,671,270
Eagleswood Township	Collection system	D/C	985,610
Gloucester County S.A.	Septage Handling	C	4,594,045

1978 GREEN ACRES LOCAL DEVELOPMENT GRANTS

Applicant Urban grants:	Project	Grant Amount
Atlantic City	Uptown Park Complex	\$ 175,000
Bergenfield Boro	Vivyan Fields	85,000
Cliffside Park Boro	Cliffside Athletic	380,000
Hackensack	Carver Park	137,500
Lodi Boro	Lodi Memorial Park	1,200,000
Rutherford Boro	Memorial Field Lighting	41,000
Camden City	8th & Thurman Parks	285,000
Camden City	9th & Ferry Park	45,000
Cherry Hill Twp.	Cherry Hill E. Tennis Centers	143,000
Gloucester City	Three Corner Park	24,500
Malpewood	DeHart Park	234,500
Nutley	Owens/DeMuro Parks	170,000
South Orange	Waterlands Park	327,000
West Orange	Tennis Rehabilitation Project	37,500
Union City	Multi-Service Park	175,000
Trenton	Marine Terminal Park	331,000
Carteret Boro	Carteret Park	96,000
Edison Twp.	Central Ave. Park—Phase II	1,200,000
Jamesburg	K of C Park	60,000
Perth Amboy	Chamberlain Park	15,000
Keansburg	Collins Field Ballpark	40,000
Passaic City	Col. Johnson Park	21,176
Somerville Boro	Vanderveer Rec. Area	98,000
Union County	Rahway Pool	235,650
Elizabeth	Jefferson Park	62,000
Linden	Memorial Park	694,500
Plainfield	Madison Ave./Hannah Atkins	19,000
Rahway	Brennan Field	85,000
Phillipsburg	Delaware River Park	337,400
North Plainfield	Verneule Center	60,000
Vineland	Magnolia Road Park	150,000
New Brunswick	Memorial Stadium Park	581,000
New Brunswick	Bucleuch Park	66,900
Westfield	Gumbert Park	200,000
Ewing Twp.	Recreation Tennis Courts	108,000
Camden County	Camden Park	75,000
Bayonne	Kill Van Kull Park	300,000
Non-Urban grants:		
Buena Vista Twp.	Cedar Ave. Park	21,000
Leonia Boro	Highwood Hills Park	25,000
Bordentown Twp.	Central Com. Park	499,000
Burlington City	Riverfront East	445,000
Burlington Twp.	Assiscunk Creek Park	620,750
North Hanover Twp.	North Hanover Park	150,000
Berlin Boro	Centennial Sq. Mini-Park	8,500
Hi-Nella	Ballfield Improvement	31,000
Middle Twp.	Goshen Road Park	52,700
Fairfield Boro	Combee Tract	475,000
Livingston	Fitness Trail	7,000
Gloucester County	Bethel Mill Park	868,500
Monroe Twp.	Earl E. Owens Field	100,000
Mercer County	Central Park Boating Facility	500,000
South River	Varga Park	167,000
Belmar Boro	Marina Park	68,000
Marlboro Twp.	Municipal Park Complex	475,000
Rumson Boro	Meadow Ridge Park	391,500
West Long Branch	Wall St./Monmouth Natural Area	145,500
Morris County	Silas Condict Park	400,000
Chatham Boro	Shepard Killock Park	267,500
Hanover Twp.	Malapardis Park	260,500
Riverdale Boro	Post Lane Rec. Area	125,000
Washington Twp.	Sandt Tract	116,000
Wanaque Boro	Memorial Park	100,000
West Milford Twp.	Browns Point Park	15,000
Andover Twp.	Lake Iliff	116,500
Byram Twp.	C.O. Johnson Park	70,000
Hamburg Boro	Hamburg Park	35,000
Clark Twp.	Bartell Place Park	40,000
Bloomsburg Boro	Church St. Park	45,000
Rockaway	Peterson Field	432,000
Allentown Boro	Allentown Lake Park	470,477
Verona	Linn Drive Park	126,000
Atlantic County	Estell Manor Park	200,000
Barrington Boro	Street & Ice Hockey Court	11,100
Stratford Boro	Vassar Avenue Park	46,500
Ocean City	5th St. & Bay Avenue Park	118,500

1974 GREEN ACRES LOCAL DEVELOPMENT PROGRAM

Applicant	Project	Grant Amount
Atlantic City	Multi Parks	\$ 160,500
Hamilton Twp.	Harding Lakes Rec. Facility	6,000
Margate	Huntington Ave. Mini Park	37,500
Fairview Boro	Municipal Rec. Facility	268,000
Glen Rock Boro	Memorial Park	167,000
Lodi Boro	Lodi Memorial Park	115,000
Camden County	Pyne Poynt/Dudley Grange	425,000
Camden County	Waterfront Park—Phase I & II	4,000,000
Camden City	Multi Parks	550,000
Haddon Twp.	Crystal Lake	13,500
Lawnside Boro	Lawnside Rec. Complex	200,000
Cape May City	Physick Estate	194,500
No. Wildwood	Delaware Ave. Park	290,000
Bridgeton	Bridgeton City Park	321,500
Essex County	Branch Brook Park	2,000,000
Belleville	Belleville Rec. Complex	118,000
Caldwell Boro	Kiwanis Oval	30,000
Cedar Grove Twp.	Bowden Pond Rec. Area	37,500
Newark	Hayes West Pool	400,000
S. Orange Village	Cameron Field/Meadowland Park	205,000
Deptford Twp.	ICYA Park	75,000
Hudson County	Park Improvements	800,000
Bayonne	Kill Van Kull II	1,000,000
Jersey City	Lafayette Street Park	200,000
Clinton Twp.	Round Valley Park	81,500
Mercer County	Central Park Boating	1,220,000
Hamilton Twp.	Hamilton Park	1,000,000
Ewing Twp.	Hollow Brook Locker Facility	37,500
Lawrence Twp.	Colonial Lake Park	623,000
Trenton	D & R Canal Park	1,000,000
Middlesex County	Wm. Warren County Park	1,007,500
Edison Twp.	Central Ave. Park	288,500
Perth Amboy	Waterfront Park	800,000
Piscataway Twp.	Columbus Park	362,500
Sayreville Boro	Kennedy Park	977,500
Freehold Twp.	Georgia Road Park	469,000
Marlboro Twp.	Nolan/Marlin Park	51,000
Millstone Twp.	Sweetmans Lake Park	56,000
Morris County	Hedden Park	650,000
Morris Twp.	Patriots Path	25,000
Par-Troy Twp.	The Knoll	721,500
Randolph Twp.	Brundage Park II	200,000
Barnegat Twp.	Lower Shore Road Park	77,500
Berkeley Twp.	Township Recreation Area	860,000
	Golf Course	470,000
Jackson Twp.	Hulse Road Rec. Area	53,500
Ocean County	Cattus Island Park	322,500
Passaic County	Garrett Mt. Rec. Area	500,000
Clifton	Albion/Robin Hood Park	37,500
Passaic City	Second Ward Park	187,000
Paterson	Great Falls Rec. Area	1,050,000
Bound Brook Boro	Middle Brook Park	66,000
Hillsboro Twp.	Docherty Memorial Park	175,000
Montgomery Twp.	Burnt Hill Tennis Courts	75,000
Union County	Mattano Park	372,000
Hillside Twp.	Central Ave. Park	237,000
Plainfield Twp.	Tract 19 Rec. Area	425,000
Scotch Plains Twp.	Village Green Park	75,000
Washington Boro	Washington Park	250,000

HISTORIC PRESERVATION GRANTS

Projects	Grantee	Grant Amount
The Hermitage—Restoration	Friends of the Hermitage	\$ 75,000
Twin Lights—Restoration	NJDEP—Bureau of Parks	132,500
Lucy The Margate Elephant—Restoration	Save Lucy Committee	48,000
Barclay Farm—Restoration	Township of Cherry Hill	18,000
James Street Commons Historic District—Rehabilitation—54-56 James Street, 82 1/2-84 University Street	Newark Housing and Redevelopment Corp.	42,000
William Clark House—Restoration	North Ward Education and Cultural Center	96,826
Cathedral of the Sacred Heart—Preservation	Archdiocese of Newark	46,764

Philadelphia and Reading Railroad Freight Station—Rehabilitation	City of Trenton	\$ 100,000
Oxford Furnance—Stabilization	NJDEP—Bureau of Parks	22,000
Greenwich Historic District—Restoration—Richard Wood Store	Mrs. Richard Wood	41,500
St. James A.M.E. Church—Stained Glass Restoration	St. James A.M.E. Church	9,835
Old Bridge Historic District—Rehabilitation—Simpson Methodist Church	Township of East Brunswick	42,000
Mill Hill Historic District—Rehabilitation—205 East Front Street	City of Trenton	111,000*
State House Historic District—Rehabilitation—186-196 West State Street	New Trenton Corp.	57,000
Delaware and Raritan Canal—Preservation—Canal House	City of Trenton	12,000
Cape May Historic District—Restoration—Physick Estate	City of Cape May	16,200
Great Falls of Paterson S.U.M./Historic District—Rehabilitation	City of Paterson	17,000
Ivanhoe Wheelhouse		
Old Eagle Tavern—Restoration	City of Trenton	60,000
Delaware and Raritan Canal—Rehabilitation Port Mercer Canal House	Lawrence Historical Society	6,000
Allaire Study—Structures Report, Plans and Specs	NJDEP—Bureau of Parks	15,000
Ambrose/Ward Mansion Study—Structures Report	City of East Orange	10,000
178-184 Edison Place Study—Plans and Specs	Ironbound Education and Cultural Center	30,000
Fort Mott Study—Structures Report Plans and Specs	NJDEP—Bureau of Parks	17,500
Majestic Theater Study—Structures Report	Stinchcomb and Merkelson, Inc.	12,000
Old Barracks Study—Structures Report	Old Barracks Association	10,000
Olden House Study	NJDEP—Bureau of Parks	5,000
Great Falls of Paterson/S.U.M. Historic District—Rehabilitation of Rogers Locomotive Works	City of Paterson	125,000
Masonic Temple Study Structure Report	County of Mercer	15,000
Great Auditorium—Structures Report—Plans and Specs	Ocean Grove Camp Meeting Association	21,220

1978 EMERGENCY FLOOD CONTROL GRANTS

Project	Grantee	Grant Amount
Construction of a stormwater detention basin; Tributary of Rockaway River	Township of Rockaway	\$ 80,965
Construction of a detention basin and channel improvements; Branch of Rahway River	Township of Cranford	1,000,000
Detention Basin, Channel Improvements and Culverts; Ireland Brook	County of Middlesex, Board of Chosen Freeholders	831,250
Channel Improvements; Canoe Brook	Township of Livingston	650,000
Culvert & Channel Improvements; E. Branch of Green Brook	Township of Scotch Plains	244,744
Construction of a stormwater detention basin and interceptor sewer; Tributary of Nomahegan	Borough of Mountainside and Township of Springfield	430,000
Construction of a stormwater detention basin; Tributary of S. Branch of Rahway River	Township of Woodbridge	500,000
Stream enclosure and channel improvements; Pine Brook	Borough of Syreville	705,000
Stream enclosure and detention basin; Shimer's Brook	Township of Pohatcong	335,214

Brendan Byrne
Governor

Jerry Fitzgerald English
Commissioner



DEP

MORVEN was built in the early 1750's for Annis and Richard Stockton, a signer of the Declaration of Independence. The Stockton family maintained ownership of the house until it was purchased in 1945 by Governor Walter Edge. Morven and its five-acre grounds were deeded in 1954 to New Jersey by Governor Edge for use as a Governor's residence, state museum or historic site. To date, four chief executives and their families have called Morven "home." They are governors Robert Meyner, Richard Hughes, William Cahill and Brendan Byrne.



MARGARET SHARP

DRUMTHWACKET is located on an 11.1-acre site that is part of the original Princeton Battlefield. Another building on the grounds is the "Thomas Olden House," dating from the 18th century, where former Governor Olden is believed to have been born in 1799. Drumthwacket, which derives from the Scottish words for "wooded hills," was purchased by the state in 1966 under the Green Acres program.

DRUMTHWACKET: Residence for Future Governors

The New Jersey Historical Society on April 15 announced plans to renovate Drumthwacket, the state-owned mansion in Princeton, as a residence for future governors; and to convert Morven, the present executive residence, for use as an historical center. The plan was announced by Robert B. O'Brien, Jr., chairman of the Society's Board of Governors and endorsed by New Jersey Governor Brendan Byrne at the Society's 136th Annual Meeting. O'Brien noted that Governor Byrne, whose term ends in January 1982, "will not in any personal way be a beneficiary of this plan."

The Society immediately undertook a "Spirit of New Jersey" statewide fund-raising campaign to raise \$4 million for the projects. By June 15 more than \$1 million had already been raised enabling the renovation of Drumthwacket to get underway during the summer. The additional \$3 million will complete the furnishing of Drumthwacket, support the conversion of Morven, and establish its professional and operating staff. The state's contribution includes rehabilitating the back gardens at Drumthwacket (work began this summer), and providing routine maintenance at both historic sites. DEP's Division of Parks and Forestry administers state-owned/operated historic sites.

A group of prominent professional, business and private leaders have agreed to serve on a panel to conduct the fund raising effort.

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Contributions are tax deductible. For further information, contact the New Jersey Historical Society, 230 Broadway, Newark, New Jersey 07104 • Phone: (201) 483-3939

DEP CERTIFIES 52 PROJECTS TO EPA FOR CLEAN WATER FUNDS

The department in September certified 52 sewer projects worth \$97.2 million in federal funds to the U.S. Environmental Protection Agency (EPA) for clean water grants under the department's construction grants program.

"After the Reagan Administration cut New Jersey's sewer funds by \$70 million this year, we worked on a number of strategies to reach critical water quality projects," said Arnold Schiffman, director of DEP's Division of Water Resources. "EPA turned down our phased funding proposal to spread the money further through a concept of partial grants to sewer authorities, with the rest of the money to come from future federal allocations. This means that our efforts to get an additional \$200 million in critical water quality improvement projects under construction have been stalled," he said.

DEP's first priority was to commit all the money required by September 30, the end of the federal fiscal year. "Certifying all projects," said Schiffman, "will assure that New Jersey will not lose any further funds.

The phased funding proposal mentioned earlier was turned down by EPA on procedural grounds. "Although we may have lost this round, we have not given up. Clean water is too important to New Jersey," said Schiffman. DEP has scheduled a public hearing in early November, which meets the procedure requirements. Schiffman said the department at this hearing will again propose phasing with any money that EPA doesn't award by the end of September.

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So, when writing about mailing matters, please tear a label from one of your recent copies of NJO and attach it to your letter.

At Round Valley

STROBE LIGHT SYSTEM WILL WARN BOATERS 'TO MAKE SHORE' QUICKLY

A new warning light system has been installed at Round Valley Recreation Area (Hunterdon County) which will provide a more visible means of warning boaters when the wind speeds reach or exceed 25 miles per hour (mph). The new system has large white strobe lights that have been installed at three strategic locations on Round Valley Reservoir so that they may be more easily visible to boaters from all locations on the water.

When the white strobe lights are flashing, wind speed has reached or exceeded 25 mph and the reservoir is then closed to all boating. All boats on the water must return to the boat launch area or head directly to the nearest shore.

The system replaced one featuring red lights which were often difficult to see when visibility conditions were poor. Further information is available by writing to Round Valley Recreation Area, RD 1, Stanton/Lebanon Road, Lebanon 08833. Phone: 201-236-6355. □

EX-COMMISSIONER O'HERN JOINS N.J. HIGH COURT

Daniel J. O'Hern, DEP Commissioner from May 1978 through July 1979, was sworn in as an Associate Justice of the New Jersey Supreme Court on August 6. O'Hern left DEP to become Counsel to the Governor, the position he held until taking his place on the seven-member court. (Governor Byrne in April announced his nomination of O'Hern to replace Associate Justice Mark Sullivan whose term on the court would expire in August. The state Senate confirmed O'Hern's nomination in May.) □

RECYCLE CHRISTMAS TREES

Your Christmas tree can "live on" long after the holiday season—it can be used as a windbreak for exposed flower beds, "planted" as a bird feeding station, or you may trim off the branches and place them as protective cover around rose bushes or other plants and shrubs. Some seashore communities use discarded trees as "sand dune builders." Inquire at your municipal building to find out if there's a tree recycling project in the area. The wood chips make excellent mulch for gardens and shrubs. □

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USE 1981 LEAVES TO FEED 1982 GARDENS AND SHRUBS

Instead of bagging fallen leaves for the trash collector this autumn, consider recycling them through a compost pile. Leaves make a very good compost base. Add grass clippings, vines, dead flowers, vegetable waste, kitchen scraps and weeds. These materials become rich organic matter after a winter in compost. The result is an excellent soil conditioner.

To make a compost pile, mark out an area 3 to 5 feet square. Heap organic matter in layers about 6 to 12 inches thick, layering with commercial fertilizer if you wish, and one half layer of soil. To eliminate odor, keep the compost pile damp and maintain a top layer of soil. In the spring, work the compost material into the garden soil and into soil around trees and shrubs.

Continued from page 16A

WATER SUPPLY

August rainfall was only one-third of normal. Similar statistics were reported by the Delaware River Basin Commission (DRBC), which regulates uses of water in the Delaware's 13,000-square-mile, four-state drainage area. DRBC and New Jersey regulators were prepared to call for tighter water-use restrictions if the rainfall trend worsened.

Paul Arbesman, State Drought Coordinator and DEP Deputy Commissioner, stressed that continued conservation of water is essential to help stretch the supply over the dry fall months. He said that North Jersey has saved 17 billion gallons of water since September 1980 when water use restrictions were imposed on hundreds of communities because of the shortage caused by the drought. □

Continued from page 16B

BUBBLE PLAN

volatile organic substance emissions from about 4,750 tons per year to about 438 tons per year. . . . The immediate benefit is clear: cleaner air for less money. But the long-range payoff may be even more significant. Bubbling motivates industry to invent new, cost-effective ways to prevent pollution." □

ANTI-LITTER CAMPAIGN

New Jersey vs. Litter is the title of a booklet published by DEP as a how-to guide for communities, businesses and organizations to join the statewide campaign to make New Jersey litter free. For further information and copies of the booklet, contact Charlotte Tomaszewski, DEP, N.J. vs. Litter Campaign, CN 402, Trenton 08625. Phone: 609-292-9120.

Go Wild For Wildlife

by

Pete McLain



Debbie Morris, biologist with the Endangered and Nongame Project, banding a young osprey.

"GO WILD FOR WILDLIFE!" is the logo adopted by the Division of Fish, Game & Wildlife for their program to acquaint the taxpayers of New Jersey with the opportunity they will have to check off \$2, \$5, or \$10 from their state income tax REFUND to be used for the management and protection of endangered and nongame wildlife in New Jersey.

Since 1974, the Division of Fish, Game & Wildlife's Endangered and Nongame Species Program has been crippled by lack of adequate funds to manage the over 600 nongame and 53 endangered or threatened wildlife species. Following the lead of Colorado, the N.J. Endangered and Nongame Species Advisory Committee, working with the N.J. Audubon Society, succeeded in getting Senator Walter Foran and Assemblywoman Barbara McConnell to sponsor legislation that would provide for a check-off block on the State Income Tax Return and the establishment of the Endangered and Nongame Species of Wildlife Conservation Fund. The legislation passed the Senate with a vote of 28 to 1 and the Assembly, 63 to 1. Governor Byrne signed the bill (S-1360) into law on June 19, 1981.

The passage of the Endangered and Nongame Species of Wildlife Conservation Fund is one of the most significant pieces of wildlife legislation passed in the history of New Jersey. It speaks well of Department of Environmental Protection Commissioner Jerry English's leadership and Governor Brendan Byrne's support of conservation programs.

New Jersey taxpayers who often ask what they can do to help will now have the perfect opportunity to materially aid in the management and protection of these species. On your 1981 N.J. 1040 Gross Income Tax Form, Block 33 will allow for a \$2, \$5, or \$10 check-off. This donation will be credited to a special account to be used only for the protection and management of endangered and nongame wildlife in New Jersey. Citizens not obtaining a refund may also contribute by sending a donation directly to Endangered and Nongame Species Program, Division of Fish, Game, & Wildlife, CN 400, Trenton, N.J. 08625. □

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Announcing The Woodland Series

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Great Horned Owl	(Jan./Feb. '78)
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The "Woodland Series" of prints will be limited to 700 signed and numbered full color prints, printed on neutral PH museum quality paper. The overall size is 12½" x 15" which includes a two-inch border.

Carol Decker's work has been gaining national attention because of the extraordinary detail and uncompromising accuracy that she puts into each painting. These facets of her work have been obvious to *New Jersey Outdoors* readers since her first painting appeared in the magazine over five years ago.

For further information and ordering contact:

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FURBEARING ANIMALS OF NORTH AMERICA

Leonard Lee Rue III

Among the creatures of the wild, furbearing animals are the most mysterious. Unlike game animals whose habits are generally well-known to hunters and outdoorsmen, furbearers are elusive and shy. Most are nocturnal and true wilderness creatures. For example, few people have ever seen a wolf, a wolverine or a coyote in their natural habitat.

In *FURBEARING ANIMALS OF NORTH AMERICA* (Crown Publishers, \$19.95), renowned nature writer and photographer Leonard Lee Rue III has assembled—in words and pictures—a landmark reference book on these little-known animals.

Autographed copies may be purchased directly from the author at the address listed below. Cost for these copies is \$22.45, including tax and shipping.

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THE HUDSON RIVER WATERFRONT

Barbara Kauffman

The New Jersey Department of Environmental Protection (DEP) is committed to promoting and revitalizing the state's urban waterfronts. This article presents a brief sketch of the Hudson River waterfront as it existed in the past, its present uses, and hopes for the future. DEP programs which are applicable to urban waterfronts are described to give a sense of the range of possible approaches to waterfront revitalization in New Jersey.

Waterfront Growth, Then Neglect

The lower Hudson River area grew into a vital port as a result of the natural harbor provided by New York Bay. The harbor is the entrance to interior cities, linking New York City to the midwest by canal, and to the rest of the nation by truck and railroad. The harbor provides natural channels which can accommodate large ships, an extensive shoreline with enormous potential for port development, and a shelter from the open sea.

The port of New York grew tenfold between 1790 and 1870 as a result of the presence of the natural harbor. By that time, the port handled more than half the nation's trade. As the port grew, more and more ships brought goods to the harbor for distribution to the rest of the nation, and immigrants came from far and distant lands. New Jersey cities, including Hoboken and Jersey City, grew as a result of commerce in New York Harbor, and fishing, trade, and shipbuilding were basic functions. The towns focused on the waterfront, which was perhaps the most active part of the city.

Throughout most of the 19th century, when the waterfront was flourishing, ferries linked New York City with New Jersey towns and with a stagecoach to Philadelphia. The ferry lines served as an integral step in the route between New York City and the rest of the nation. The ferries were lavish, slow-moving boats, built

in the grand style of the time. The ferries, except for the Staten Island Ferry, finally ceased to operate in the mid-1960s.

Large-scale facilities were not developed in New Jersey until early in the 20th century, when the Manhattan shoreline had become quite congested. Along with port development, rail lines and yards grew up adjacent to port facilities linking the harbor to the transcontinental railroad. The character of the shoreline gradually changed as more and more sites were occupied by port facilities, expanding railroads, and industries which grew as a result of increased trade. Activity peaked by World War II, by which time New Jersey's waterfront had become quite congested. Little room was left for expansion of port facilities and new industry, resulting in a shift to other modes of transportation and development of new industry and commerce where open space was more readily available.

The land along the waterfront quickly became the city's dumping grounds, which when combined with the expansion of the highway system, created a major barrier between the city and the river. Bridges and tunnels replaced ferries in carrying passengers throughout the harbor area. As air transport replaced the ocean liners in intercontinental transportation, people came to the area through inland airports rather than through the harbor.

Later, the waterfront deteriorated further as breakbulk shipping was converted to containerization. While New Jersey's anticipation of this trend by developing the world's largest container cargo facility at Port Elizabeth gained New Jersey an advantage over New York, it still experienced economic decline caused by abandoned facilities left along the waterfront. We now see the results of this period of slow but constant decline, which resulted from the growth

of truck transport in place of rail transport, and from movement of industries to more accessible locations, leaving empty warehouses exposed to vandalism and decay. Waterfront towns which had depended heavily upon the revenues and jobs that industries provided were left with only the crumbling remains of these once successful ventures.

Several ferry terminals, abandoned or greatly diminished in use, still remain along the riverfront, most notably in Hoboken (the Erie-Lackawanna Rail and Ferry Terminal) and at Liberty State Park in Jersey City (the Central Railroad of New Jersey [CNJ] Terminal.) However, it is unlikely that they will remain in their rundown condition, because restoration projects are now scheduled for both terminals.

During the past few years, the waterfront has come full circle in cities such as Boston, Seattle, and Portland. Once again, the waterfront has become the focal point of these cities. The economic function, the ambiance, and the incredible attraction of the water is being rediscovered around the nation.

The rediscovery, however, will not lead to a duplication of the past. The revitalization, particularly in New Jersey, should couple the old with the new to use the waterfront resource perhaps even more fully than ever before. The transformation of waterfronts must now take into account federal, state, regional, and local regulations, and attract the public to the waterfront while considering both economic factors and environmental concerns such as wetlands, wildlife habitats, and water quality.

DEP's Waterfront Program

In order to transform New Jersey's riverfronts from dumping grounds to healthy, productive environments, the New Jersey DEP is focusing attention on the state's riverfronts. In particular, the Hudson River water-



Exchange Place in Jersey City. These old piers will be cleared away and replaced by an urban plaza. Plans for the plaza were funded by the New Jersey Coastal Management Program. Photo by Barbara Kauffman.



Burlington was one of the 10 towns to receive a Local Coastal Grant to develop a bikeway. The path will eventually link this waterfront park to the other Delaware Riverfront towns. Photo by David N. Kinsey.

front is being recognized as a valuable resource for its historical, cultural, and environmental significance.

The Hudson River waterfront must be managed to attract multiple uses which serve environmental and economic interests. A sound management framework is needed to make essential decisions concerning waterfront land use, investment, conservation, and development.

One such framework is the comprehensive New Jersey Coastal Management Program, prepared by the Division of Coastal Resources in the Department of Environmental Protection to determine and describe New Jersey's strategy to man-

age the future protection and development of the state's coastline. The program includes three principal elements: a boundary which defines its geographic scope, a set of detailed standards for coastal decision-making, and a management system which identifies the uses subject to management and the process by which they are managed.

The program is intended to promote the wise use of the state's coastal areas. The program was approved in September 1980 by the U.S. Department of Commerce, Office of Coastal Zone Management. It is an expanded and updated version of the segment for the Bay and Ocean Shore which received ap-

proval in September, 1978. The program's jurisdiction now addresses the state's entire coastal zone, which includes other tidally influenced areas in the northern part of the state along the Hudson River and its related waters, in the Hackensack Meadowlands, and along the Delaware River and its tributaries.

In the Hudson River area, enforcement of the Coastal Management Program relies upon the 1914 Waterfront Development Permit Law. Under the rules to this law which took effect September 26, 1980, prospective developers must obtain state agency approval for projects within the coastal zone boundary. DEP will review all applications for development on the basis of the Coastal Resource and Development Policies which were adopted as administrative rules also effective September 26, 1980. The policies include specific criteria for approving, denying, or conditionally approving waterfront development, and are supported by rationale explaining the policies.

In order to encourage municipalities to participate in the Coastal Management Program, the Division of Coastal Resources has administered a grant program for the past three years which is funded by the U.S. Department of Commerce through the National Oceanic and Atmospheric Administration Office of Coastal Zone Management, under the federal Coastal Zone Management Act.

The grants provide local governments with 100 percent funding to plan projects which further the objectives of the New Jersey Coastal Management Program, such as creation of waterfront parks, provision of public access to the waterfront, revitalization of underutilized waterfronts, mitigation of coastal hazards such as dune erosion, and in general, planning for the best use of the waterfront as a limited resource.

The grants are intended as seed money to develop plans which will serve as a basis for seeking additional funding from other sources for project implementation. To date, DEP has passed along federal funds to 24 communities.

The first grant in New Jersey was awarded to Jersey City in 1978 to develop a plan for an urban plaza at

Continued on page 20

WATERFRONT

Exchange Place. Jersey City will now apply to Green Acres for funds to develop this two-acre plaza, which will be a passive recreation area where people can come to sit, walk, and enjoy the harbor views.

A grant awarded to 10 towns in Burlington County was used to develop plans for a waterfront park in each of the Delaware River waterfront towns and to plan for a linear walkway/bikeway to connect these parks. Municipalities could create separate bikeways or could designate quiet streets as bicycle routes to complete the system.

For 1980-81, a total of \$199,000 has been awarded to 10 coastal municipalities throughout the state for waterfront projects. Some of the projects include a waterfront district plan in Tuckerton, a commercial fishing study for Ocean County, a waterfront park plan in River Edge and a tidal hydraulic study in Camden for the Cooper River. The other grant recipients are Perth Amboy, West New York, Millville, Red Bank, Trenton, and East Brunswick. (Depending on the outcome of the federal budget review process, funding for additional Local Coastal Grants may be available later in 1981. People with ideas for projects should contact the author.)

When plans are complete, any recreation plans or recreational elements of plans are reviewed by the Division of Parks, Forestry, and Green Acres (Green Acres Program). Since 1961, DEP has used Green Acres Program state bond issues to develop parks and recreation areas throughout the state. The Green Acres Program now administers these funds. Several Green Acres funded projects are located in the Hudson River waterfront area. They have contributed to several small parks along the top of the Palisades, including a swimming pool which was built in West New York in 1975, overlooking the river and the New York skyline. Green Acres also allocated funds to a small but well-used park at the foot of York Street in Jersey City. This park is adjacent to the Exchange Place site,



People are returning to the waterfront for festivals, such as the Hoboken River City Fair, to fish, or just to enjoy a refreshing breeze. Photo by Barbara E. Kauffman.

only a short distance from the Morris Canal, which separates the northern Jersey City waterfront from Liberty State Park. In the Sept/Oct 1980 issue of *New Jersey Outdoors*, the article titled "Restoring New Jersey's Waterfronts" provided more detailed information on the Green Acres Program.

Another state urban waterfront planning effort along the Hudson River was conducted by the Governor's Hudson River Waterfront Study, Planning and Development Commission in 1979 and 1980. Many of the Commission's recommendations were adopted by DEP as part of the Coastal Management Program. In addition the Commission recommended that a permanent waterfront commission be created to plan for and manage the future of the waterfront so that development which will enhance the riverfront environment can occur in a timely fashion. Many Hudson and Bergen County residents contributed greatly to the final proposal, which was sent to the Governor in September 1980. Assembly Bill 2318, based largely upon the Commission's final recommendations, was introduced on November 24, 1980.

DEP has also contributed to improvement of the riverfront environment through the Harbor Cleanup Program, a joint effort with the U.S. Army Corps of Engineers. This cleanup program, which is removing derelict piers and barges from the Hudson River, made Liberty State Park possible. To date, rubble, piers, and floating debris have been cleared through most of Jersey City.

The project will be continued as far north as Edgewater, and will also include Elizabeth and Newark.

DEP has made the development of Liberty State Park, which is already recognized as the most popular park in the state park system, a major priority. This park is perhaps the Department's most exciting activity along the Hudson River. The development of the park, which is managed through the Liberty State Park Public Advisory Commission, will eventually transform 800 acres of abandoned railroad property to open space, wetland preservation areas, and grassy lawns for cultural festivals and concerts. The Central Railroad of New Jersey Terminal, which has been restored, is also a part of the park. A curved promenade will enable visitors to view New York Harbor and the Manhattan skyline, and to watch the busy harbor activities.

DEP plans to continue to take an active role and provide assistance to interested individuals, municipalities, and civic groups in future planning and development of the state's waterfronts, not only in terms of protecting fragile environments and habitats, but in terms of helping to provide a socially, culturally, and economically viable environment as well.

Copies of the *New Jersey Coastal Management Program* or the *Hudson River Waterfront Commission Final Report* are available from the Department of Environmental Protection, Bureau of Coastal Planning and Development, CN 401, Trenton, New Jersey 08625. □

Hiking the Appalachian Trail in New Jersey

ROBERT SEELEY

What do you do with a grey, drab November Jersey day? You don't have to sit indoors and bemoan the lousy weather. You can hike in it, and even enjoy it.

On a drab November Sunday morning I meet a small group from Union County Hiking Club at the entrance to Stokes Forest where the Appalachian Trail crosses Rt. 206. Our walk starts under the big pines along the state forest's entrance road, and in a few minutes we ascend a steep rocky trail climbing above Culver Lake. As we climb higher the lake spreads out beneath us, changing from what seemed from the road like a sliver of water to a great expanse framed by a rim of mountains south on the horizon. Yes, this is New Jersey.

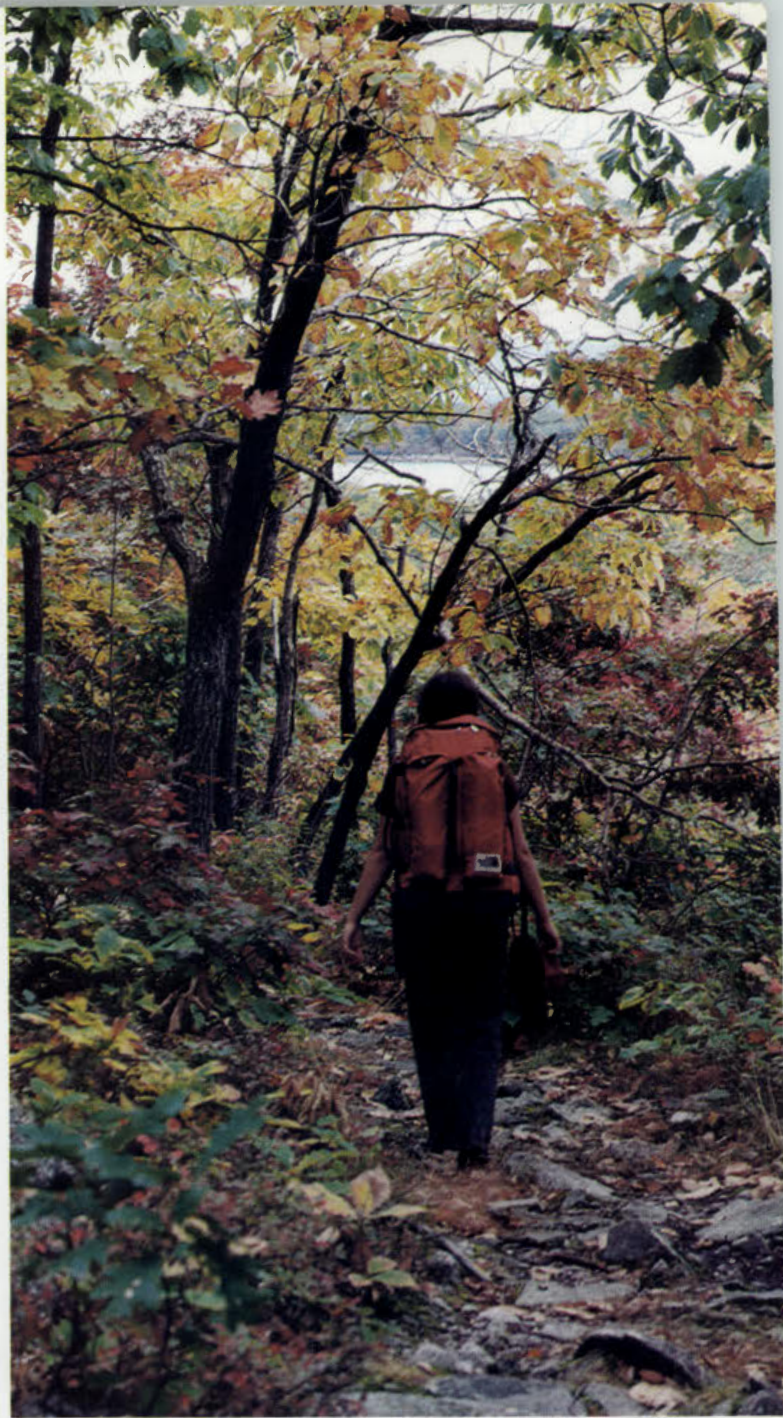
After taking in this view from this 700-foot summit, we continue west on the "AT" into the forest. After an hour or so we head off the main trail, trudge downhill and traverse an old dirt road to our lunch spot at a lean-to.

The woods would have been spectacular a month ago, filled with rich reds, golds, and greens. Still the forest hasn't lost any of its elegance, with the remaining leaves displaying rich browns, and the bare trees revealing their distinctive winter silhouettes.

At lunch, thermos bottles of tea emerge; some cookies and candy are shared. The conversation turns to vacation travel, which usually involves hiking—hiking in the Sierras, the White Mountains, or Italy's Dolomites—or biking in England or Vermont. All seem to be vacations that maximize enjoyment and hold down costs.

After lunch we return to the Appalachian Trail to make our way back. In the last hour of the eight-mile

Continued on page 22



KEN ORAVSKY

CURT GELLERMAN



New Jersey State Library

Hiking

outing, a great, low, black cloud pushes toward us over the ridge of mountains to our north. In a minute the ridge disappears, then a warm wind jumps up, rattling the leaves off the branches. In a few more minutes, rain is beating at the forest. Our raingear goes on; we're secure. Some hikers relish the new, wilder character of the day.

In less than one hour we descend toward Culver Lake, or seemingly into it. We're so high over it, it seems that we could dive into it. Finally, a little after 3 p.m., our walk flattens out onto the road leading to the Stokes Forest Parking lot.

Now I can return to work refreshed on Monday.

The Appalachian Trail hike was one of several activities run by the Union County Hiking Club that weekend; also included were a bike trip and a canoe trip. Activities continue year-round, from cross-country skiing to roller skating. More ambitious weekend trips take overnight backpacks in the Catskills, Adirondacks, or Maine's Baxter Park.

Courtesy Union County Hiking Club, you can reach untouched wilderness and clean air, and get some of the best physical and spiritual exercise you can ask for within an hour from your New Jersey home. The club's expert leaders will trek you through little-known forests and mountains studding northern New Jersey and bordering Pennsylvania and New York.

The club started in 1938 and has grown to 400 members, making it New Jersey's largest. It's one of several hiking clubs in the state, which include Essex County Hiking Club, Woodland Trail Walkers, Interstate Hiking Club in Paterson, South Jersey Outdoor Club and others.

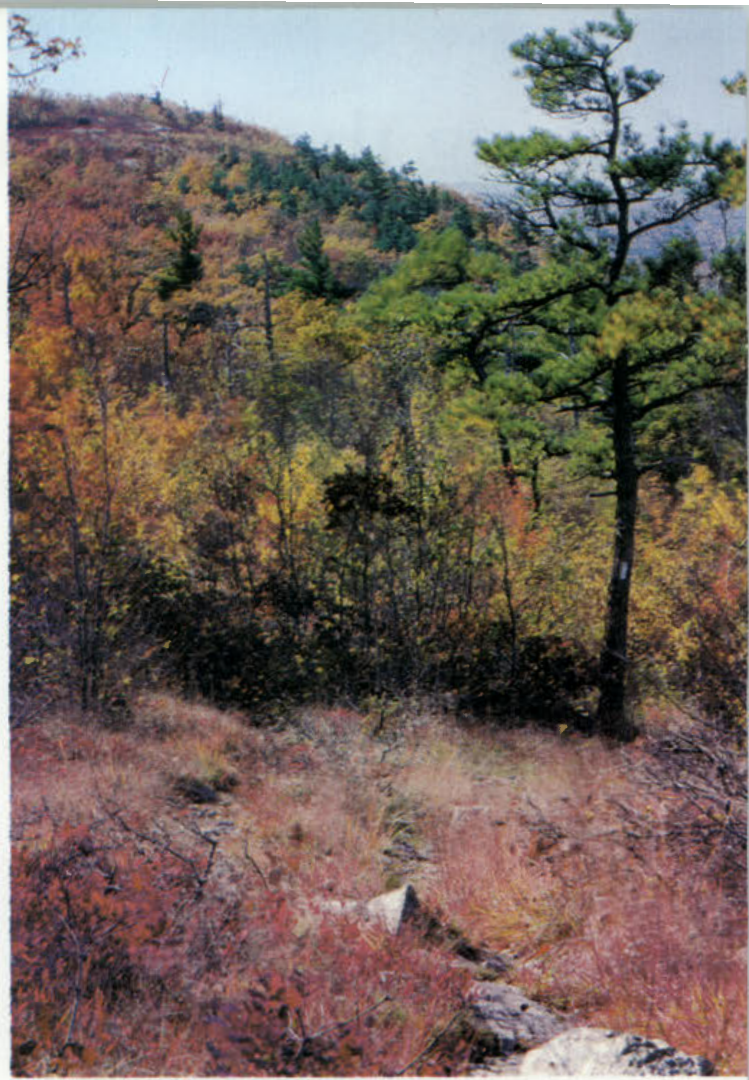
The Union County group operates under the Union County Park Commission, which publicizes each weekend's activities in local newspapers—the main method of attracting new members. It also prints a schedule of activities twice a year.

Who are the hikers? They embrace all walks of life, from chemists to lawyers, teachers, housewives, even a mailman. And it's not unusual to see three generations of people on a hike.

The club provides camaraderie, enjoyment, and exercise, and further plays a role in conservation. It helps fund the New York-New Jersey Trails Conference and New Jersey League for Conservation. It maintains 20 miles of trails near Greenwood Lake for the Trails Conference, and sends volunteers to help the conference maintain its trails. (The conference has jurisdiction over all trails from the Delaware River to the Connecticut border.)

Some members even hacked out the trails themselves. A few years ago septuagenarian Fred Dlouhy and other volunteers cleared trails, using pruners, power saw and lawnmower, through the Pequannock watershed in upper Passaic County. The trails exist there only through their labors.

Many members you'll find are in "advanced" years like Fred; hiking keeps them from feeling those years. A former club president, Dlouhy hikes at least once a week



KEN ORAVSKY

yearlong, and usually manages to squeeze in a midweek trek in New York's Harriman Park with a group of some 40 retired persons from the New York-New Jersey area.

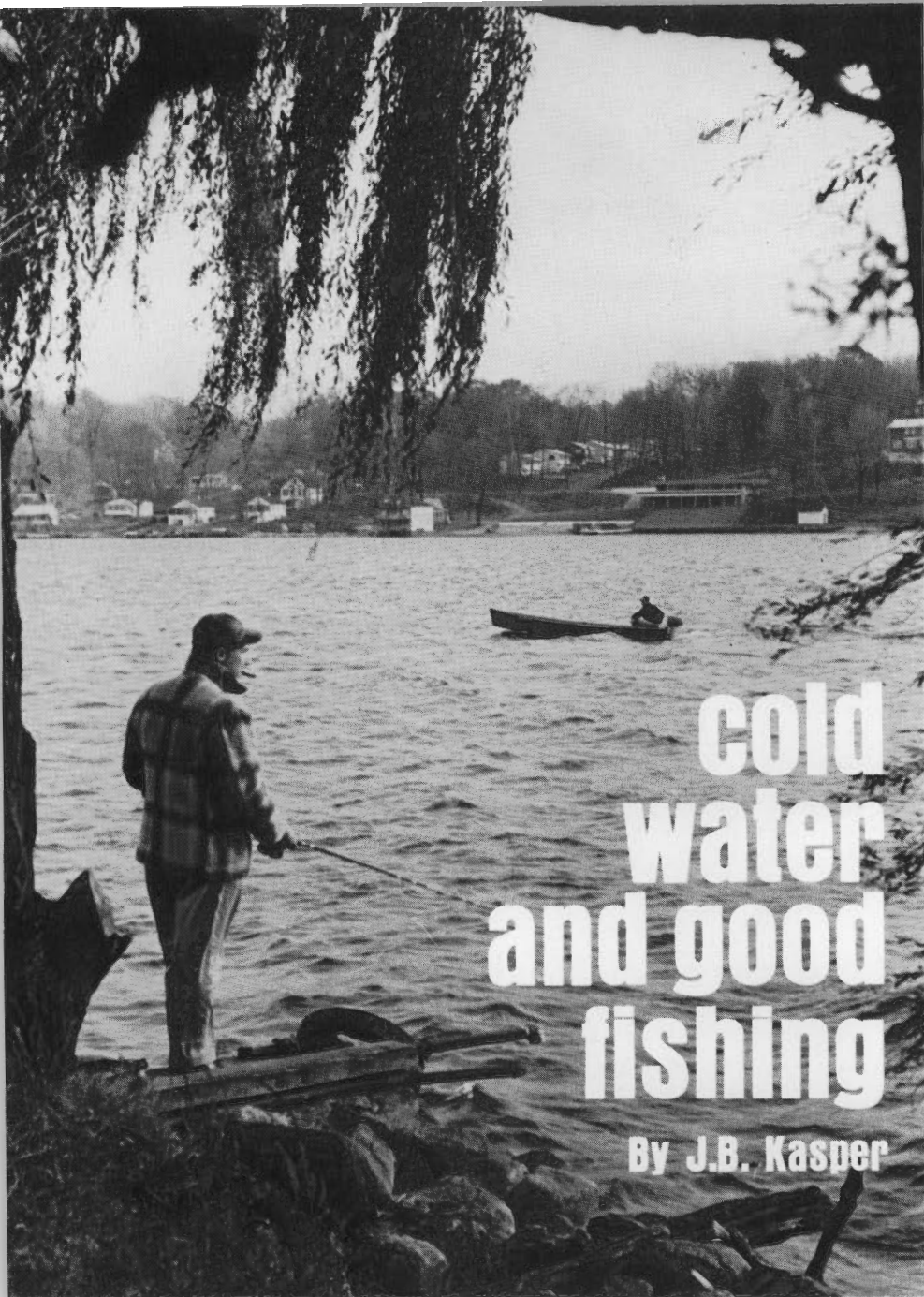
"Everyone benefits from walking," he says. Age doesn't matter; you only have to make the effort. He cites the example of Bill Myles, another former club president—a tall, silver-haired, robust-looking man, who was once overweight, smoked, and had a mild heart attack. His doctor advised him to hike, which he did, and he now looks the model of health. Tell Bill you spent the weekend indoors, and he answers, "How can you live like that?"

Besides the physical advantages, hikers also gain spiritual benefits: communing with the beauties of nature; seeing the flora of the deep woods, and the mountaintop vistas; enjoying the stimulation of discovery. "You learn places where most people have never been," Dlouhy says. Even this hiking veteran, who seems to know every foot of trail in the New Jersey-New York-Pennsylvania region, is still discovering new places.

The knowledge of a pathfinder like Fred is another benefit of the club. Hike leaders guide you to little-known spots in our neighboring mountains and forests—places you'd never reach on your own. You discover a huge outdoors here apart from highways, shopping plazas, and subdivisions.

Could there be a better way of enjoying "New Jersey outdoors"?

□



cold water and good fishing

By J.B. Kasper

PHOTOS BY HARRY GROSCH

Well, soon the cold winds of winter will be blowing their icy spears at New Jersey anglers and the fair-weather fisherman will be packing up their tackle boxes for another year. But for those hardy souls who remain to seek out and catch such cold-water fish as Mr. Walleye, Old Bronze Back, the razor-toothed members of the pike family, as well as old rubber lips himself the sucker, the Delaware River is the place to be. Its many holes, eddies, and coves are the haunts for many of these fish and are frequent meeting places for the cold-weather anglers to gather

over a warm fire and sip a bit of good brandy to chase away the chills of winter. Besides the good friendship and tall tales that this type of fishing provides, some real good fishing can be had by the angler who learns to pick a good spot and fish it right. Here I'll give you some of the basic ingredients that go into the making of a good cold-water fishing spot. Having fished the river for more than 20 years, sitting around many a warm fire and sharing secrets with a good many well-seasoned river fishermen, I hope that I can share some of these secrets with you and help

you catch some nice fish in the coming cold-water season.

To begin with, you can put away all those fancy lures that worked so well for you during the warmer part of the season. That's not to say that they won't catch a few fish this time of the year, but live bait used in the proper manner will outproduce lures five to one. Worms and minnows (killies preferred) will be by far the best means of coming up with a good catch, and a good supply should be kept on hand during the entire cold-water season.

Obtaining a good supply of bait and storing it in the right manner is a prerequisite, but happily is not very hard to accomplish. One or two evenings after a good fall rain will supply you with all the night crawlers that you will need for the winter season. Any of the better-known worm bedding sold in department stores or tackle shops will allow you to store these worms in a cool garage or basement over the winter, with very little effort. For the minnows, an old ice chest or fish tank with an inexpensive air pump will do the job quite well. Killies are by far the best of the minnows for this type of fishing, because they are the hardest and also the main forage fish for the bottom-feeding fish that you will be after during the cold-water season. One caution—since most city water is treated with chemicals that will kill live bait, let the water for your live bait tank or worm beds stand overnight to let these chemicals dissipate. Most of the better tackle shops stock live bait all year, and unless it is a really bad winter, live bait will be the least of your worries. However, I don't like to take chances so I lay in a good supply of both the year round.

As far as tackle is concerned, any well-made medium-action rod-and-reel combination will fit the bill. However, let me offer a few tips to help ensure that your tackle will perform up to par during the cold weather. First, change the lubricant that you use in your reels. During the cold-water season, heavy grease that you use in the summer will become stiff and will make your reel hard to crank and in some cases it will make the antireverse stick. The use of light oil or silicone in your reels, as well as on

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good fishing

all the internal and external moving parts, will solve this problem. Keep in mind that you will have to oil these parts more often, since these lubricants will not stick to gears and other parts like grease does. Another tip is to smear a thin coat of petroleum jelly on your guides to help keep them from freezing up in the colder weather. If they should happen to freeze up (and they will) you can stick them into the water to thaw them out, as long as you shake them off afterwards. My last tip is on how to keep your hands from freezing while holding your rod. An old piece of combed wool or fleece (the type that is used in the lining of winter coats), can be cut into strips, and wrapped around the handle, and fastened tight with a rubber band. This will give you a warmer handle to hold than the bare cork, or metal one. Just don't get it wet!

Now let's take a guess at what makes a good winter fishing spot. FISH. The one thing that makes a good fishing spot any time of the year is fish; however, in this case let's go a step further and take a look at what makes fish haunt certain areas during the cold-water season. Things like current, depth, food supply, and weather and water stability will govern where a fish will stay during the winter and how often it will feed and how active it will be. The key word in the last sentence is *stability*. Water with the appropriate current, depth, and food supply will be most productive when these conditions are on the constant side. It is well known to most veteran anglers that the more stable the weather and water conditions, the better the fishing will be. For this reason we will concentrate on areas of the river that have rather stable conditions.

One of the best areas to fish are pockets and eddies that are formed by points of land that jut out into fast water. Most often these areas are formed as a result of a bend in the river or a small stream entering the river that has built up a type of delta over the years. These pockets and eddies are usually deeper than the faster water that surrounds them. They will form a break in the natural



FANTASTIC FISHING!—The onset of autumn signals the beginning of what knowledgeable anglers like Al Spinnelli describes as the best fishing of the year. These fall caught chain-pickereel were taken by casting spoons and spinners into shallow, weedy coves and bays. For more information send a self-addressed stamped legal size envelope to "Fall Fishing", New Jersey Fish and Game, Wildlife Education Unit, P.O. Box 327, Hackettstown, New Jersey 07840.

flow of the river and as a result, they serve as a depository for drifting food that will swirl on the edge of these eddies and then find its way into the pockets. These areas also serve as stable spots away from the main current of the river and many a walleye and smallmouth has come out of them. As a general rule, you will find walleye in the eddy or faster

part of these areas and the smallmouth and suckers in the quieter parts. The razor-toothed muskie will choose the quieter water of these areas, but may surprise you whenever an easy meal can be had. A tip to finding these and other winter fishing areas is to look for them when the water is low and then chart them on a map for future reference.

The next type of fishing spot is commonly referred to by most structure fishermen as "fingers." In the Delaware River, most of these fingers consist of a rock or series of rocks that extend out into the river almost perpendicular to the flow. Unlike a point of land, they are usually long and narrow. During times of low water they often resemble small dams, as the water will flow over them and form pockets and eddies on both the upstream and the downstream sides of the finger. This you will find especially true when there are two or more of these fingers close together. You will also find that some fingers will extend all the way across the river with only small breaks. Of all the different types of structure that I have fished over the years on the river, this type has consistently been the most productive. Although there are not many muskie found in these areas, they are prime spots for old Bronze Back, as well as being the favorite haunt for walleye during times of high water. Some of my biggest fish have come out of these spots during the fall and winter. It is important to know just how far these fingers extend out into the river's main stream. When the water is low the fish will be out on the edge of these fingers. In early fall they will feed right up on these fingers, but as the water temperature starts to drop they will feed in the deeper pockets on the sides, as well as on the downside edge, closer to the current. These downside edges are the prime areas on this type of structure to catch walleye. The higher the water gets in these areas, the more likely you will find the fish in the downside pockets and the closer to the shore they will come. The best way to get at the fish that are on the edge of these fingers is to cast your bait as far upstream as possible and let it drift around the finger and into the downside pocket or eddy. In order to fish the upstream pocket, you must wade as far out as you can, cast your bait straight upstream, and reel it back toward yourself only as fast as you need to keep it off the bottom a few inches. You will find that it is quite often necessary to wade these areas in order to get both the proper position to cast from, and the right drift of the bait. Be very careful when wading during this time of year, as get-

ting wet in the icy water can be extremely dangerous.

The next type of fishing area that we will cover is that around the mouth of feeder streams that enter the river. In order for these areas to be productive they must offer fish quick access to deeper water, and most of them do. Most often the deeper water will be on the downriver side of the stream entrance. This pocket of deep water will not always be the deepest water in the area, but it will be the most productive. This is the prime area for suckers to gather before they go upstream to spawn. As a rule they will start gathering here in late December and stay until March, when they will move up into the stream to spawn. All river game fish will gather here and stay for a good part of the cold-water season because of the forage that is flushed out of the stream and deposited in the downstream pocket and eddy. These areas will also provide you with some good cover to get out of the cold winter winds and there is usually enough firewood around to keep a warm fire going. Unlike the finger areas, the stream mouth does not require much wading and fish movements will occur in regular patterns as long as the weather conditions remain stable. The deep water that you want to get at will be close to shore. I might also add that these are prime spots for muskies that feed on the congregating suckers.

Thus far, we have talked about the prime spots to fish from shore. Now we'll go into some of the better spots that you have to work from a boat. These areas include bridge pilings, underwater bars, channels, islands and underwater holes. In most cases these spots must be located with the use of sonar or learned from someone who knows where they are and how to find them.

First, let's look at bridge pilings and the eddies that lie behind them. There are two groups of these: those that are close to shore or on the shoreline, and those that are in the main stream of the river. In the first case, the piling can be fished either from shore or from a boat. The eddy downstream from it will be governed by the piling itself as well as by the shoreline. This type of piling will be productive during the cold water

season only if there is considerable depth along it when compared to the surrounding water in the area. In some cases, such as a smaller bridge, there may even be an undercut along the base of the pilings or pier. The best way to fish it is to cast your bait right along the piling or pier and allow it to drift along the base. If there is a pocket of calm water behind it you will also want to let the bait drift into this pocket before starting your retrieve. Many times, you will find the fish right against the piling during times of high water and in the eddy behind it in times of low water. It is also a good bet you may find some muskie in the calmer water if it is on the deep side.

When the bridge piling or pier is away from shore and in the main stream of the river you will probably need a boat. I fish these two ways. The first is to drift past them at different distances, that is, getting farther away from the piling or pier with each drift. Any type of live bait rig that will allow your bait to stay about six inches off the bottom will do the trick. A favorite rig of many river fisherman is to make a jig out of a jig hook and a large-size split shot and dress it with either a worm or a minnow (killie preferred). They will use this rig right under the boat, jigging it up and down off the bottom. It is both inexpensive and effective. The second way to fish these spots is to anchor your boat just off the base or bottom of the eddy and cast upstream, using the rig just described, jumping it up and down off the bottom until it reaches the boat. Jig it a few times before bringing it up to the boat from the bottom, as a fish might follow it up to the boat before hitting it. To cover these areas I will use both of these methods before moving on to another spot.

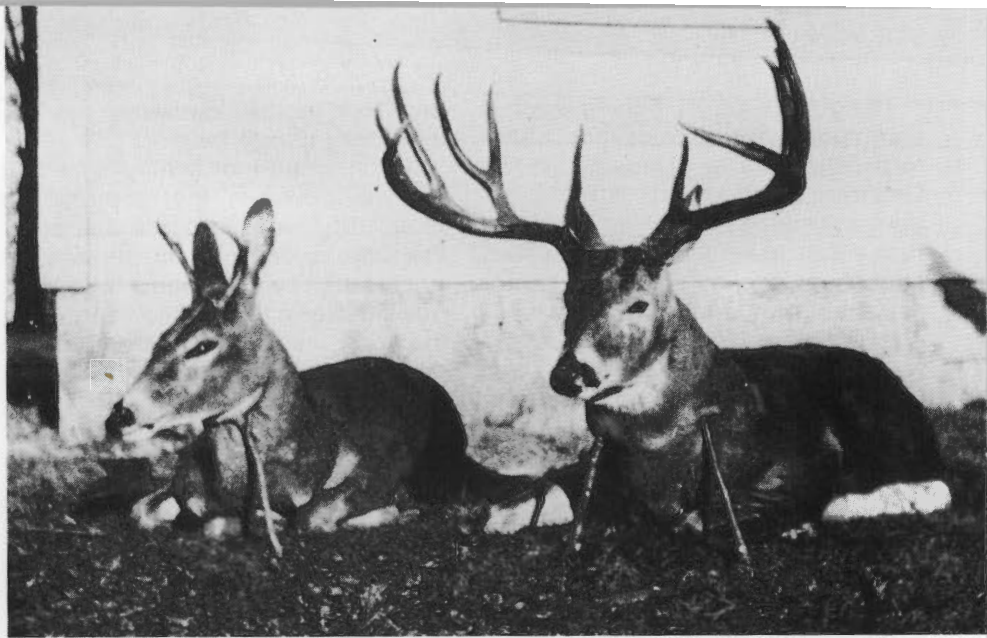
Underwater bars also will produce fish in the cold-water season. The best of these have a good-sized eddy downstream from them, but they are often hard to find without a sonar set. Once you locate one, by whatever means, they are easy to fish and can be very productive. Drifting over them or anchoring away from them and casting onto the bar and allowing the bait to drift into the eddy is all you need to do to cover these spots. Not much else needs to

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DEER HUNTING

to select her place to rear her new family. It has been advanced by the Fish and Game Commissions of some states that "a deer (doe) that has been hounded (run with hounds) will not breed that year" but in direct contradiction to that I can cite one case exactly the opposite. On the first day of October during a certain year, a party of hunters started a famous old doe with her two fawns and she, as always in the past, drew the dogs to chase herself by waiting until the dogs were quite close and then running before them in full view, in a contrary direction to that taken by the fawns. But on this particular day she didn't reckon on who was in the drive and the driver had a snap shot at her hind parts and broke her right hind leg at the amble joint it was afterward proved. But nevertheless she finally got in the river and so ended the chase for that day; suffice it to say that in three days she returned to the same drive and after that was known as the 3-legged doe. She was found there throughout the winter but instead of taking the longer way to the river when started she always managed to elude pursuit by a shorter route, mill ponds, until early in the following March, when a new pair of foxhounds came into that country and they one day (while running a fox) jumped her, drove her into one mill pond and owing I suppose to the water being low routed her out and finally caught and killed her unaided. The point I wish to make is this; she was found by a wood-chopper, dogs beside her, not yet cold and he immediately bled her and on removing her insides found a perfectly formed fawn of a normal size for that period of gestation which I afterward saw. Now all hunters that are woodsmen know that no hound ever drives a deer as a buck does his mate until she either accepts his amorous advances or he in turn is driven off by a larger buck, or properly speaking, a better fighter for not always is the larger deer the better fighter as the shape and sharpness of horns coupled with agility are the deciding factors in a deer fight. The bucks stay around with the does until they shed their horns



Two deer bagged in a 1914 deer season—photo by Leonard Lee Rue III.

which with us is usually around January 1st to February 1st after which time they and some of the early fawns bunch up together. Occasionally the does will stay with the bunch also, and they then remain in the warmest drives were feed is plentiful, which largely then at this season consists of prim, a species of laurel highly poisonous to all carnivores and owing to the fact that a deer has no gall bladder and eating quantities of the laurel arose the common belief that deer liver is not a fit article of food, but this is not true of one killed in early fall or one that has fed on acorns, grapes or grasses.

To see the vast difference in the attitudes of bucks toward each other after shedding their horns and before is scarcely believable, for no member of the cat or dog family can fight any more wickedly than two bucks at mating time, and they will even fight anything if approached in the *right* or I should say *wrong* manner.

Let me here explain a little further what we have or did have, before the introduction of any outside deer, two distinct types of deer in South Jersey—one we locally called the short-nose or short-headed, and the other the long-headed. The first named kind were the nicer, smooth-coated and not so long-legged, while the other were larger deer and all exceptionally large deer were of this long-headed breed. The bucks of this latter breed were apt to be ram-headed or roman-nosed and at a mating time have often been found with every hair practically turned towards their nose and looking as if it

had been soaped, and one in this condition is a dangerous chap to meet, especially if crippled. I have seen them killed with the ends of both beams broken off, also the ends of all the prongs but one next to head and their bodies scarred as if they had been branded and counter branded and then some more.

In speaking of these two types of deer leads me to recite of another family of deer that I once had dealings with, and allow me further to say that in all my hunting this was the only barren doe that I ever saw. She was, I think, too old to breed, as all of her front teeth were gone and her molars had great long projections like a very old horse occasionally has; but be that as it may, her breast, from the end of breast bone up on her neck above the sticking place, was as black as nay crow's wing, and to this day I've never seen a deer killed in Southern New Jersey that I don't look to see if any of her blood has been transmitted. In some localities, fully 60% of all killed show this mark but none so decided as was the doe above mentioned has ever come under my notion.

It has only been a few years ago that I obtained the knowledge that a fawn shed his little horns the first winter he lived but such is the case. The old saying that the first year (while a yearling) he is a "spike"; second year, a "forked-horn"; third year, a two snag; etc. won't hold good. For I saw two fair sized bucks killed, each was four-snag one bean, three-snag the other that only had two of their permanent

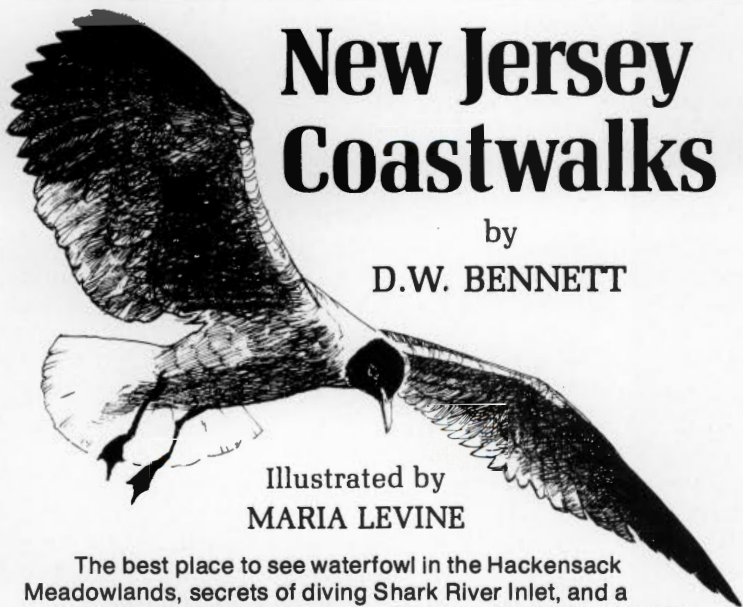
teeth in front and the rest were their milk teeth. Now, if they shed their teeth, as does a cow, I know not, but a cow has all of her permanent teeth in front when she is four years old and cuts her first two (permanent) in front when from 18 months to two years old and these two bucks I just mentioned I would think were two years and a few months old, still they had horns that should belong to a five year old going by points. But it is my belief that horn growth in a deer is all together governed by his physical being, and if individual powers of reproduction are lost, whether by fighting or otherwise, scarcely no horn growth ever occurs again. I have seen large deer killed when their horns nearer resembled a small mass of projections, none larger than 1-1/2 inches but fastened to their heads by as large a base or "button" as if they had been a five-snag.

Horns start to grow with our deer about April 1st, and the rapidity and size is due to physical condition I think for I have seen where two deer have had a terrific fight about the middle of July when by all good and bad their horns should have been the most tender at this time. August, the latter end, and September 1st is the usual time they rub the velvet off and skin up the little pines and cedars, or whatever bushes may be most prominent but they always rub on one devoid of knots, I have observed. But in the rutting season, they will tear down

most any kind of small stuff they happen to be near in a manner to show how they would deal with an adversary. I was once fox hunting in an early fall snow and came across a deer track where he had come into an old road. He had walked up it a few steps and then in short jumps until he met another big fellow coming the opposite way down the road and a bad fight had taken place as the new-fallen snow bore witness by hair and blood. One had finally conquered and chased the other off in another swamp. On going up the road perhaps 50 yards further there had come another out of the same swamp as the combatant and he had torn down three or four ground oaks—just hooked them to ribbons—but he didn't get in this fight. I think he was showing what he might do, but never did arouse sufficient courage to challenge either of the fighters. It was real amusing to see how like some human beings he had acted and judging by hair and blood at the scene of the fight, wisely, too.

The many, many stories and majority of them true, too, that can be told concerning some famous old deer of Southern New Jersey and the seemingly charmed lives they bore and their imperviousness to buckshot make an amusing tale that has helped pass many a long winter evening but not many of them ever live to die of old age, but it must seem so when one has been hunted as was "old Columbus", "Old

Jake," and a few more (one of these deer I'm told, being shot with 29 buck shot in his hide or underneath it beside the ones that killed him, and to then have a mere boy put the load of shot right where they ran into it). But these good old days of dogs and long chases are gone and also the desire to kill that formerly went with it for now we go and stand on "stands" and have human dogs come thrashing about and it's just as much fun to kill a skulking deer as it is to shoot a cow in the barnyard. But 90% of New Jersey deer hunters today never knew the good old days as each year sees more of us old-timers out of life's hunting game for good and I suppose if they never knew any better they are satisfied, but from the bottom of my heart do I pity them, for they will never know what it means to run out of your hat and coat, overshoes and often boots, and in some instances other parts of your apparel that the board of censors might condemn you for, for a distance of three or five miles and then get there just in time to see the dog go over (the deer having long been gone to the river). Then when you went back and collected your clothing, shells and often parts of your gun, if she was in any manner loose, and it was long after dark when you finally got home and had five cows, three horses, pigs etc. to do the work for and a wife to explain things to you swore next time you would kill that varmint and if this spirit prevails, you usually will, too. □



New Jersey Coastwalks

by
D.W. BENNETT

Illustrated by
MARIA LEVINE

The best place to see waterfowl in the Hackensack Meadowlands, secrets of diving Shark River Inlet, and a guide to the walking and beachcombing in Cape May County are three of many subjects covered by the American Littoral Society's just-published book, "New Jersey Coastwalks."

The book is a guide to a dozen spots along the State's coast where a visitor is likely to be rewarded by unusual sights and rewarding observations.

The book covers such diverse habitats as the built-up waterfronts of Hoboken and Jersey City, and the wilder stretches of Sandy Hook, Island Beach State Park, and Corson Inlet.

Each chapter gives a map location, directions, and a summary of the habitat and the wildlife likely to be seen. Included are tips on seasons, hours, where to park, and side trips—the Margate Elephant, Victorian houses, decoy carvers, shipwrecks, and fishing hotspots.

Commenting on publication of the book, Don Abrams, Society president said: "We want to encourage people to get out along the coast, learn how its ecosystems work and what lives there, and we want them to develop a respect for these natural habitats."

"It is especially useful to have such a book in hand as the fall season approaches, the best time to walk the coast and see its beauty," he said.

The Littoral Society is headquartered at Sandy Hook, Highlands, N.J. It is a private non-profit membership organization whose goal is to encourage the study and conservation of marine life. The book, "New Jersey Coastwalks," is available from the Society, \$4.00 postpaid.

Autumn in New Jersey

nature paints its own portrait

On these pages are just some of the portraits nature has painted throughout the state, as best the cameras of some very fine photographers could capture them. If you'd like to see more there's a brochure available which outlines six tour areas which are excellent for viewing colorful fall foliage in New Jersey. The maps and descriptions of the tours include automobile, bicycle, and hikers' routes. For a free copy of the *Fall Foliage Tour* brochure, write to the New Jersey Division of Travel and Tourism, CN 384, Trenton, N.J. 08625.



Autumn Afternoon—photo by James H. Tappen



Great Swamp—photo by Campbell McAlpine



On the Musconetcong—photo by Harry Grosch



Hopkins Pond—photo by Richard Montemurro



Saxton Falls—photo by Thomas Altavilla



White Meadow Lake Runout—photo by David Bast

THE ROAD

the falls through a still primitive wilderness.

About 12 miles northeast is Millbrook, a reconstruction of a tiny village that thrived about 100 years ago at a crossroads. Here are church and store (burned down and built anew), hotel (not operative), blacksmith shop, maple-syrup shed, several 19th-century homes completely furnished with paraphernalia of the time, drying house for fruits and vegetables, and demonstrations of old-time crafts in summer.

From Millbrook The Old Mine Road turns left and goes up a steep hill that made me wonder how the ore carriers could ever have transported their heavy loads up the grade and down the other side on a rutted dirt road. At the foot of the hill, the Road crosses Flat Brook on an old-fashioned bridge and turns sharply to the left (the Old Mine Road is not marked, except for one sign at the New York border). Here was the busy lumbering village of Flatbrookville. Then, five miles farther The Old Mine Road bears left off the paved road to become a potholed lane, unmarked except for a sign reading: "Warning! Road Abandoned. Travel at Your Own Risk!"

Along this leisurely five-mile stretch of the Road I found a well-kept graveyard of bygone times resting in a clearing in the woods. One of the headstones bore a date of 1800, old to me but 150 years later than the building of the Road. Then a few miles farther the forest growth opened up enough for me to take a photo of the Road and its sister thoroughfare, the Delaware River, where the two rubbed elbows at water's edge, just as the hauling Hollanders saw them except for a different set of trees.

Then at Mile 23 I came upon Van Campen's Inn, once the hostelry of famous figures of the past. Shortly after 1750 Isaac Van Campen built his inn that sheltered Count Pulaski during the Revolutionary War, when General Washington sent him to protect The Old Mine Road from British and Indian raiders. And General Horatio Gates was snowed in there for several days with seven regiments in 1776. John Adams traveled The Old Mine Road and stayed at Van Campen's Inn on his way from Massachusetts to attend Congress in Philadelphia. Now Van Campen's Inn stands neglected and lonely, windows boarded up and lacking a wing that was still on the building in 1900.

This section of the Road was the scene of many Indian raids, and as early as 1704 "Yaugh Houses" (rest shelters) had been constructed for the use of ore carriers, settlers, and hunters. Subsequently, a string of forts had to be erected for the protection of settlers.

At Mile 24 the pavement improves, and at Mile 30, The Old Mine Road joins Sussex County Route 521 until Port Jervis, New York. At Mile 35 a sign announces the American Youth Hostel, and a short distance from it stands the home of Nicholas Depue. At Mile 36 I was startled on my recent trip to see a huge excavation far to the left in a field. I drove in and discovered that bulldozers were excavating the "Graveyard of Ancient Homes," as I call it. Here are buried remains of buildings from my



Bell House—1730

former farm a mile farther along the Road, as well as dozens of lovely historical dwellings bulldozed to splinters and rubble by the Army Corps of Engineers to make way for the proposed Tocks Island Dam and the Delaware Water Gap National Recreation Area.

Mile 39: Two miles north of my former farm still stands the Westbrook-Bell house, built around 1730 and home of nine generations of the Bell family but currently occupied by a Park Service ranger. The Bell house, now almost 250 years old, was once part of the Indian village of Minisink, where whites and Indians lived together.

At Mile 41 is the Milford-Montague bridge, for which a fine old colonial inn—The Brick House Hotel, built in 1721—was bulldozed out of the way. Here The Old Mine Road crosses U.S. Route 206, jogs left, then right, and continues up the New Jersey side of the Delaware River.

The scene changes abruptly at Mile 50, where the Road crosses the New York State line, and where stands the only marker for The Old Mine Road along its entire length. At once I felt the marked contrast between the peaceful wilderness environs of The Old Mine Road in New Jersey and the city of Port Jervis, where "civilized" Highway 209 merges with the Old Mine Road to Kingston. Along this 50-mile run the Road speeds through rolling country, but the scenery includes taverns and junkyards, gas stations and a trailer city, golf courses and a local airport, a few old stone houses and many new ranch homes, sawmill and shacks, big industry, farms, and roadside enterprises. And as I drove around a bend I jammed on my brakes when I saw a red glider skimming a few feet over the Road, to belly-land on the grass beside it—a sight that would have been beyond the wildest imaginings of the stolid Dutch wagoners.

At about Mile 100 the Road becomes a superhighway briefly just before it turns off right to Kingston, then through the bustle of the city and straight through and across a high bridge over Rondout Creek. Down below, I saw freight barges and boats at docks, and just across the bridge I saw a sign: "Town of Esopus." I inquired as to possible docking or shipping facilities on the Hudson River at this point but learned that there are none. Any shipping had to be done at river-size Rondout Creek, which flows into the Hudson here, so this must indeed have been the point from which Dutch sailing vessels loaded the ore so laboriously hacked from the copper mine at Pahaquarry and so slowly hauled over hill and through hollow up The Old Mine Road to Esopus three centuries and three decades ago. □

good fishing

be said of these areas except that they are most productive when they are the only structure in the general area.

In some parts of the river small wing dams have been built for a variety of reasons. These wing dams have raised the depth of the river in these areas, thus turning the old streambed into somewhat of a channel. Good examples may be found at Bulls Island and Lambertville. In one case the channel runs along the shore close to the Pennsylvania side; in the other, it runs more toward the middle of the river. In any case, the use of a set of markers will be a great aid in figuring out the puzzle of the channel. The best way that I have found for fishing these is to locate the channel and mark it, then go upstream and drift along these markers, using my trawling motor to keep the boat on the proper drift. It sounds simple and it is just that. I would like to point out that you will find some underwater holes along these channels as well as anywhere in the river and these holes are prime winter fishing spots. When you pick up on one or two fish while drifting over these spots, you should put out a marker and see if there is a hole in the area where you caught the fish. If there is, anchor and give the area a real good going over. Chances are you will take other fish if you can locate one of these holes right on the channel or just off it.

The last type of cold-water spot that I will cover are islands and the water around them. The islands that you will find in the river will most likely have a bar downstream. Whether the bar is covered completely or only partially will depend

on the amount of water that is present in the river at the time. In dry years, most of the bars will be only partly submerged, and will lose their productivity as soon as the water starts to cool down. Unless there is water going over them to create a downstream eddy they will be void of fish until the water comes up again. As a rule, contrary to what takes place during the summer, in winter these are high-water spots, good for walleye. You can drift these spots as you do the others that I have described. You can also fish them directly from the island itself, and in many cases this is the best way to go about it. Some of these islands will also run close to deep water and these are the islands that will be most productive, even in time of low water. Most of these islands you will have to fish from a boat or at least reach by boat. Some will also be accessible by wading from shore as they will have a shallow side as well. These spots are some of the best for walleye and a good many diehard fishermen will fish these spots straight through the winter with good results. One key to keep in mind when fishing these spots is that if there were patches of vegetation around them during the summer, and if they were productive because of this, they will most often *not* be productive once this vegetation is gone with the colder water. However they should be checked once or twice during the year as they will sometimes have other types of structure around them that will hold fish the year round. You will find this especially true when these islands come close to deep water and also when there is a gap between the island and the bar that lies below the island. This gap will allow the water to pass between them and will create a stream of fast water and also an eddy that will offer a stable area in which the fish can get away from the

current. During times of high water, this is a common occurrence and such an eddy is a prime spot to keep in mind.

I will end this essay with some general tips on gear and on how to stay warm and dry during the cold-water season. First, about clothing. Insulated waders or boots, hooded sweater, down vest or jacket, and gloves with the first three fingers on your casting hand cut off (to allow you to cast easier and feel the line better) are necessities. Clothes should be worn in layers so that you can take some of them off if it starts to get too warm. If you intend to wade, a sterns-type life jacket or vest will serve you as a life saving device and most will also double as insulation against the cold. Some newer coats and jackets made for this type of fishing have built-in flotation for this purpose and are well worth the money if you do a lot of cold-water fishing. A good rule to remember is "cold-water can kill"—so safety is a very important factor during this time of year, because even the best of swimmers are no match for the frigid water. Chapstick and lotion are good aids to have on hand when fishing as well as after you are done. A small camp stove and a hot drink of coffee, tea, or hot chocolate can be mighty welcome on the cold, wind-whipped days of winter, early spring and late fall. Some old tarps can be used to block the cold winds, if you have a good spot that does not have any natural cover. Any way that you can find to block the wind and keep the chill factor down is a big plus. One last thought before we leave you is that if you can keep from sweating or getting wet you will have less trouble keeping warm. I hope that I have helped persuade you not to hang up those rods during the cold-water season and that I will see some of you on the river this winter. Good fishing and stay warm! □

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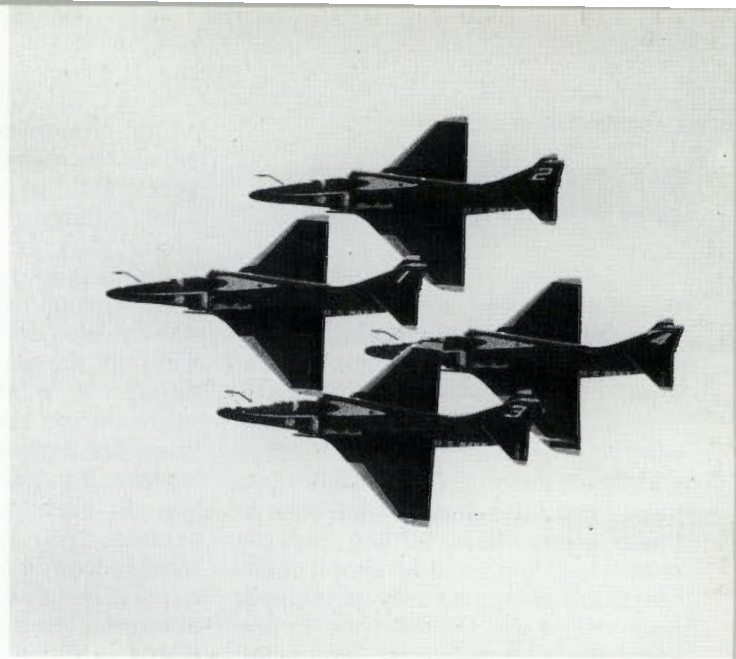
strate their skills?

Professionals always return. It took eight years, but the "Angels" came back to perform at Lakehurst Naval Electronic Command, New Jersey, on Memorial Day weekend, May 23-24, 1981. The weather was perfect for both "Angels" and spectators. Six spit-shined Skyhawks sat in line on the runway. Other stunt flying demonstrations were held. Parachutists bailed out of military aircraft. But, all the anticipation of 150,000 spectators was focused upon one event—the upcoming performance of the "Blue Angels." What makes the "Angels" so special anyway? Why do people travel from all over to watch them? Well, let's look at the credentials of some team members; then, maybe we can understand.

Desire? Yes, that's one of the prerequisites for becoming an "Angel." All team pilots are volunteers who come from the myriad of naval aviators (Navy or Marines) who have compiled at least 1500 hours in tactical jet aircraft. Competition? Yes, that's there too, because only seven pilots can be "Angels" at any one time. The race to be accepted for the two or three openings that arise every year is keen. Eligible applicants are invited to spend time with the team to become familiar with their purpose and lifestyle. But, final selection comes from within the team itself—yes, those departing have a say in deciding who replaces them. Quite a screening procedure for a two year tour of duty! For the record, the average age of an "Angel" is 33 and each has served at least one tour of duty aboard an aircraft carrier at sea or at land-based station.

Commander Denny Wisely (a native of New Jersey), who is Flight Leader flying plane #1, represents a good example of the qualifications of a "Blue Angel." The Commander had two tours of duty in the Vietnam conflict, where he shot down two enemy aircraft while flying from the carrier USS *Kittyhawk*. Do two Distinguished Flying Crosses, 29 Air Medals, six Navy Commendations, the Purple Heart, and numerous other decorations give the reader a clue as to the caliber of members of the "Blue Angels"?

Other team pilots have credentials just as impressive. Major Tim Dineen, USMC, flies plane #2 on Right Wing; while Lieutenant Bob Stephans, USN, flies plane #3 on Left Wing. Lieutenant Commander Jim Horsley, USN, flies plane #4 in the Slot position. Lieu-



Planes # 1-4 execute the DIAMOND TAKEOFF. The planes takeoff, climb to an altitude of 4,000 feet, then circle back over the field. Here they are shown during the flyback over Lakehurst.

tenant Commander Jack Ekl, USN, pilots plane #5 in the Lead Solo assignment; Lieutenant Commander Stu Powrie, USN, guides plane #6 in the Opposing Solo position. Not to be omitted is Lieutenant Kevin Miller, USN, pilot of plane #7, who is the team's Narrator. He and his crew chief precede the squadron a day before the show to ensure that all preparations are up to par. It would also be remiss not to mention the team's maintenance crew and support personnel who help the team function as a team!

The accompanying photographs show the "Blue Angels" as they appeared at Lakehurst in 1981. Fully describing the team's complete repertoire is far beyond the scope of this article—they can perform up to 27 different aerial maneuvers.

Professionals always come back! This year the "Blue Angels" reappeared at Lakehurst and their performance defined the word *professional*. The demonstration was flawless, beautiful, and awesome, simply leaving most spectators speechless. Most onlookers agreed that these pilots have something different in their veins from most of us. If I were in one of the aircraft, the something different in my blood would have been tranquilizers!

With luck, it won't be eight years before we New Jerseyans get the opportunity to see the "Blue Angels" perform again. □

FRONT COVER

Night Journey of Atlantic Brant—Photographed by William D. Griffin

INSIDE BACK COVER

White-Tailed Buck—Photographed by Leonard Lee Rue III



