

New Jersey  
**Outdoors**

---

15TH ANNIVERSARY ISSUE

---

# New Jersey Outdoors

- 2 New Jersey's Scenic Landscapes • *Introduction to 15th Anniversary Issue*
- 12 The Jersey Coast • *From Old Lighthouses to New Artificial Reefs*
- 24 Nature's Mysteries/Beauties of the Changing Seasons • *Country Road Vignettes, A State for All Seasons*
- 30 Outdoors Recreation in New Jersey • *A Broad Spectrum of Recreational Opportunities*
- 36 New Jersey's Wildlife • *Abundant and Varied/Outdoors Classrooms*
- 43 New Jersey's Wildlife Check-off
- 44 Porcupine/Wildlife in New Jersey

## DEPARTMENTS

Calendar of Events—Inside protective cover

### Front Cover

Sunset on the Jersey Shore. Photograph by Walter Choroszewski

### Inside Back Cover

Porcupine. Painting by Carol Decker

### Back Cover

Winter Scene, High Point State Park. Photograph by Gene Ahrens

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

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

*New Jersey Outdoors* (USPS 380-520) is published bi-monthly (six times a year) by the N.J. Department of Environmental Protection. Second-class postage is paid at Trenton, N.J. and additional mailing offices. Subscriptions are \$6.50 for one year, \$11.95 for two years, and \$15.95 for three years payable by check or money order to New Jersey Outdoors Mailing Office, CN 402, Trenton, N.J. 08625. Single copies, if available, cost \$1.95. POSTMASTER: Send address changes to *New Jersey Outdoors* mailing office. Send old and new addresses and the zip code numbers. The Post Office will not forward copies unless forwarding postage is provided by the subscriber. Allow eight weeks for new subscriptions and change of address to take effect. *New Jersey Outdoors* welcomes photographs and articles, but will not be responsible for loss or damage. Permission granted to reprint with credit to *New Jersey Outdoors*. Telephone: Circulation (609) 530-5772; Editor's Office, (609) 292-2477 or 633-2102. Toll free number, 1-800-345-8112 for subscription information.



## State of New Jersey

Thomas H. Kean  
Governor

## Department of Environmental Protection

Richard T. Dewling  
Commissioner

## Communications and Public Education

Regina Desvernine, Director

Howard J. Wolf, Deputy Director  
CN 402, Trenton, NJ 08625  
Telephone: (609) 633-2103

## New Jersey Outdoors Magazine Staff

Steve Perrone  
Editor

Circulation  
Jackie Fisher  
Margaret Scott

Art Director  
John Mocerri

Graphic Design  
Paul J. Kraml

Production Coordinator  
Joyce M. Albanezi

Student Assistant  
Karl Sperling

## Editorial Advisory Board

Jacqueline Berke  
Charles Coffin  
John T. Cunningham  
Patricia Haughey  
Gene Hill  
Robert Lick  
Scott McGonigle  
Jim Nayor  
Karen Reeds  
Richard J. Sullivan

## NEW JERSEY OUTDOORS CREDO

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

# Guest Editorial



Henry David Thoreau had his beloved Walden Pond, and I have my woods. My woods stretch from my back door. They are my haven, and I walk through them to collect my thoughts.

I admire Thoreau, an environmentalist long before the word was contemplated. He revered the outdoors, once saying, "I went to the woods because I wished to . . . (con)front only the essential facts of life, and see if I could not learn what (the woods) had to teach, and not, when I came to die, discover that I had not lived."

These days my walks bring me round and round again to the conviction that we must be ever vigilant in protecting the trees, shores and meadows of our Garden State. Our state has become as irresistible to outsiders as a glass of water to a thirsty man. Unlike in the seventies, more people are moving into New Jersey than moving out.

While this growth enriches municipal and state coffers, it nonetheless threatens the copses, coves and fields that refresh us and renew our spirits and bodies. I worry about that.

We have faced this problem since I was a young legislator. Back then, developers wanted to build at Sun Fish Pond. I am proud to have led the fight to preserve that quiet retreat.

Since I became Governor, we have had further success. We have added 73,000 acres to New Jersey's public lands. We've added 4,600 acres for

waterfowl through our duck stamp program, passed a strong wetlands preservation bill and announced the creation of the first state park, Long Pond Ironworks State Park, in 15 years. We have also created the New Jersey Council on the Outdoors to help us develop future policies.

We are not finished. The 1983 bond act enabled us to create the revolving loan fund Green Trust to pay for further acquisitions. The November passage of the Green Acres, Cultural Center and Historic Preservation Bond Act will provide \$100 million to add to this. Even this money, though, is not enough. That is why I continue to press for the Natural Resources Preservation and Trust bill.

The pressure to develop will intensify in the next decade. Quite simply, our outdoors are the last frontier for thousands looking to leave crowded streets and noisy cities. Development must come, but it must not also disturb our pastoral splendor. We will work to preserve and conserve the natural beauty conferred upon us.

Thoreau once said, "I love a broad margin to my life." In New Jersey the Kittatinny Mountains, the Pine Barrens and our other natural resources give us that broad margin. We must make sure that our children have that same margin for themselves.

Thomas H. Kean  
Governor

# In this Issue



## From the Editor

This Special 15th Anniversary Issue tries to capture with many photographs and some text the essence of our state.

On page 11, we used a short essay by Carol Nash, Division of Fish, Game & Wildlife.

In the Jersey Coast section, Tom Laverty, Curator at Twin Lights Historic Site, and Bill Vibbert, Superintendent of Cheesequake State Park, contributed an article titled, *New Jersey Lighthouse Firsts*.

The Division of Fish, Game & Wildlife's Nacote Creek Research Station sent us a short article titled, *Home of the Artificial Reef*.

A frequent contributor, Al Peinecke, is the author of *Country Road Vignettes* on pages 24 to 29.

Fifth grade teacher and author, Gus Cazzola, writes about *Snow Geese and Other Critters*.

Our Wildlife in New Jersey article is *The Porcupine* by Paul Tarlowe.

# New Jersey's Scenic Landscapes

GREG JOHNSON

by Steve Perrone

**T**

his 15th anniversary issue of **New Jersey Outdoors** explores with photographs and a minimum of text what New Jersey is and how it is viewed by our contributors and all New Jerseyans who love the outdoors.



America the  
Beautiful  
only smaller

*View of High Point*

# *New Jersey's Scenic Landscapes*

**N**ew Jersey's Scenic Landscapes do justice to the term "America the Beautiful, only smaller." Notwithstanding our scale, the state of New Jersey, its counties and municipalities own over 650,000 acres of open space, an area larger than any of New Jersey's 21 counties.

The New Jersey Coast—from old lighthouses to new artificial reefs offers something for everyone—from our historical past to new techniques providing productive fish habitats for our marine anglers.

Nature's Mysteries abound in New Jersey. The beauties of the changing seasons are always with us. Travel the country roads and

enjoy this state for all seasons. Colorful, sometimes pristine, but everchanging.

Outdoors Recreation in New Jersey is always close at hand in our small state. Take your choice of a variety of offerings illustrated in this issue.

New Jersey's Wildlife—Abundant and Varied, plus some other critters. This pictorial depicts our wildlife in the outdoors captured on film by New Jersey photographers. And photographed in the field are outdoor schoolrooms for the other critters—curious, interested and animated school children learning about natural resources and environmental education. New Jersey is all these things ... and more.



DAVID EAST

*Seasonal patterns*



The scenic landscapes of our small state contain over 300,000 acres of State Parks, placing fifth in the nation in state-owned parkland.

GREG JOHNSON

*New Jersey's Scenic Landscapes*



*Ringwood in the winter*

**N**ew Jersey was the first state to protect its segment of the Appalachian Trail by placing it entirely in public ownership in 1982.

The number of visitors at state parks and forests has risen from 4.9 million in 1978 to 9.5 million in 1987.



*Cheesequake pavillion*

*Delaware Water Gap*



WALTER CHOROSZEWSKI

# *New Jersey's Scenic Landscapes*



**N**ew Jersey Historic Sites reflect our rich and proud heritage. The state owns 20 historic house museums, seven museum villages, three first order lighthouses, two revolutionary battlefields and one fort.

DAN LANG

*Ski tracks to Batsto Mansion*

BILL GRIFFITH

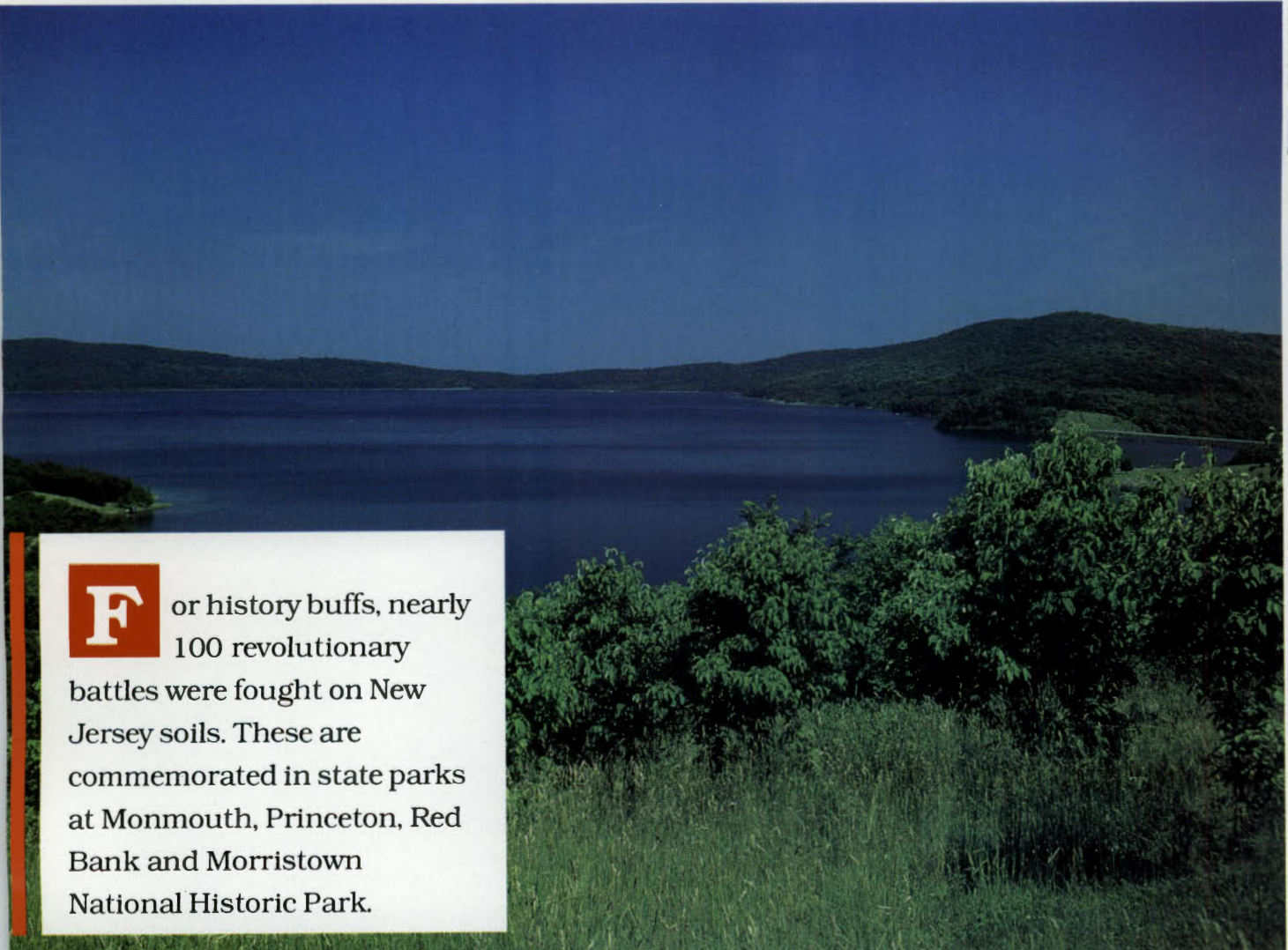


*Colonial riflemen at Jockey Hollow*



DAVID BAST

*Van Campen Glen*




GREG JOHNSON

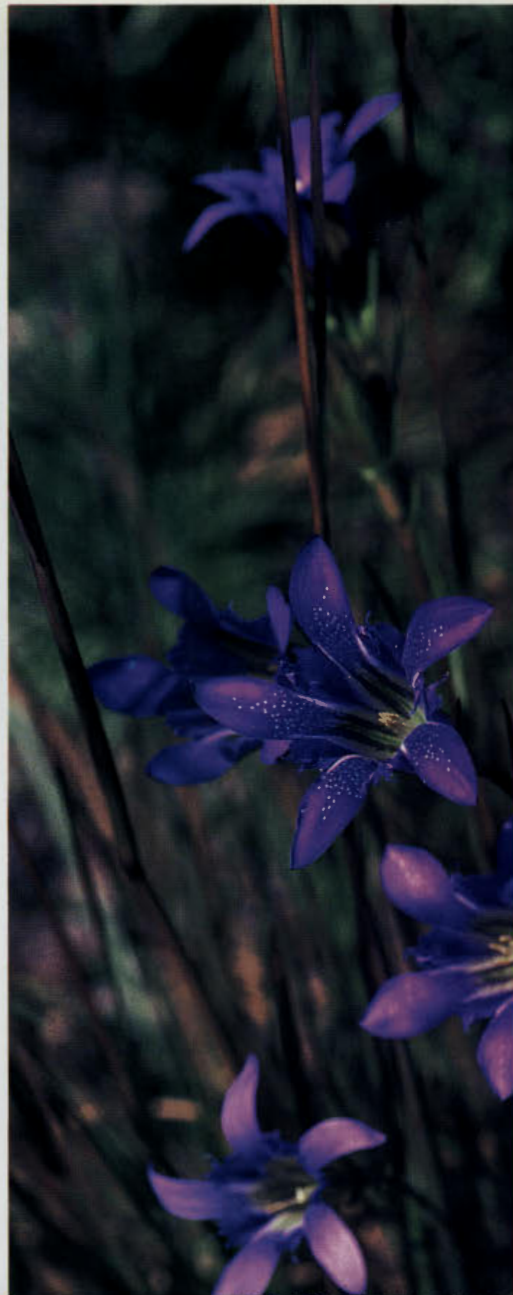
**F**or history buffs, nearly 100 revolutionary battles were fought on New Jersey soils. These are commemorated in state parks at Monmouth, Princeton, Red Bank and Morristown National Historic Park.

# New Jersey's Scenic Landscapes

Lily Pond at Chatsworth

**F**orty percent of New Jersey is forested.

Over 388,000 acres are in state-owned forest lands. The largest, Wharton State Forest, is a part of the 1.1 million-acre Pinelands National Preserve, which sits over 17 trillion gallons of pure water, enough to cover the state with about 10 feet of water. 




by Carol C. Nash

**W**e all have a favorite place and, for me, that place is the Pine Barrens. I love to spend as much time as possible in this wilderness area of our state. There is nothing like gliding silently by canoe on one of the pineland rivers hoping to catch a glimpse of wildlife, especially one of the many endangered species that lives there . . .

Or to discover a pitcher plant in bloom (one of the three carnivorous species of plants found in the pines). A short canoe trip of three or four hours is enough to renew your spirit.

Take your camera in hand and set out for a short hike into the woods. Seek out that extra special "shot" that you hope will win a ribbon at the next camera club competition.

Take some time off and "Do It in the Pines." 



Canoeing in the pines

CORNELIUS HOGENBIRK

Purple Gentian

# The Jersey Coast

from Old Lighthouses  
to New  
Artificial Reefs



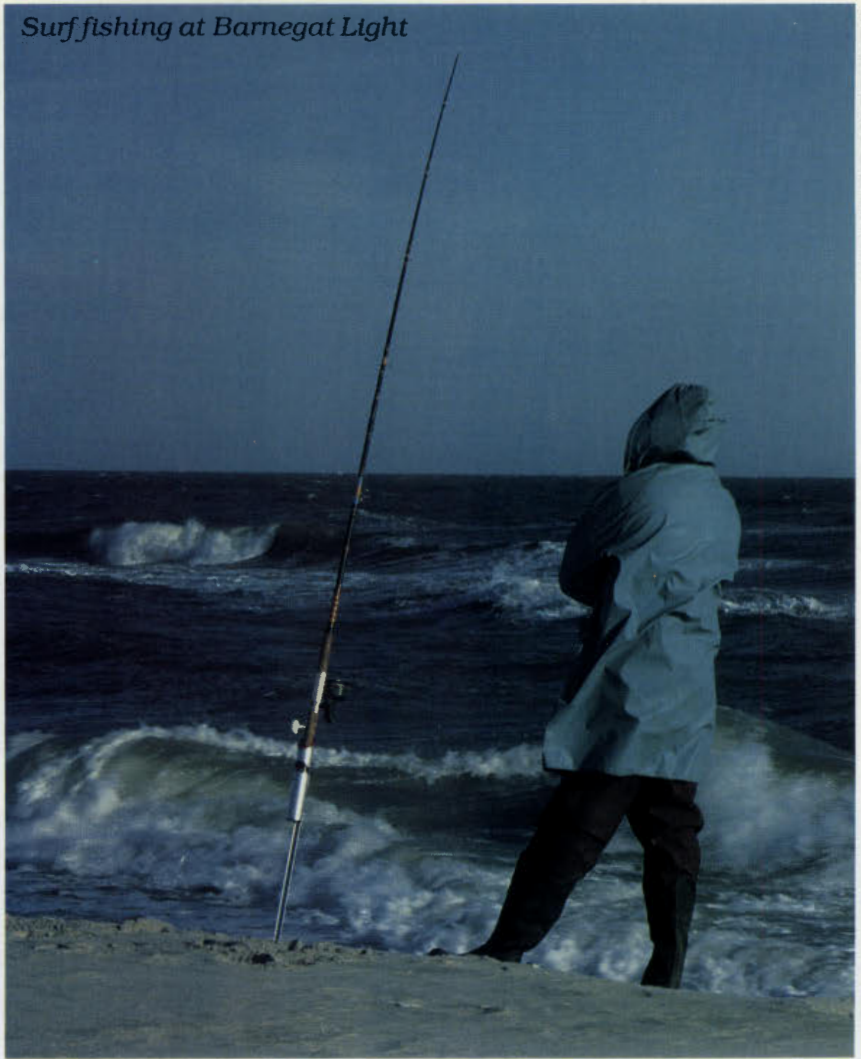
he Jersey Coast ...  
Our ocean coastline stretches 127 miles from Sandy Hook in the north to Cape May at the southern tip. Bathing beaches, marinas, bays, inlets and coastal marshes are found along the entire coast.

*October beach at Sandy Hook*

CORNELIUS HOGENBIRK



*Surf fishing at Barnegat Light*



CORNELIUS HOGENBIRK

*Walkers at 7 Presidents Park*



WALTER CHOROSZEWSKI

*Bathers at the Jersey Shore*



WALTER CHOROSZEWSKI

# The Jersey Coast

MICHAEL BATOFF



*Surfers at Harvey Cedars*



*Ship Bottom sunset*

CORNELIUS HOGENBIRK

**O**ver 200 species of fish inhabit our bays, the surf, and offshore waters. About a million and a quarter recreational saltwater anglers spend over 600 million dollars annually in New Jersey.

The sea clams landed in New Jersey each year make up a quarter of the world's commercial catch. The total value of the commercial fishing industry exceeds 500 million dollars per year.



*Island Beach State Park*

BILL VIBBERT



*Commercial Fishing Boats at Cape May*

# The Jersey Coast

BILL GRIFFITH



*Common tern nesting*

**T**he New Jersey coast is one of the most important wintering areas for black ducks along the Atlantic Flyway. Approximately one-third of the total flock (about 74,000 of 220,000) spend some time on the salt marshes from Little Egg Harbor to Cape May on the Atlantic Coast and from Cape May to Salem on Delaware Bay. 



*Surfer in a wave*

CORNELIUS HOGENBIRK

*Catamarans*



*New Jersey Coast*

# *New Jersey* Lighthouse Firsts

*by Tom Laverty and Bill Vibbert*

**I**n the 18th and 19th centuries, shipping was the economic lifeline of the new nation. The ability of a mariner to identify landfalls was of critical importance and many shipwrecks attest to the uncertainty of navigation with compass and sextant.

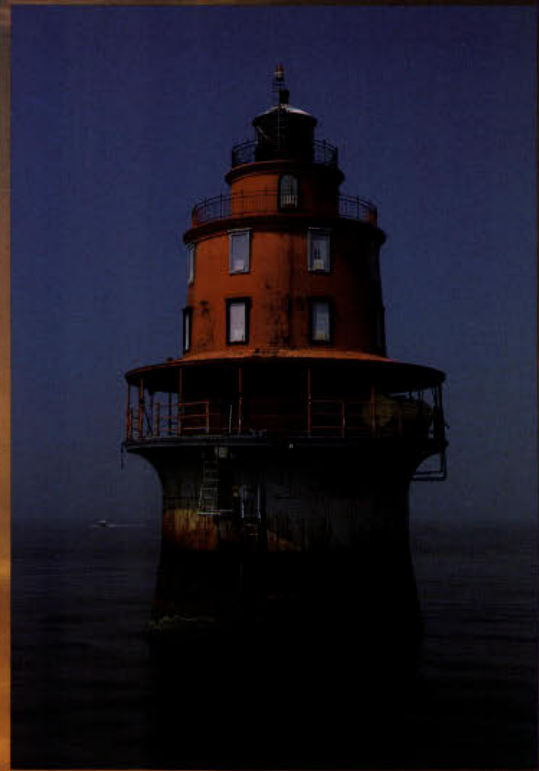
Improvement in lighthouse technology was a national priority aimed at reducing loss of life and property along the coast. Of the many breakthroughs, most took place in New Jersey.

Twin Lights on the Navesink Highlands was the primary seacoast light guiding ships into New York Harbor and has more firsts to its credit than any lighthouse in America. In 1841, Twin Lights became the first in the New World to

*Barnegat Light*



BILL VIBBERT



*Miah Maull*

BILL VIBBERT



*Ambrose Light*

# The Jersey Coast

use the revolutionary new lens developed by French physicist Augustin Fresnel. Commodore Matthew C. Perry was sent to France to purchase this new lens which concentrated the light source into a narrow beam. Eventually, nearly all lenses in the United States used Fresnel lenses, many of which are still in use today.

Twin Lights was also the first seacoast light to use kerosene, a great improvement over whale oil or cotton-seed oil previously used. In 1898, a huge hyper-radiant lens was brought to Twin Lights from Paris and placed in the South tower where for many years it was the most powerful light in the US and the first to use electricity. At 25,000,000 candle power, the glooming of the light was reported visible from 70 miles at sea.

In 1898, a young Italian inventor named Guglielmo Marconi was invited to America by the New York Herald newspaper to report on the America's Cup Races and to prove to the world that messages could be sent without wires from a ship at sea to a receiver on land. A receiving station was erected by Marconi at Twin Lights and the successful demonstration of the "wireless" or radio made Marconi a national hero.

Other New Jersey lighthouses boast firsts. Sandy Hook light is the oldest working lighthouse in the country and has been in continuous operation since 1764. Sandy Hook also had the first siren fog signal installed at its east beacon in 1868. The Sandy Hook Lightship, established in 1823, was the first lightship to be located outside protected waters in the ocean. Ambrose Lightship replaced the Sandy Hook Lightship in 1908, and in 1967 the Ambrose was replaced by a modern "Texas Tower" platform located at the entrance to New York Harbor.


Further down the coast at Sea Girt, the first radio fog beacon was installed in 1921. A ship approaching New York Harbor could

determine its position by crossing radio beacons from Sea Girt with similar signals from Ambrose and Fire Island Lightships.

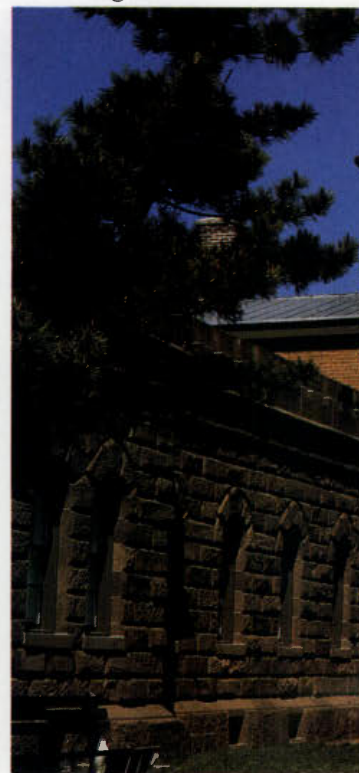
Barnegat, probably the most famous of New Jersey's Lighthouses, and Absecon in Atlantic City, were both built by Lt. George Meade, who also invented a multiple wick mechanism in 1853. Meade, a member of the Corps of Topographical Engineers, later became famous as the General who led the Union Army at Gettysburg. Absecon Lighthouse was completed in 1857 and Barnegat in 1859.

The shipping channel up the Delaware Bay to Camden and Philadelphia posed difficult engineering obstacles of moving ice, soft bottom, and severe sea conditions. Brandywine Shoal Light, built in 1850, was the first screw pile lighthouse in the country. Large bladed screws were attached to the end of the piles which supported the lighthouse. By turning the pile, the blade would screw into the soft bottom of the bay.

A more successful design for the Delaware Bay was the concrete caisson first used at the Fourteen Foot Bank lighthouse (on the Delaware side of the channel) in 1886. The caisson was made by floating a cast iron cylinder to the proposed lighthouse site. The cylinder was then lowered to the bay bottom where gangs of workers dug around the perimeter in an air lock allowing the caisson to sink into the soft bottom. The cylinder was then filled with concrete and a lighthouse built on top. Brandywine Shoal, Fourteen Foot Bank, Miah Maull, Cross Ledge, and Ship John Shoal are still guiding ships into one of the nation's busiest ports.

Today, many of New Jersey's lighthouses serve a dual role. Through preservation and restoration efforts by government as well as friend's groups, lighthouses have become the focal point in rediscovering New Jersey's rich maritime past. 

Twin Lights

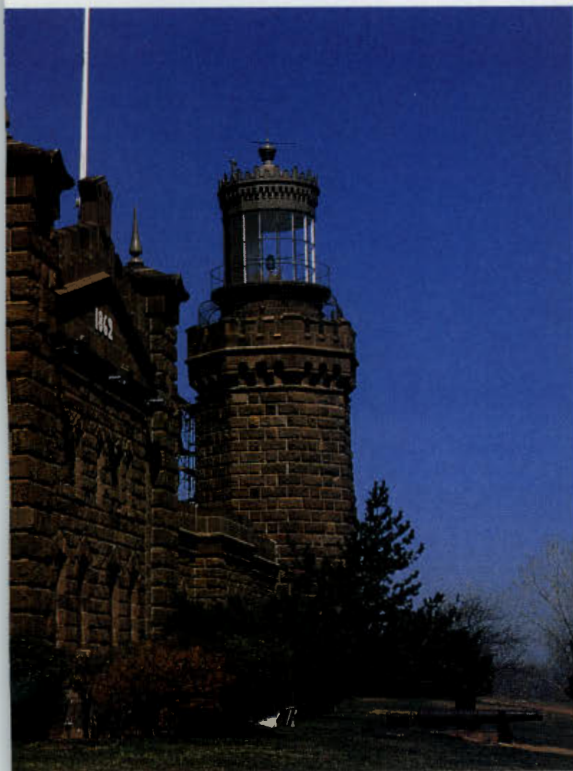


BILL VIBBERT



*Ship John Shoal*


*Brandywine Light*

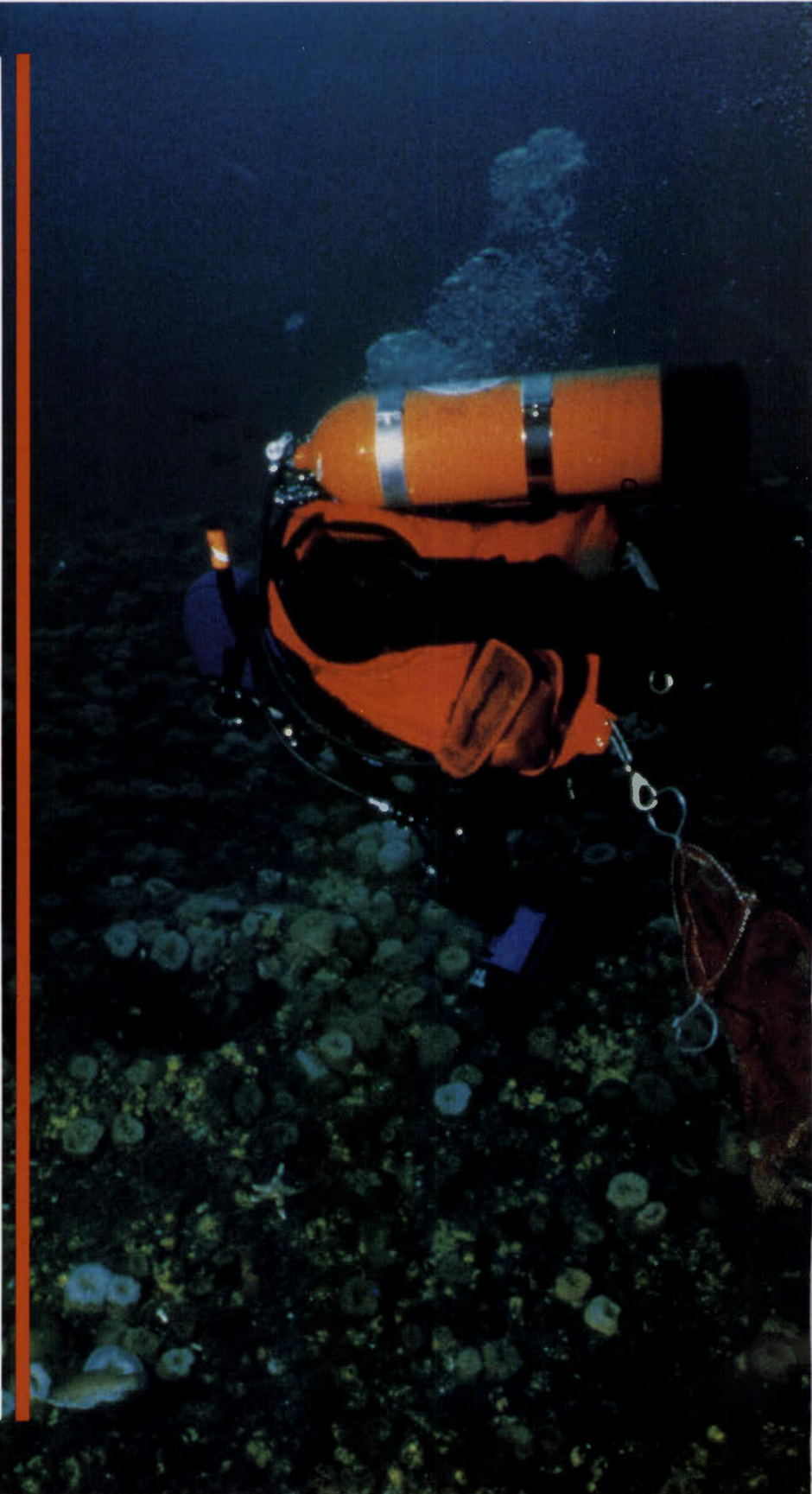


BILL VIBBERT



## The Jersey Coast

**S**ince 1984, DEP's Division of Fish, Game and Wildlife has been sinking ships. To date, 24 vessels now form seven artificial reef sites located along the New Jersey coast. Once on the sea floor, these wrecks provide new homes for marine fish and shellfish, improved fishing grounds for sport and commercial fishermen and recreational underwater structures for scuba divers. Prior to sinking, the vessels are cleaned of floatable debris, their engines and fuel tanks are removed or drained and holes are cut through all watertight bulkheads. After the long tow to the reef sites, the vessels are anchored in position and then sunk either with explosives or by opening sea cocks and flooding. Within days of hitting the bottom, sea bass, tautog, ling and lobsters move in and a carpet of barnacles, mussels and tube worms begins to coat the hull. 



New Jersey Outdoors is ...

# Home of the Artificial Reef

*Top Left: The 165-foot World War II freighter, the Pauline Marie, rolls onto her starboard side before sinking to the bottom of the Atlantic City Reef. The vessel now rests in 90 feet of water and is covered with a rich carpet of blue mussels.*

*Left: A scuba diver combs a wreck in search of "bugs" (lobsters) on a day of exceptional water clarity for New Jersey*

*Bottom Left: Tautog and cunner swarm over an artificial reef. Reef structures provide fish with shelter from currents, hiding places from predators and a growth of encrusting organisms for food.*

*Bottom Right: After an initial set of quick-to-colonize organisms, such as barnacles, hydroids, mussels and tube worms encrust the surface of reef materials, sea anemones and starfish move in. The sea anemone, Metridium, is a beautiful plant-like animal that captures planktonic animals with the stinging cells of its tentacles.*

**For details on New Jersey's artificial reefs contact:**

Nacote Creek Research Station  
New Jersey Division of Fish,  
Game and Wildlife,  
Star Route,  
Absecon, NJ 08201



HERB SEGARS



HERB SEGARS

*by Al Peinecke*

**O**urs is a country road, bowered by ancient maples and bordered by pastures, cornfields, and woodlots, fringed with stone walls, and barbed wire fences strung on weathered cedar posts. The road passes through an easy valley in Northwest New Jersey, while on one flank, a modest mountain range keeps watch on the scene below.

Like dabs of color on an artist's palette, each day builds a colorful segment of the week, weeks fashion months, which melt into seasons, and ultimately, the year . . . and never are any two alike.

*Mums and other greenery*

# Nature's Mysteries/ Beauties of the Changing Seasons

## Country Road Vignettes

*Lisa in a Vernon field*

**S**pring  
Sometimes spring seems to have an uncertain future as winter lingers to the point of desperation. But one evening in March, if you frequent the right place, you will witness the almost mystical courtship flight of the male woodcock, wings whistling, as he repeatedly spirals skyward from the same spot in some favored brushy field until lost in the gloaming, only to make an abrupt descent, with a twittering sound characteristic of his ritual, and resume his nasal "peent," "peent," while on the ground. This routine is repeated interminably, and we leave as the chill envelops the scene and darkness descends.

Suddenly, one day, the south wind brings a really warm spell. At dusk, the nearby meadow is filled with the cheery sound of peepers, and we marvel that such small frogs are capable of such a big sound. We anticipate robins in the neighboring pasture the next morning.

With the advent of April, the strident staccato series of the flicker's call sounds from the patriarch of oaks, as he proclaims his nesting territory. May brings myriad songbirds, along with a burgeoning insect population . . . and apple blossoms . . . and orioles.



# Nature's Mysteries





AL PEINECKE



MIKE NEWMAN

*Cranberry harvest*

**S**ummer  
June sees the trees in full foliage, and the gardens begin to show promise. By July, the field corn is better than knee-high, while in the garden, the battle with the weeds has been joined. Overhead, the red-tailed hawk soars and intermittently screams his dominance of the sky while we pursue our earthy tasks. The tasks include the harvesting of crops. Agriculture in New Jersey is worth 600 million dollars in cash receipts. Our blueberry harvest is number two in the USA and is worth 23 million dollars. Our cranberry harvest ranks 3rd in the nation and is worth 18 million dollars. And there are more horse farms in New Jersey than there are in Kentucky.

Summer comes to a full boil as August arrives. The night air is filled with the rhythmic cadence of cicadas, persistently punctuated by the calls of katydids, as a misty moon rides over the meadow.

In the distance a hound bays, as the scent of some furry night-runner wafts into his bailiwick.

**A**utumn  
Often almost imperceptibly, autumn arrives, and as the "Hunter's Moon" rides the sky, the frosty hush is broken by the honking of Canada geese winging their way southward, while from the maze of a nearby overgrown field, we hear the raspy "bark" of the red fox pursuing its quarry . . . a suitable scenario to precede the final chapter of the year's night sounds along a country road.

It is Indian summer, and squadrons of blackbirds arrive, wheel, alight, and depart from the treetops and tasseled cornstalks as if on command. One day toward the end of November, the sky becomes very dark, while the chill wind drives sporadic snowflakes before it . . . and we sense that winter waits in the wings.

*Nature's Mysteries*





Winter picture postcard

**W**inter Orion, "The Hunter," tracks his way through the myriad stars and constellations sprinkled over the velvet-black January sky as we take the Brittany spaniel out for her last "duty walk" of the day. The stillness is interrupted as the great horned owl hoots for his February bride-to-be, and we conclude that such frigid courtship is best left to the "Great Hooter."

In the morning, the chain saws drone as they clear the edges of the fields and convert unwanted trees into firewood. Inevitably, winter snows arrive, and the crescendo of the snow plow peaks as it rumbles past the house, then fades into the distance.

**O**bservations We have visiting walkers, joggers, bicycle and horseback riders, many of whom seem to have "adopted" our country road. Their varied activities and colorful attire add interest to the theater of the country road.

Explore a country road on foot, by bicycle, or on horseback. The slower pace will afford a new perspective, and will offer the opportunity to capture the nuances of the road's changing moods . . . and lend a welcome contrast to today's frenetic pace. 



# Outdoors Recreation in New Jersey

*Hot air balloons at  
Burlington County  
Airport*

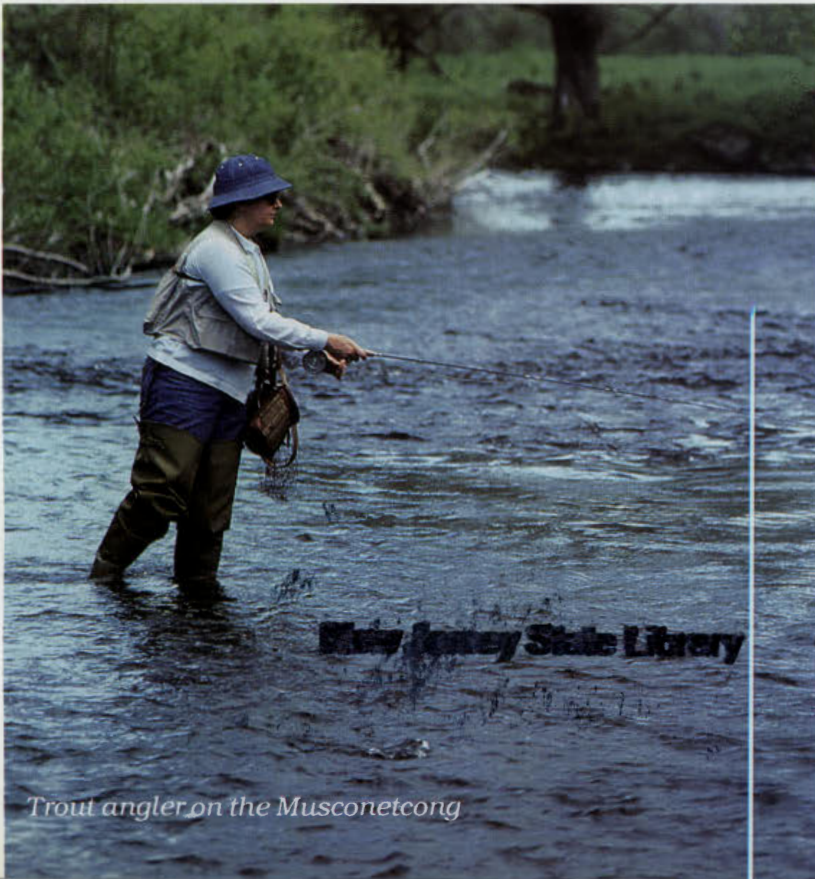
*Hunter with dogs*



*White water kayaking on Jersey side of the Delaware River*

DAVID CAMPIONE

ALLEN EASTBY



*Trout angler on the Musconetcong*

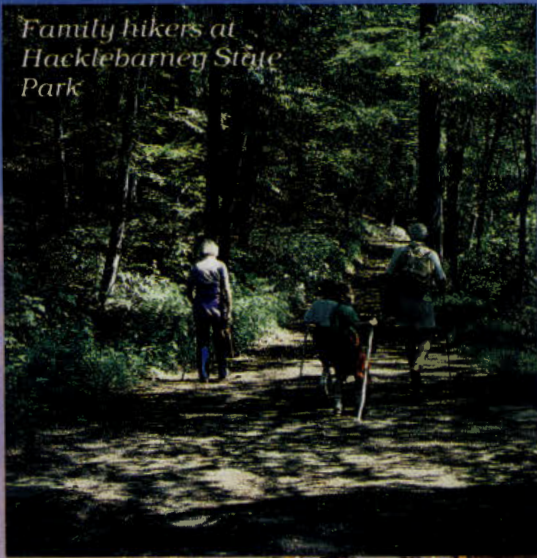
**T**he changing seasons provide a variety of outdoors recreational opportunities: cross-country skiing in the northwestern areas of our state; bathing at the shore and our many lakes; hiking, bike riding, sailing, birdwatching, golfing and canoeing.

Our municipal parks highlight some of the state's historic past and provide local spots for picnicking, tennis, and ball playing. Some of our

Family hikers at  
Hacklebarney State  
Park

GREG JOHNSON

## Outdoors Recreation



county parks provide top-rated golf courses, while state parks, forests, and wildlife management areas offer a broad spectrum of recreational activities including hunting and fishing areas and cross-country skiing, to mention only a few.

What do you want to do today?

That question has many answers in New Jersey. No matter the season, recreation is near at hand.

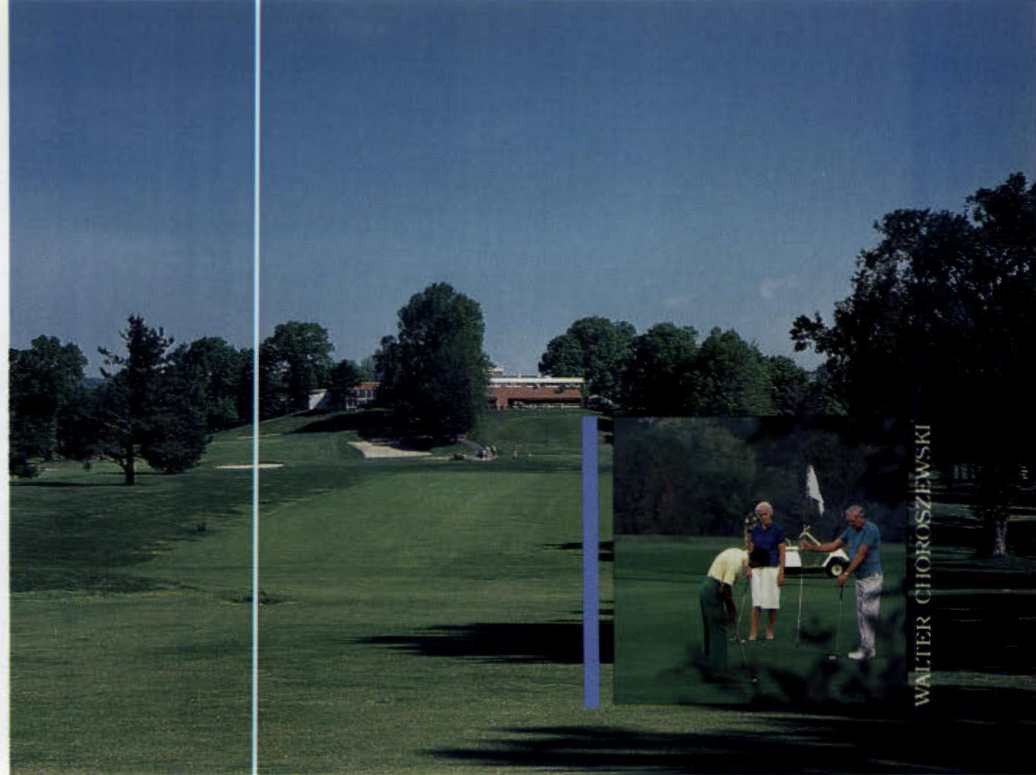


*White Meadow Lake*

DAVID BAST



Lake Hopatcong Ice fisherman with catch of Yellow Perch

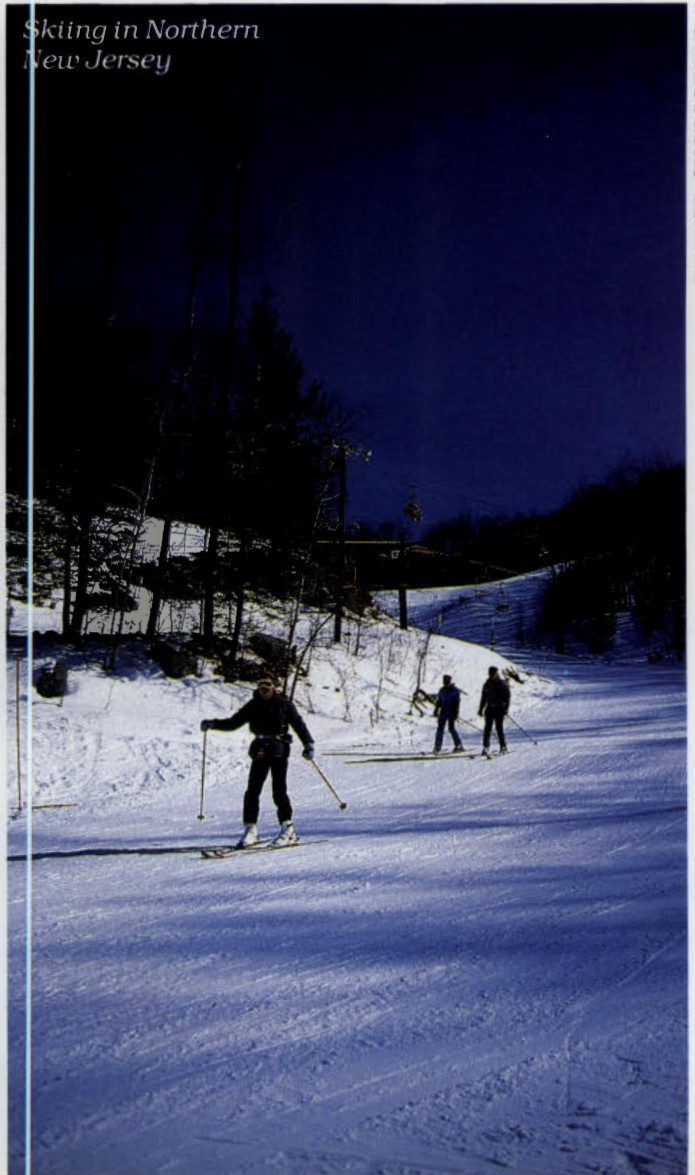


WALTER CHOROSZEWSKI

Sailboarding at Swartswood State Park



Skiing in Northern New Jersey




WALTER CHOROSZEWSKI

# Outdoors Recreation

WALTER CHOROSZEWSKI



*Ice boating*

For those that like to fish and hunt, there are more than 800 lakes and ponds, more than 100 rivers and creeks and more than 1,400 miles of trout streams. There are miles of ski trails and hiking trails. We have approximately 210 golf courses in New Jersey. 



*Party boat  
Heading Out for night  
bluefishing at  
Barnegat Inlet*

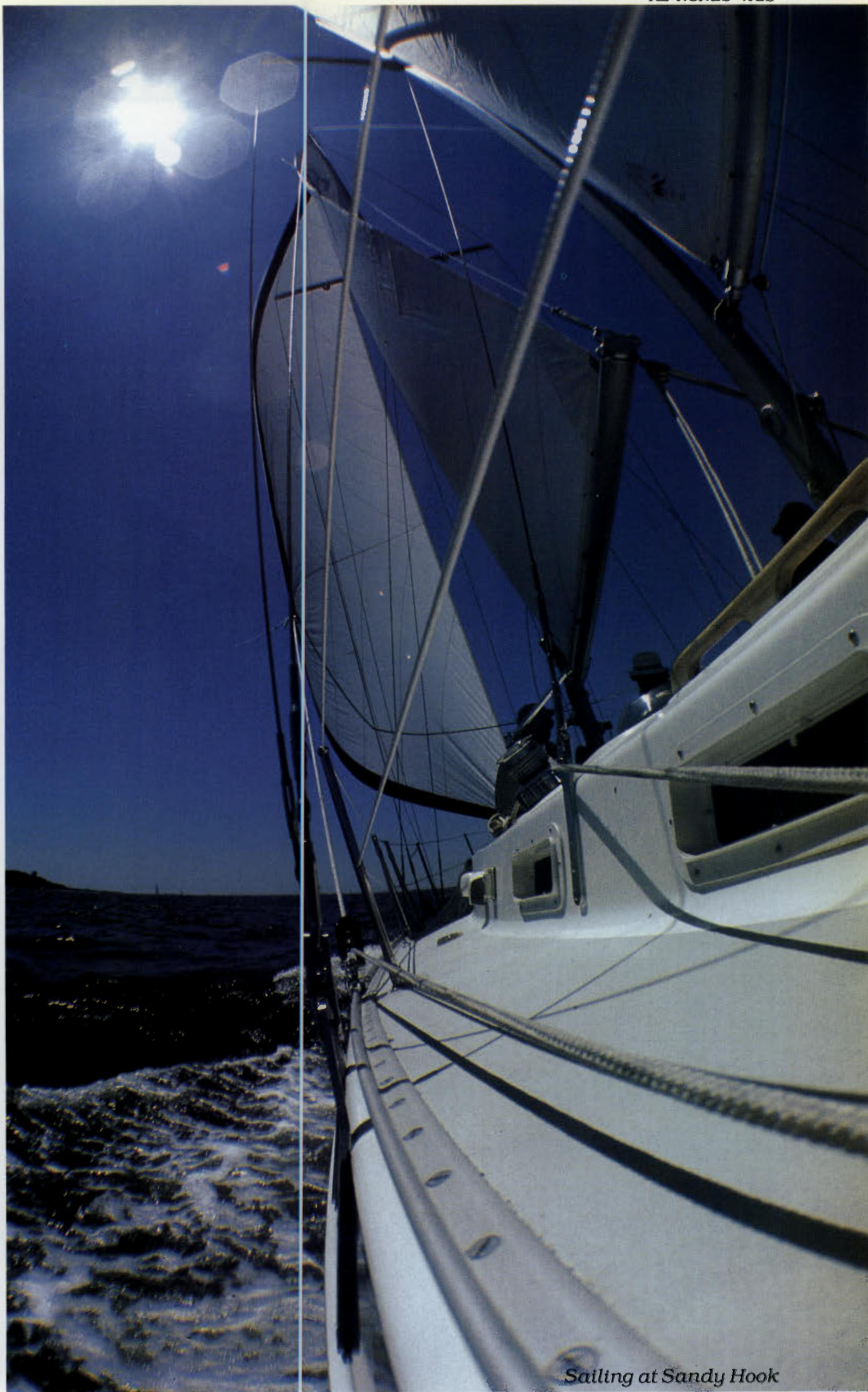
AL PEINECKE



*Bikers on county road*



CORNELIUS HOGENBIRK



*Sailing at Sandy Hook*

# New Jersey's Wildlife . . .

*Abundant & Varied*

*Raccoon family*



BRECK KENT

*Leopard frog*



ROBERT ZAPPALOKTI

*Red-winged  
Blackbird*



WADE WANDER



FISH, GAME & WILDLIFE

ROY DECKER



Red Fox kits



ROY DECKER

**N**ew Jersey, although small, has an abundant and varied wildlife population.

- At the turn of the century, New Jersey's white-tailed deer population was almost extinct. The deer management program initiated in the 1960's by the Wildlife Management Group in the Division of Fish, Game and Wildlife has produced one of the healthiest deer herds in the Northeast. Today New Jersey has a peak summer population of approximately 160,000 deer, and a post-hunting population of over 126,000. In 1986, deer killed by automobiles totaled about 6,000.

- New Jersey has 15 breeding pairs of peregrine falcons, more than any other state east of the Mississippi. There wasn't one peregrine falcon east of the Mississippi in the late 1950's because of the effects of DDT.

- The number of ospreys has almost tripled in the last 10 years from some 50 breeding pairs in 1973 to 137 today. As a result of this encouraging increase, the classification for ospreys was changed from "endangered" to "threatened" in New Jersey in 1985.

- New Jersey's Delaware Bayshore, the only stop in a 10,000 mile migration from South America to the Arctic for almost one million shorebirds, supports the second highest concentration of these birds, after Cooper River, Alaska, in the western hemisphere.

- New Jersey is one of only four states in the nation where more than 200 species of birds have been counted in one day (24 hours). The others are Texas, California and Alabama.

# New Jersey's Wildlife

ROY DECKER



*Adult Wild Turkey*

BRECK KENT



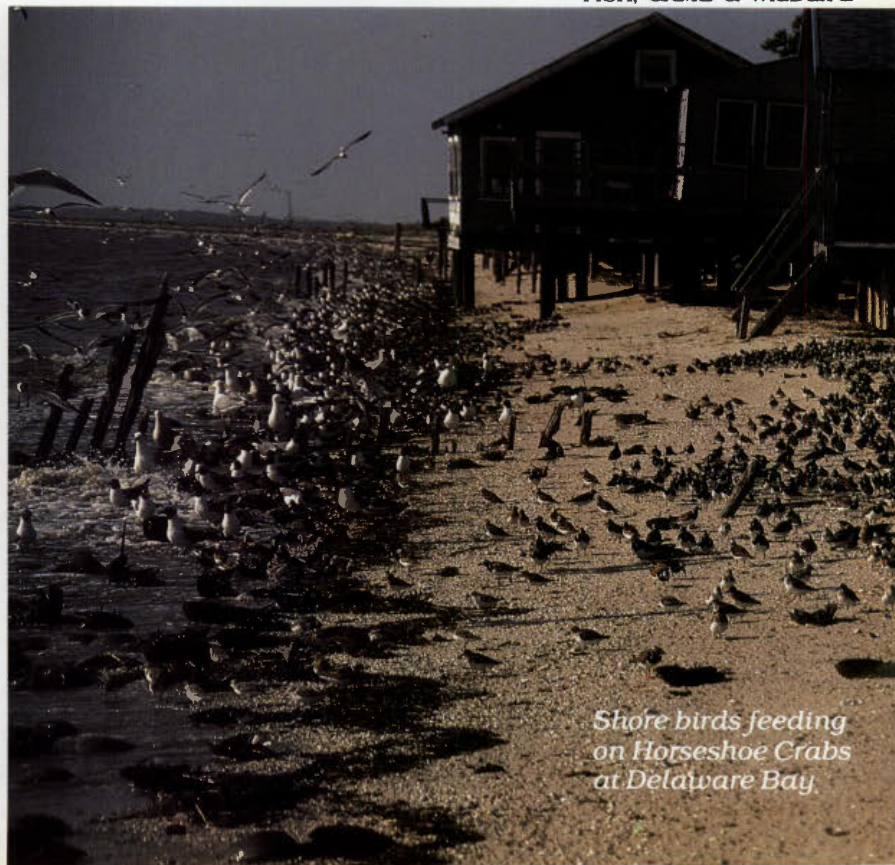
*Hatching Diamond Back Terrapins*

BRECK KENT



*Barn Owl*

FISH, GAME & WILDLIFE



*Shore birds feeding on Horseshoe Crabs at Delaware Bay.*

BRECK KENT



*Eastern Garter snake den*



*Blue Heron*

ROY DECKER



*Bobcat*



BRECK KENT

# *New Jersey's Wildlife*

## **Snow Geese and Other Critters**

*by Gus Cazzola*

DIAN VISANTINI

*Snow geese at  
Brigantine National  
Wildlife Refuge*



NJO



Snow geese in flight



PAUL AYICK

*A recent trip to Brigantine Bird Sanctuary, New Jersey, taken by Fifth grade class, Hooper Avenue Elementary School, Toms River, NJ.*

**I**t started simply enough . . . a few dots on the horizon to the north across the marshflats of Brigantine in South Jersey. Clusters of white dots leaped into the air, flashed white for a second in the noonday sun, then disappeared.

We stopped the yellow school bus on the manmade dike that sliced through the center of the sanctuary and watched. A stiff neck was giving me some pain, but suddenly nothing mattered at that moment. No talking, no lecturing. My hodge podge collection of fifth grade acne, freckles, missing front teeth and fallen socks and I just watched with open mouths.

The dot clusters grew in

size so far off. More rose from the west to join the main body. Closer, the dots flashed white just skimming the flatlands. A few black ducks spooked and hid in the marsh reeds. A disgruntled heron looked up for a second, then returned to his feeding. The dots changed into white bodies, wings flapping in the stiff offshore wind. The flock grew in size, soon covering the entire horizon with flapping wings and honks . . . edging closer and closer. The bubblegum stopped popping behind me. The kids watched the magic moment too.


Hundreds, thousands, tens of thousands of snow geese flew overhead and blanketed our little yellow school bus—now an intruder in a land of survival. This is where it is and we were but insignificant spectators. Out of place and out of time. We were caught in a swirling white storm of migrating snow geese.

As the geese soared above us, small groups veered to the right, then to the left at different altitudes . . . small family units but still part of the whole.

The flock passed over to land in the waters of the sanctuary for a treat of eelgrass and aquatic plants. Golden Atlantic City with its slot machines and headliner entertainers looked so small and vulnerable to the south.

It was all over in a moment . . . a magic moment.

Captain Teacher took over and I tried to explain the vastness of the moment. I tried to relate the diminishing sizes of the geese to the thousands of thundering buffalo that Indians once watched as we watched now. I tried to relate the scene to the sun-blotting flocks of passenger pigeons 100 years ago . . . now gone forever. I tried to squeeze the magic into a sterile curriculum but came up short. Instead of fifty cents change, I ended up with a dime. The magic

was gone. 

# New Jersey's Wildlife

NJO



NJO

CORNELIUS HOGENBIRK



*Top Left: Gloucester Township 4th Grade teacher Carolyn DeVries conducts an outdoors class.  
Bottom Left: Seining for marine critters as part of a class project*

The New Jersey Department of Environmental Protection is committed to informing and educating the teachers in our state by conducting workshops in Project Wild, Project Learning Tree, and Class Project. In turn, the teachers transmit the natural resource information to their classrooms, which in many cases become outdoor classrooms.

# This Bird's Life is a Beach . . .



## *Help By Supporting New Jersey's Wildlife Check-off*

The Piping Plover is a New Jersey endangered species that needs your support. You can help through your New Jersey State Income Tax form. The

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

**Endangered and Nongame Species Program**  
Division of Fish, Game & Wildlife  
New Jersey Department of Environmental Protection

# The Porcupine

BY PAUL TARLOWE

One of the least noticed and seldom seen inhabitants of the forests of northwestern New Jersey is the porcupine. Taking its name from the Latin words "porcus" (swine) and "spina" (thorn), the porky, quillpig or hedgehog, as it is also known, is one of the best known and easily identified of our native wildlife.

The second largest rodent in North America (only the beaver is larger) the porcupine may weigh up to 20 pounds, although 9-15 is more common. Despite its distinctive appearance, few people are aware of its appearance, except for the unfortunate dog owner whose pet comes home whining with a muzzle full of quills.

Actually modified hairs, the quills are one to four inches long and yellow or white except for a black tip ending in a needle-like point. The business end of the quill is a model of biological engineering. The tip is covered with overlapping, backward facing scales which serve as barbs. When embedded in an enemy, the quills are almost impossible to remove as the barbs and the contractions of the attacker's muscles pull the quill deeper into the skin. The result is usually death from infection, or if embedded in the mouth, starvation. Needless to say, the porcupine has few natural enemies other than humans.

A common misconception about the porcupine is that it is capable of throwing its quills. When threatened, the porcupine will turn its back to its adversary, cover its head, and shake its bushy, quilly tail back and forth, dislodging some quills. Perhaps this behavior gave rise to the myth. Regardless, the quills are very loosely attached and provide the porcupine with a formidable defense.

Although a severe problem for an unfortunate dog's owner, the quills are highly prized by wildlife artisans. They are often used in earrings, bracelets, and other objects. The Native Americans also used the quills for decorating clothing, necklaces, and basketry. While today's craftsmen gather their quills from road-kills, it is said the American Indians would "talk" to a porcupine, perhaps for hours, coaxing it down from a tree and persuading it to part with some of its quills.

The Lenape Indian in New Jersey may have been able to lure a porcupine by imitating one of its wide range of vocalizations. Particularly during the fall breeding season, male porcupines may be attracted from a considerable distance by imitating its up-and-down the scale whine. Similarly, females are responsive to subdued grunts and whines during

spring and summer. Other sounds include shrieks, screeches, barks, moans, snorts, and chattering and clicking of teeth.

Road kills of porcupines are a result of the porcupine's craving for salt. Road salt brings the porcupine not only to roadsides but occasionally to gnawing at tires which have a salty coating in the treads! Many hunters have arrived at their backwoods cabin to find a porcupine has chewed chair legs, axe handles, gloves, or other objects with a trace of human perspiration on them. A more natural source of salt would be the shed antlers of deer.

The porcupine is primarily a vegetarian. Aside from salt, its preferred foods are the needles, twigs, buds, and inner bark of hemlocks. In the summer, its diet consists nearly exclusively of ground vegetation, including grasses, violets, dandelion and a wide range of other vegetation. Even aquatic plants are eaten, as the hollow quills aid buoyancy of the porcupine in water. But the slow-moving, awkward looking porcupine is most at home in the branches of trees.

During winter, a porcupine may spend days or even weeks in a tree eating the inner bark and foliage. Often it will eat the tips of branches and discard the rest, providing a clue to its presence and a source of browse for deer that would otherwise be out of reach.

Besides hemlock, porcupines will eat spruce, white and pitch pine, maple, beech, birch, aspen, ash, cherry, and apple. They have even been observed eating fruit in abandoned orchards, which is surely a treat. While porcupines may kill a few trees by girdling, the damage they cause in a forest is generally insignificant.

When not in a tree top during winter, the normally solitary porcupine can be found in a den in rock outcroppings, often with others of both sexes. It is the presence of such formations in Sussex, Warren, Passaic, and parts of Morris Counties which provides the necessary habitat for the porcupine in New Jersey.

Unlike most rodents, the porcupine is not a prolific reproducer. Often females will not breed until their second year, and usually only a single pup is produced. The young are born between April and June with their eyes open and quills present. Within a few hours they can wobble around and will remain with their mother throughout the summer. Their life span is 10 to 12 years.

The porcupine is an interesting and unique member of the animal kingdom. It is another member of New Jersey's wildlife community which residents can look for and enjoy.

**Paul Tarlowe** is a Naturalist for the New Jersey Division of Fish, Game and Wildlife. He received his M.A. degree in Environmental Education from Montclair State College.

ORIGINAL ACRYLIC PAINTING BY CAROL DECKER



© '87  
Carol Decker ♪

