

New Jersey Out oors

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Horse barn at Batsto. Photograph by Cornelius Hogenbirk.

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Smallmouth Bass, an original acrylic painting by Carol Decker.

Back Cover

Preview of the 1987 New Jersey Duck Stamp. Design by Louis Frisino.

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NEW JERSEY OUTDOORS CREDO

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

Guest Editorial

In this Issue

Numbers are mind-boggling as to the overall impact wildlife has on New Jersey citizens during the fall season. This is my favorite time of the year and the preferred time for many others who enjoy the "out-of-doors." Fall also is the termination point for the annual production of newborn fish, birds, mammals and all resident wildlife. In effect this means each habitat unit's "carrying capacity" has either been achieved or in most instances been exceeded. Wildlife species now must face the struggle to determine which of its members will demonstrate the inherited skills and adaptability to survive the fall and winter months and become next year's breeding population.

Aesthetic enjoyment and responsible utilization of these renewable natural resources serve many diverse interests during the fall and winter period. Most fishermen know that the cool fall days provide the greatest pleasure and most positive results. Predator fish sought by anglers go into their fall feeding frenzy as the annual production of bait fish is present in great abundance. The angler's enticing lures, patience and angling skills often prevail.

Those who refer to themselves as "birders," better known as "bird watchers," thrill at the fall migrations—whether it be hawk watching from mountain tops or observing coastal estuarine habitats where thousands of shorebirds and waterfowl migrate into Jersey's productive tidal flats and marshes.

Late fall and winter in New Jersey is when most hunters derive their greatest pleasure although early fall bowhunters, waterfowlers, and grouse and woodcock hunters experience exciting days for their favorite pasttime. November is when most upland hunters take to the field while December is when firearm deer hunters, shot-gunners as well as muzzleloaders have their day in the sun. Deer hunting in New Jersey provides over 1,500,000 days of recreation each year. In addition to this, the days of pleasure derived by other hunters, fishermen, bird watchers and nature enthusiasts add to many more millions.

New Jersey's fertile soil and abundant wetlands, its diverse habitat and climate makes it one of North America's most productive wildlife environments. Unfortunately, urbanization, land and water pollution and general environmental degradation have strained these valued resources, yet wildlife continues to flourish. With aggressive dedicated help, understanding and leadership by a supportive public, wild animals and their habitat support systems can be with us for many generations.

Coupled with negative environmental issues, man's abuses of sound conservation laws and his disregard for property rights and rights of other people is seriously impacting on all user groups whether they be hunters, fishermen, birdwatchers or just nature lovers pursuing their outdoor interests. Recognizing that most "users" are responsible citizens, we must work harder to educate and modify the behavior of those who abuse others and their property. The same can also be said of those who misuse state and county parks, forest resources and wildlife management areas. This may well be one of the most important issues of the next decade for those of us who appreciate and participate in outdoor recreation opportunities provided by our diverse and abundant wildlife resource.

R.A. Cookingham, Director Division of Fish, Game & Wildlife



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

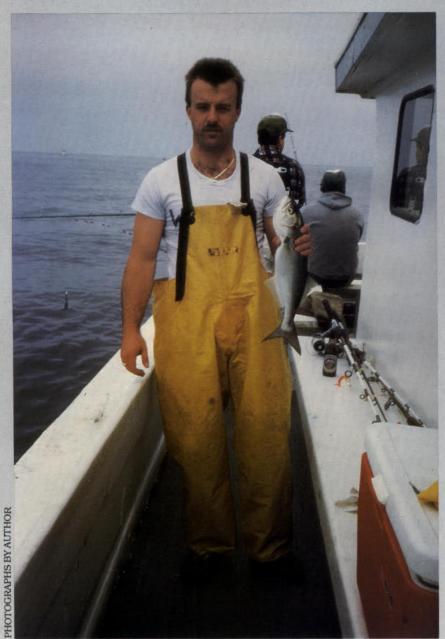
This issue highlights the colorful fall season. The cool crisp air invites outdoor activities associated with this time of year.

After a summer break, New Jersey Outdoors Explorer is back. This snapout is designed for classroom use by teachers. It is also valuable as an environmental appreciation tool for parents, group leaders and, most of all, children.

Where There's

Smoke

There's Good Eating!



HICKORY WOOD SMOKIN HIPS APPI WOO SMOK CHIP MESQUITE WOOD FARMS URKEY HILL FARMS

By GARY GRESH

If you are an avid fisherman or hunter, then sooner or later Lady Luck will smile your way and you will find yourself with more fish or game than you know what to do with. You may hit upon a mackerel, whiting or bluefish blitz, or perhaps your family will fill more deer tags than usual-especially in light of New Jersey's new liberalized limits.

Short of your making frantic phone calls in an attempt to share the sudden bounty, or, in the case of mackerel, their ending up as fertilizer for the rose bushes, I would strongly recommend that you try smoking part of your harvest. Smoking fish and game is a tradition dating back thousands of years.

You do not need any complicated machinery to smoke fish. Although some smokers can be made from trash cans, 55-gallon drums or old refrigerators, I use a two-rack smoker manufactured by Brinkmann's that takes up less room than a large outdoor grill. My smoker is

charcoal fired, but electric and alcohol-fueled ones are also on the market. All are reasonably priced. You can probably buy a two-rack charcoal smoker like mine for \$40 or less on sale at a discount store or through the mail. Smokers make great gifts for the serious outdoorsman or gourmet, and it might be worthwhile to start throwing hints around as a birthday, anniversary or Christmas draws near

To use a charcoal smoker, all that's needed is charcoal, starting fluid and wood chunks. For an electric smoker, all that you need is wood chips. Fish require little special preparation; simply gut them, cut off their heads and make sure to get all the blood out of the body cavity. It isn't necessary to scale or fillet them, although larger fish are handled much more easily if they are filleted or steaked. After cleaning the fish, soak them overnight in the following mixture:

1 gallon water 1½ cup kosher salt ½ cup sugar

After soaking the fish, drain and rinse them and put them on racks to dry for at least one-half hour before placing them in the smoker. They will smoke much better if they are dry when the process starts. Some go so far as to turn electric fans on their fish in order to dry them more quickly.

Game is soaked overnight in the same mixture but with the following added:

3 or 4 crushed garlic cloves

3 or 4 bay leaves

You can add whatever seasonings you prefer to the water when you marinate game. After the game is dry, coat it with cooking spray and sprinkle it liberally with unsalted seasoning.

Next, oil or spray the racks in your smoker so the fish or game will not stick to the racks or to one another. Then fill the water pan in the smoker about three-quarters full. You can add wine or herbs (tarragon is good) to the water if you wish. There's a lot of room for experimentation when it comes to smoking.

Then fill the charcoal pan at the bottom of the smoker and get a fire started. When the flames have died down, put the fish or game on the racks in the smoker. Keep space between the pieces of fish or game or they will stick together.

While the fire is starting, soak three or four hickory wood chunks in water for one-half hour. Hickory goes well with both fish and game. Place the wood on the coals at the same time that you put your game or fish on the racks.

Many other different types of wood are good for smoking, including apple, mesquite and cherry. Apple goes well with trout and quail. Mesquite's flavor seems to lend itself better to game than to fish. Try different kinds of wood for different types of fish and game and see which you prefer. Basically, most hardwoods other than oak are good for smoking. Avoid resinous woods such as pine, cedar, fir and spruce.

Smoke fish about four hours. It should be golden brown and firm to the touch. It doesn't usually hurt to smoke it longer. When done, place the fish in the refrigerator, between sheets of waxed paper. Again, do not let the pieces touch one another.

Game may take somewhat longer, depending on its size. Check your charcoal and water pans to see if either needs refilling. Game birds become a gourmet item when smoked, but if the legs get too dry for your taste, grind the leg meat up for spreads and dips. A venison roast is truly excellent when smoked, with a flavor somewhere between that of ham and bologna. Cut into cubes, it is always a great hit at parties.

Whiting, mackerel, bluefish, weakfish, sea bass and puppy drum have been smoked in this manner—a good way to prepare mackerel if you and your buddies don't normally care to eat it baked or broiled. Instead of pleading with people to take the fish away, you can smoke a couple dozen and enjoy some good eating.

Whiting have always been a very popular smoked fish. Very tasty when smoked, they are often caught in numbers that would make filleting a tiresome chore. Hence, smoking is easier.

Bluefish are also very good when smoked, and I am quite surprised that more people do not prepare them this way. If you have big slammer blues, simply smoke the fillets. Smoked bluefish can be made into delicious spreads and dips.

Many other types of fish are good when smoked. They include shark, carp, eel, catfish and freshwater trout. I have also heard that sea robins are tasty when smoked. This is probably true, since oily fish take quite well to smoking. The leaner fish that I have smoked—weaks, sea bass and puppy drum—were all great eating, and I look forward to smoking different varieties of fish and game when the opportunity arises.

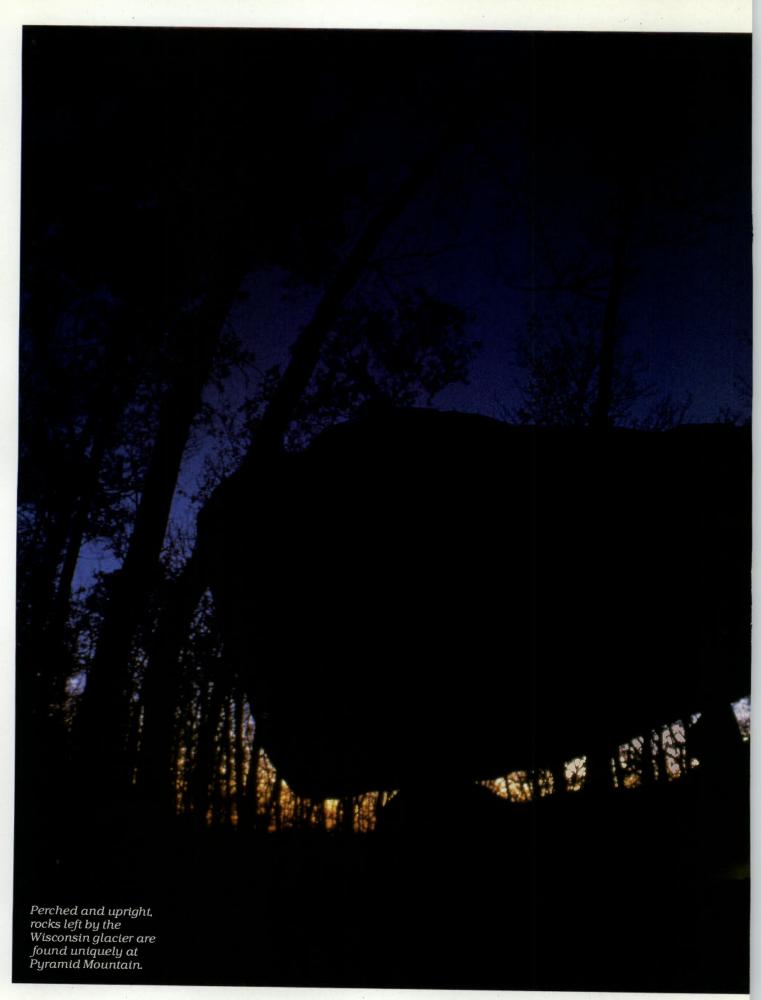
Since relatively few people smoke their own fish and game, smoking has acquired something of a mystique. Many people believe it is both difficult and time-consuming, but it is neither, and there is not any great amount of special knowledge involved. Do give it a try this year. If you wish, chip in with your regular hunting and fishing buddies and buy a smoker. I'm sure that you'll enjoy the results.

Gary Gresh is an outdoorsman, enjoying cooking and preparing his catches. This is his first article in NEW JERSEY OUTDOORS.

The American Institute for Cancer Research recommends limiting the consumption of smoked foods because there is an increased risk of stomach cancer when smoked foods are included in the daily diet.

Modern smokers are small, inexpensive and easy to use. Some are charcoal fired like this one, while others are electric or alcohol fired. Wood chips are available in a variety of woods (hickory, apple, mesquite, etc.) that provide many different flavors.

Kevin Douglass holds a smaller blue that will be smoked whole. Larger blues can be filleted or steaked to fit in the smoker.







Proposed Proposed Proposed Proposed Proposed Proposed Published Proposed Pr

By GARY HAYDEN

Upon high, a migratory bald eagle catches the updraft, gliding slowly in a circle, spying the natural world below. The eagle's view might encompass bear and bobcat and other rare and endangered species among the thousands of animals associated with mature forest and mesic wetlands.

Sparkles ripple off ponds whose water-filled dimples and kettles are home to sunfish and bog turtles, all courtesy of the Wisconsin glacier that not only sculpted geological wrinkles on the battered Precambrian outcroppings but also left behind a curious array of glacial erratics in the form of perched and upright rocks. Can the eagle sense the nearby fracture of the Ramapo fault?

Here prehistoric humans may have roamed, and for scores of generations the spirit of the original people of Lenapehoking (Land of Lenape) has been cast on the terrain.

This magnificent habitat beneath the eagle's gaze harbors not only wildlife but an astonishing concentration and variety of flora nourished by an abundant water table that holds an estimated 35 million gallons of pure water. This upland sponge yields the headwaters for the Hidden Valley aquifer, which in turn contributes to the Greater Rockaway River Watershed.

With open space in New Jersey being devoured daily, it's difficult to believe that this serene and pristine kingdom actually exists in northeastern Morris County surrounding the 930-foot Pyramid Mountain on the Kinnelon Borough-Montville Township border.

This natural realm that hosted sightings of bald eagles, bobcats, and bears during 1986 and 1987 precariously lies within advancing suburbanization, condominium development, and the stamp of the mall on the land. Twenty-five miles away is the commotion of Times Square, and less than two miles away Interstate 287 will be poured as a permanent concrete path.

For the time being, these menaces to this fragile ecosystem, with its healthy lichens, are at arm's length. There is also much to see at hand. From a number of scenic overlooks from the Pyramid vicinity, humans enjoy vistas almost as good as those seen by the eagle overhead. Sites dozens of miles away, including the Watchungs and Manhattan, are visible on clear days.

Yet Pyramid Mountain is an outdoor delight largely unknown to most of New Jersey's contemporary denizens. Although more data are being collected about the territory, its intimate historical details are still as elusive as they were when an article published in the *Jerseyman* of 1863 described it as "that dark and denighted portion of Morris County." In those days these hills were located in old Pequannock Township.

This magical corner of the county, wedged between Stoney Brook Mountain and Pyramid Mountain, reeks of mystery. First off, there are the puzzles left by the glacier in its bizarre



rock garden, including perched Tripod Rock, with its observed solstice alignment (see *NJ Outdoors*, May/June 1986), and other outstanding erratic formations, including the balancing Whale Head Rock and the largest boulder in the State. All hitched a joy ride with the last glacier and were dropped off about 12,000 to 13,000 years ago.

Little is known about prehistoric times here, but Dr. Herbert C. Kraft, Director of the Archaeological Research Center at Seton Hall University, suggests that the region may still contain vestiges of 10,000 years of Indian culture. Such evidence could prove to be very important in the study of Indian life in northeastern New Jersey, a region where this history is largely unknown. And the influence of the Lenape still lingers around Pyramid Mountain—so much so that five chiefs of the remnants of the Lenape Tribe consider the area sacred to their nation.

One legacy of the Lenape is the herbal uses for some of the 300 species of plants found on Pyramid's slopes, marshes and heathers. Some of these wildflowers, which are rare and offer pharmaceutical remedies, gave relief to the Indians and Colonial soldiers. Today, some of these plants are under investigation for curative properties, and advanced laboratory research may tell us why the "cancer root" plant was given this name.

Besides the significant diversity of its plant life, the Pyramid area is rich in folklore. High Mountain was the name given to Pyramid by the locals, who also called Tripod Rock "Balancing Rock" or "Three Pillar Rock." In the 1800's there were mines in the Stoney Brook Mountains and iron forges nearby. Even up to this century there were tales of bandits hiding in the woods. Stone walls in some of the valleys testify to the presence, at some time, of simple farms. But who the farmers were and how long they tilled crops before the forest returned remains unknown.

Even the name Pyramid Mountain has been somewhat of a mystery since it was first mentioned by the American Geological Society in the 1923 edition of its *New York Walk Book*. The rationale for "Pyramid" has not been fully explained. Hikers are familiar with Pyramid's four miles of trails maintained by the NY-NJ Trail Conference. These trails may be incorporated into a major hiking system that connects Lake Valhalla to the south, continues north through Norvin Green State Park in Passaic County and eventually intersects with the Appalachian Trail in New York State. The crucial link in this overnight trail is the threatened footpaths over Pyramid.

However, steps are being taken to preserve the Pyramid Mountain ecological buffer zone forever. Conservationists are seeking to establish a 450-acre Pyramid Mountain Natural and Historic Area as a passive park within these Ramapo hills. It would be left in its wild state for recreational and educational purposes. It would also be a prime water source and flood deterrent. The 45-acre swamp, remi-

niscent of a miniature Great Swamp at an A elevation of 600 feet, would be left unpolluted and undisturbed. Seepage from the swamp of and five adjacent ponds, along with the other of headwaters and runoff, flow downhill and eventually become drinking water for Boonton and other communities.

Potable water is one of the issues fueling the protection of the Pyramid vicinity. Ever since Kinnelon Mayor Glenn Sisco and the Borough Council passed the first resolution to preserve Pyramid Mountain in 1986, Montville and five neighboring Morris County towns have followed suit. The mayors of four towns (Kinnelon, Montville, Boonton and Boonton Township) are now meeting regularly to discuss Pyramid's watershed and other environmental

They aren't the only ones keen on saving these surroundings. The Morris County Park Commission is very interested in preserving Pyramid Mountain, as are additional State and county agencies as well as the Audubon Society, the Sierra Club and others. For years now, Kinnelon resident Lucy Meyer has spearheaded the committee to save the mountain.

But although a park has been conceived, it hasn't been born. Like an eagle plunging toward earth to snatch prey in its talons, the momentum for preservation appears to be right on target, but the proclamation of an actual park remains just beyond the raptor's

Endorsements favoring this parkland continue to mount impressively, but these supportive agencies and organizations have to fund their good intentions. Toward this end the New Jersey Conservation Foundation, under the direction of David Moore, has created a fund for donations for the preservation effort.

Will the waterfalls, flowering shadbush and timbered 80-foot cliffs be saved for the present and future generations of living creatures? What of this place where deer, saw-whet owls, goshawks and wood frogs have shared the beauty of the setting sun as it glistens off the bog high upon the mountain? Will their privacy be assured from prying eyes by century-old thickets of soft pine and mellowed pink laurel?

In the shadow of Pyramid Mountain's contemplative refuge, where the rattle of the pileated woodpecker can be heard as he constructs his own condominium in a stately of three-foot-wide tulip tree, would we be so fortunate that this pecking would be the only odistraction? In this special reserve so alive of with spirits from the past and teeming with hope for the future, man and nature can find harmony in each other.



Gary Hayden belongs to the Philadelphia Writer's Organization.

Fall foliage and autumn color found in the woods. The flowers and the ferns of Pyramid Mountain.



On a brisk, sunny weekend in October, 26 elementary and secondary education teachers gathered in Monmouth County to learn about New Jersey's valuable and varied agricultural resources. The educators, many of whom teach in northern cities such as Patterson, East Orange and Jersey City, were chosen to participate in the two-day agricultural tour and workshop because they had no previous experience with New Jersey agriculture.

The tour and workshop was sponsored by the Action Group for Agriculture in New Jersey Classrooms. The Action Group is a coalition of public and private groups, including the New Jersey Farm Bureau, the New Jersey Department of Agriculture, the New Jersey Agricultural Society and Cook College, who represent and share an interest in farmers and farming in the state. The purpose of the two-day tour and workshop was to educate teachers about the vital importance of maintaining an agricultural industry in the Garden State, to help them understand practices and problems of modern agriculture and to inform them of the state's rich agricultural history. Most importantly, the Action Group wanted to motivate teachers to bring agricultural information to their schoolchildren so that these students will begin to understand agriculture and the need to retain New Jersey farmland.

Educators toured three full-time commercial farm operations in the county and highlighted the workshop with a visit to Long-street Farm. At the first farm, a standardbred horse breeding operation, they learned about modern breeding techniques and the importance of the horse industry in the State. The second stop was a 30-acre vegetable and fruit farm run by a young couple with no previous farm background before they began farming six years ago. In contrast to this operation was a century-old grain and vegetable farm.

To complement the farm tours, the Action Group traveled to the Rutgers University Cream Ridge fruit research station, the Belford Fishing Cooperative and the Spy House Museum in Belford. At the research station, teachers learned about current agricultural research and its application and dissemination to farmers. At the Belford Fishing Cooperative the problems facing New Jersey fishermen, such as ocean pollution and diminishing fish populations and catches, were discussed by members. Mrs. Gertrude Nydlinger, curator of the Spy House Museum, eloquently detailed the history of the region's fishing industry from the 1800's to the present.

The workshop program gave educators the opportunity to listen to experts discuss the use of pesticides and soil conservation. The

important role pesticides play in bringing the abundance of food to United States consumers and the use of soil conservation techniques and the role of the United States Soil Conservation Service and Soil Conservation Districts in helping farmers to husband natural resources were covered.

No agricultural tour would be complete without a glimpse into the State's agricultural history. Monmouth County is fortunate to have Longstreet Farm, a living-history farm from the 1890's in Holmdel, that provides a rounded historical experience.

Longstreet Farm originally belonged to the Holmes and Longstreet families before it was purchased by the Monmouth County Parks System in the 1960's. It was acquired by the County with Green Acres funding in an attempt to preserve our farm heritage.

Howard Wikoff emphasizes that the goal of this "outdoor museum" is to maintain what is historically appropriate and to continue to develop historically accurate programs. The farm is open year-round and is for all ages. Guided and self-guided tours are provided along with special programs for preschool, kindergarten, and upper elementary school-children. Workshops for leaders of self-guided tours, wagon rides, and customized field days incorporating "hands-on" experience of work on the farm in the 1890's are also given.

A customized tour was arranged for the "Agriculture in the Classroom" group. It consisted of a guided tour of the farm and house. Our guide emphasized from the outset that she would run the teacher tour as if the educators themselves were students so that they would develop a fuller understanding of the type of information that youngsters receive. They were encouraged to ask questions and inquire about the structured activities for students.

The farm tour provided teachers with information on livestock, farming methods and farm machinery available to Monmouth County farmers in the 1890's. Teachers saw, first-hand, the types of livestock raised during the period, what farm machinery was used and how it worked. They witnessed the actual cultivation methods used by horse-drawn cultivators and participated in cider-making using a cider press from the 1800's.

During the house tour, teachers learned about the Holmes and Longstreet families who lived in the house. The decorative arts of the 1890's and the life style of the upper and middle class farm families and their servants were also discussed.

Following the tour, teachers were free to roam the farm and house and observe the many activities and animals. They took pic-



a visit to Longstreet Farm



By Frances J. Aaron Brooks

preserving our heritage

Fran J. Aaron Brooks is a practicing anthropologist. She is currently a research associate with New Jersey Farm Bureau, the largest general farmers' organization in the State.

tures and continued to inquire about farm life in the 1890's.

The importance of this living-history farm is that it provides a frame of reference for all residents of the county. Monmouth County agriculture has changed dramatically since the turn of the century. It is no longer a center for potato farming and the many truck, live-

stock and grain farms that dotted its landscape through the 1960's and 1970's. Longstreet helps residents to understand the county's agricultural heritage and to see that what now exists is very different.

Longstreet Farm is located on Longstreet Road in Holmdel Township. For more information, call 201-946-3758.

Mimi Dunne has been with the Division of Fish, Game and Wildlife for five years and is currently a Senior Wildlife Biologist and Education Specialist. She is a graduate of Rutgers University and a frequent contributor to NEW JERSEY OUTDOORS.

Landscaping for Wildlife





BY MIMI DUNNE

Hightstown landscaper Dave Donnelly believes that people want to live in harmony with the land. His landscaping firm Environmental Reconstruction was created for that purpose. Perhaps none of his clients knew who or what Environmental Reconstruction was before they met Dave, but now all have become wildlife managers of sorts, interested in attracting wildlife to their homes. Donnelly is not only a landscaper whose primary concern is wildlife; he's also an educator about the environment and a benefactor to the town of Hightstown and the Pequest Trout Hatchery and Natural Resource Education Center.

Donnelly's landscaping venture has mush-roomed in the four years that he's been in business. He and his wife Jean operate the business from their home with one foreman and three seasonal helpers. From four homes in the first year to 40 homes in 1986, his projects range in size from a backyard bird feeding area 5' x 10' at a nursing home, to 1.5 acre lot. He is as intrigued by small scale projects like windowsills as he is by larger projects like developments and corporate complexes. Donnelly sees the potential in all land-scaping projects to produce better habitat for wildlife by providing the essential habitat needs.

The key to landscaping for wildlife is in the choice of plant materials, their arrangement, and standing water. According to Donnelly, "wildlife landscaping doesn't look that different from other landscaping, it's just done with wildlife in mind. Potential clients often expect a jungle, but end up being crazy about the low maintenance. Customers ask when the birds are coming, and are surprised by the quick results."

Plants are chosen for their ability to provide food and cover. Native plants are almost always used—dogwood, bayberry, blueberry, mulberry, black gum, white pine. Native plants often provide fruits and nuts during critical times of the year, and are adapted to the climate and soils of our state.

Shrubs, trees and herbaceous plants are arranged to attract birds, butterflies, small mammals and amphibians that may be native to the area. Shrubs are often clumped to

provide cover and travel lanes for animals. Cover is especially important around a bird feeder; birds won't venture across wide open spaces for food.

Donnelly believes that water is the most attractive part of a landscaping project where wildlife is concerned. Birds especially can find food and cover from native plants, they do not need to visit your property to find food. But open water can attract birds and butterflies.

Another Donnelly signature is dead wood—logs, branches or parts of whole dead trees. Insect-eating birds are attracted to dead wood, and it can be a very aesthetic part of the design. All of Donnelly's clients may have their landscapes certified as part of the National Wildlife Federation's Backyard Wildlife program.

A part of the Pequest Trout Hatchery and Natural Resource Education Center in Oxford was transformed last fall by Environmental Reconstruction. A backyard wildlife area was installed next to the Center that provides food, cover, water and dead wood for wildlife. Donnelly donated and planted all of the vegetation and the pond, making this backyard wildlife area the first exhibit to be donated to the new complex. The area is now more attractive not only to wildlife but also to people. It is hoped that this demonstration area will encourage homeowners to landscape for wildlife.

Open space in the town of Hightstown has been a pet project of Donnelly's for the last several years. He's installed bird houses and set up a mowing schedule for community open space that allows greater use by native songbirds. This also results in greater enjoyment for township residents, and less work for township road crews.

Donnelly believes education to be a limiting factor for the improvement of wildlife habitat around human habitation. "It's important to educate people as to what they can expect to attract, what kinds of birds and mammals might be found in the area. As a result of gardening for wildlife, people become interested in all kinds of wildlife, not just what is attracted to their homes. Ultimately there may be lifestyle changes, people will want to change some behaviors that are harmful to wildlife. Education about wildlife and about the environment should be a lifelong process."

horses can make...

By MARGARET MEAD CUTTER "Backyard horseowner" was once a derogatory term. It was used to denote a person who had neither the space nor the knowledge to enter into horsekeeping, but did so anyway, often with very poor results.

This is no longer true of the large majority of backyard horseowners in New Jersey, although there are still a few who fit this description. Today's backyard horseowner is just as likely to be as educated, dedicated and capable a horsekeeper as any of his other "professional" counterparts. Many "backyarders" resent the outdated stereotype.

There is no stereotypical backyard horseowner. They range from youngsters to "old pros." They keep their horses on property ranging from a suburban acre to a rural "gentleman's farm" of 10 acres or more. They keep one or several animals—horses, ponies or mules—which may be either grade (mixed) stock or purebred stock which can be registered with one or more recognized breed associations. They span all income brackets and all walks of life.

Maintaining good relations

No two backyard horseowners use their horses for the same activities. They may have riding or driving horses, pleasure/trail horses, competitive trail mounts and show horses, including some national champions. The horses may be family pets. They may be ridden English, Western or bareback; they may be used for breeding or for dog field trails and dog competitions. Backyard owners span all phases of the horse industry.

Backyarders decide to keep and care for their horses at home, rather than boarding them and paying someone else to care for them, for various reasons.

Many cite economic reasons, claiming it can be twice as expensive to board a horse as to keep it themselves. Others cite travel time to and from a boarding stable—time they would rather spend caring for, or riding, their horses. Still others cite relationship or bond that forms between a horse and its caretaker, and they feel it is important for them to be the partner in this relationship.

Regardless of what they use their animals for or why they keep them at home, backyard horseowners have one thing in common: Neighbors. Specifically, non-horseowning neighbors.

One of the biggest problems faced by backyard horseowners in New Jersey is maintaining good relations with their non-horseowning neighbors.

Increasing horse population, coupled with

increasing human population and development, has led to increasing encounters between horseowners and non-horseowners. Resolving issues such as zoning, health regulations, pasture management, manure disposal, pest control, land use and preservation of open space and trails are tantamount to peaceful coexistence.

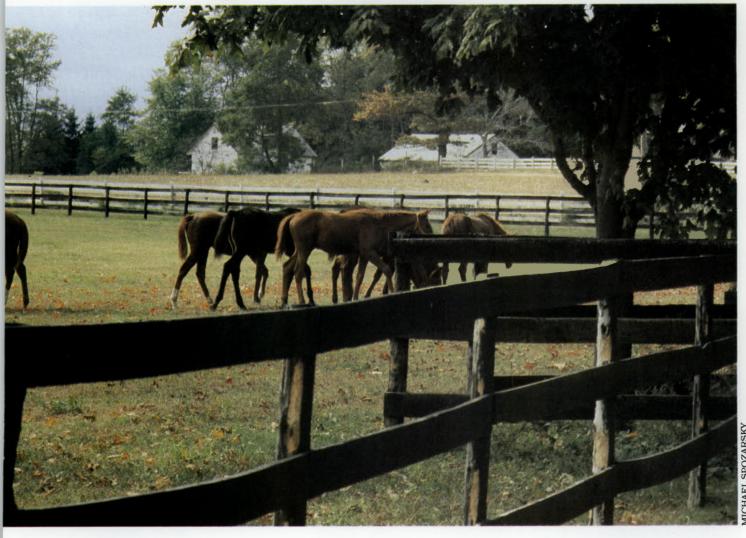
The largest part of the responsibility to "keep the peace" rests with the horseowner. Total responsibility as a horsekeeper means more than just riding, grooming and feeding one's horse. Stable areas, especially very small or crowded facilities, must be cleaned and raked every day, and manure disposed of. This does as much to keep one's neighbors happy as it does to keep one's horses healthy.

Good neighbor relations can be maintained by other common courtesies, such as not riding on private property without permission,

The New Jersey Horse Council (NJHC), is made up of individuals and associations representing all aspects of the horse industry-from racing and breeding to pleasure riding and showing. The Council will respond to questions about horses and provide information which will educate the public and eliminate concerns about horses in the community. In addition, NJHC encourages safe and healthy horsekeeping practices through its brochures, seminars and other educational resources. Inquires and requests for more information should be

New Jersey Horse Council P.O. Box 538 Quakertown, NJ 08868 Telephone: 201/735-2682

good neighbors



Margaret Mead Cutter is a published newspaper writer.

and keeping fencing in good repair to avoid loose horses.

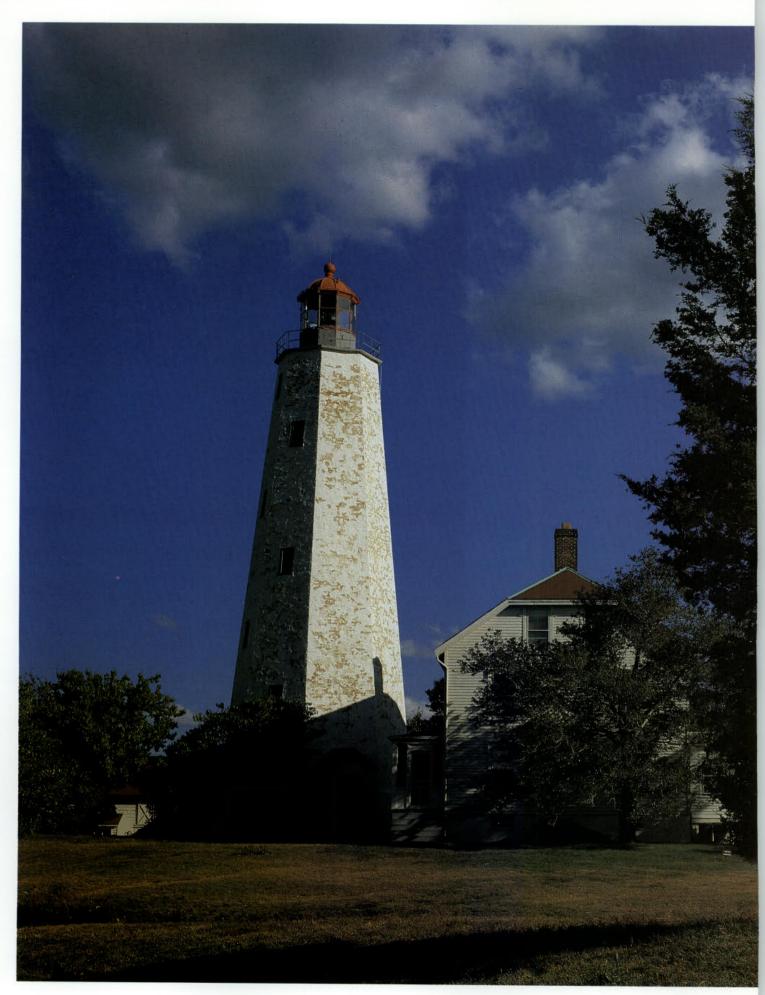
Some local horsemen's associations have been formed to help horseowners improve relations with the non-horseowning neighbors. They also help prevent restrictive zoning and assist horseowners with zoning problems, and educate horseowners in animal care and property upkeep.

One backyard horseowner explained the necessity of horseowners and non-horseowners alike working together with these organizations.

"We should start thinking of ourselves not only as horseowners or not, but as landowners, seeing ourselves in the context of the entire community," the horsekeeper said. We must plan for a future that allows space for all of us, and our various activities and lifestyles." The New Jersey Horse Council is concerned with horseowners in the community context. In addition to an annual seminar covering a wide range of topics of interest to horse people, the council offers brochures on "Guidelines for Horsekeeping," "Good Neighbor Horsekeeping," and "New Jersey Equine Riding Trail Guide."

Likewise, the New Jersey Equine Advisory Board and the Cooperative Extension Service, Cook College, Rutgers University are concerned with the needs of the entire horseowning community in the state.

Thanks to the efforts of these organizations, the backyard horseowner can look forward to many more years of enjoying New Jersey's beauty, natural resources and recreational opportunities, side by side with his non-horseowning neighbors.





PHOTOGRAPHS BY CORNELIUS HOGENBIRK

The imposing silhouette of the Sandy Hook
Lighthouse has been a welcome sight to many trans-Atlantic travelers.

Crisp autumn air and colorful views on an autumn visit to the lighthouse.

Sandy Hook Still Lighting the Way

BY EILEEN M. VAN KIRK

In the late 1800's a story in *Scribners* magazine told of two young ladies on the deck of an incoming transatlantic steamer. The first is said to have remarked, "How delightful to be so near home, we should see Sandy Hook this afternoon." Whereupon the other young lady replied, "I don't believe I know Sandy Hook, is he a Scotchman?"

This story was, of course, a joke because everyone who traveled to Europe in those days knew Sandy Hook. This narrow spit of land that juts northward from the New Jersey shore into the ocean was the first sight of America for travelers returning from Europe across the Atlantic. Its beacon, the Sandy Hook Lighthouse, guards the entrance to New York Bay, and has done so for more than 200 years.

The oldest operating lighthouse in the United States, Sandy Hook first beamed its light across the dark waters of the bay on June 11, 1764. It shone from a nine-story tower, the light itself coming from a 7-ft.-high iron lantern with 48 oil blazes. Today it is powered by a fixed white electric light with 60,000 candlepower. Both then and now its warning signal could be seen by ships as far as 15 miles away.

The lighthouse itself, designed by Isaac Conro of New York, has remained almost unchanged. It was paid for by a group of New York merchants who were interested in protecting their shipping, since wrecks along the treacherous coast had taken a heavy toll. In order to raise money the New York Assembly issued a permit for a lottery. It took two lotteries to raise the approximately \$15,000 needed to buy the four acres of property and build the lighthouse and lightkeeper's house. Money to maintain the lighthouse was provided by levying 22 pence per ton on all ships using the New York Bay.

The four acres were purchased from the Hartshorne family, whose ancestor, Richard Hartshorne, had bought the entire hook from the Indians. And for an additional thirteen shillings the Indians gave up their rights to hunt, fish, or gather the wild sweet plums that grew in abundance on the sandy shores.

The Hook itself has a very old history. Giovanni Verrazzano was reputed to have landed there in 1524. Henry Hudson definitely stopped there in 1609 on his final and fatal voyage. Robert Juet, who sailed with Hudson, records the event in his diary. A party landed on the desolate strip of land and were surprised by Indians traveling in canoes. A skirmish followed and one of Hudson's crew members, John Colman, was killed by an arrow through the throat. He was buried on the Hook. Old records sometimes refer to that spit of land as Colman's Point.

Legend has it that the notorious Captain Kidd buried some of his treasure beneath a great pine tree, but in centuries of digging, no one has found any of it.

The octagonal lighthouse is 105 feet high, with a diameter of 29 feet at the base and 15 feet at the top. When it was first built it stood 500 feet from the north end of the Hook. Over the years, however, continued deposition of sand has changed the contour of the Hook. In 1879 the light was recorded as being about

seven-eighths of a mile from the northern top, and today that distance is a mile and a half. But its light can still be seen shining across the bay.

During the American Revolution the light aided the British in bringing their ships from England. In 1776 Major William Malcom, then in charge of the light, was ordered by New York to destroy the lighthouse, but couldn't bring himself to do so, though he may have extinguished the light for a while. Most of the time it was operated by the British, and while attempts were made by American forces to capture the light, it stood throughout the war.

Afterward there were several arguments between New York and New Jersey as to who owned the lighthouse, until in 1790 it was taken over by the federal government, which has maintained it ever since.

In 1852 the Lighthouse Board reported, "... the tower of Sandy Hook ... made of rubblestone ... is now in good state of preservation. Neither leaks nor cracks were observed in it."

The list of Light Houses, Lighted Beacons and Floating Lights on the Atlantic, Gulf and Pacific Coasts of the United States, Government Printing Office, Washington 1883, described Sandy Hook as a "White Tower, with dwelling attached, 77-ft. from base to Painter, lantern black. First lighted in 1764, located at Sandy Hook, entrance to New York Bay."

Light operates automatically

During the heyday of the great transatlantic liners, when every shipowner tried to beat the record, ships were timed from the moment they left Fastnet Light, Ireland, until they reached Sandy Hook. Ireland was thus their last glimpse of Europe and Sandy Hook their first sight of the USA.

Despite the installation of many lighthouses up and down the coast the sea still took its toll, and it was noted that the keeper's house and barn were patched and outfitted with salvage from the many shipwrecks washed up on the beach.

Today there is no keeper. The lighthouse is maintained by the Coast Guard, but its light goes on and off automatically. In an area now owned by the National Park Service it keeps its lonely vigil. Buffeted by winds, wrapped in the swirling fogs that roll in from the sea, circled by calling sea birds, it continues to send out its bright beam of light. A light that says "welcome" to ships seeking the safety of New York Harbor.

Elleen Van Kirk is a professional writer and has previously written for NEW JERSEY OUTDOORS.

BY GAIL GRECO



Go Fly a Kite

When the wind is right and the sky is blue, you can grab the world by a string. And the wind and the sky are at their best for flying kites in New Jersey during the fall.

"March is not the month for kite-flying, as most people think," confirms Newfield resident and veteran kite flier Leonard Conover. Early spring is often too windy. Summer offers hazy skies, and the dead of winter offers less than ideal conditions. Fall has crisp and cool days and a crystal sky. "Plus, the changing colorful scenery forms a nice backdrop for a kite," adds Conover.

"March is actually the worst time for flying in this part of the country," emphasizes the kiter who has been captivated by the timeless sport for 30 years.

"Long ago, kites were heavier and you needed March winds to carry them. But today's kites are markedly lighter and require little or no wind," says Conover. He cites April, May, September and October as prime times for flying kites here. March and kites are synonymous because people who have been cooped up all winter are anxious to engage in some kind of outdoor activity. But they will find that March winds, often stronger than 15 miles per hour, will snap their kite sticks.

Conover knows all about kite-flying. He is passionate about this sport that leaves him as free as a bird, with no standardized rules or equipment. "I'm still single because I haven't found someone who would have me and my kites," he suggests jokingly. Conover is so devoted to kite-flying that in 1981 he founded

one of the State's two official kite clubs, the Greater Delaware Valley Kite Society. Also, he is associate editor of *KiteLines*, the national magazine of kite fliers, based in Baltimore. Conover makes the trip from his New Jersey home each week to get to work.

"I could be a carpenter or a truck driver, but I love kites, and having the opportunity to earn a living writing about them is—well—just perfect," he says. The three-hour trip to the office once a week is the price he is willing to pay to work in the field he enjoys and, at the same time, "keep my home in the mountains." Conover stays with a fellow kite enthusiast during the workweek.

Such devotion to kites is not the norm but not the exception, either. Interest in flying kites has skyrocketed in recent years. Kiteflying authorities don't know for sure how many people are avid fliers and won't venture an estimate. Instead, KiteLines uses its directory of clubs as an admittedly unscientific indication of burgeoning interest in the sport. In a report published last spring, it found that "our first directory, published in 1978, listed 29 kite clubs in existence. In 1981 we ran a listing of 52 clubs.... In 1984, the number increased to 65. And now there are 116 kite clubs, groups and associations.... In less than nine years, the number of active kite clubs has increased by 300 percent." Exercise, education, enjoyment and camaraderie are the reasons cited for the popularity of kite-flying.

Those who live only to challenge nature by unfurling a colorful paper bird into a willing

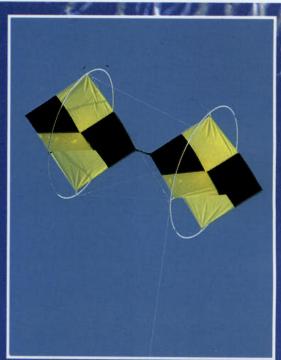


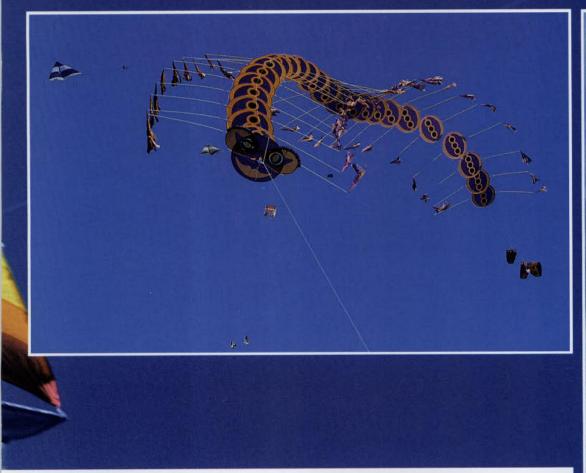
THEODORE L. MANEKIN

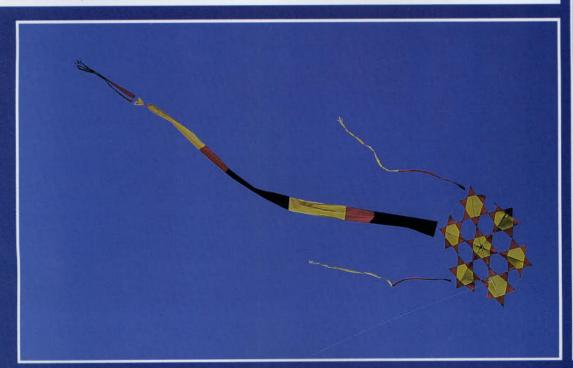














HOTOGRAPHS BY THEODORE L MAN



THEODORE L. MANEKIN

horizon flock to the outdoors all year long. They seek the exhilarating feeling of tugging on a string and harnessing their handmade or store-bought creations into the wind.

"As long as it's 25 degrees or above, I'll fly a kite," says Raymond Brandes of Highland Park.

Brandes and his wife, Vincentine, started the Raritan Area Flyers, the State's other official kite-flying organization. "Our group and the Greater Delaware Valley people have a newsletter, so we are considered official, as opposed to more loosely formed groups," says Brandes.

A father of two, he is also a kite fanatic who believes that every day is a good day for flying a kite. Part of kite-flying is the challenge of pitting wits against nature's elements and seasonal changes.

He suggests that coastlines are among the best places to unleash a kite. In fact, many New Jerseyans seek the shore for their kite-flying activities, where thermals whirl their kites away easily and quickly. New Jersey kite meets, which include kiters from surrounding states, usually take place along the State's surf

Grass-free dirt terrain is also good for flying. The dirt is often hotter than grass surfaces, and this creates a thermal draft that lifts the kite.

Although kids love kites, kite-flying is more of an adult sport than a child's activity. Adults have a longer kite-flying attention span and will spend entire days at their hobby.

Kite-flying is one activity that has weathered all storms throughout time and emerged as a diversion transcending all ages and cultures. It has many credits to its name, including the fact that construction of the suspension bridge at Niagara Falls was started by a kite. Once a launched kite reached the opposite side of the falls and landed, a heavier cable was attached to the end of the string and pulled over the river.

The kite has been one of the most versatile inventions ever made, aiding developments in the meteorological and aeronautical fields. It was used by aviation pioneers such as Daniel Bernoulli, a Swiss scientist who in 1783 discovered that when wind blows across a wing, air speed is increased and air pressure is reduced along the top surface, creating an upward force upon the wing. The airflow diverted downward by the wing's bottom surface is slowed and produces an upward force from the underside. The combination of the two forces generates the lift required for flight. Further study of these aerodynamic principles eventually led to the development of the modern airplane wing.

The Chinese presumably originated kites some 2,000 years ago for leisure-time fun, but kites were also developed for more serious purposes, such as for relaying signals to troops over great distances.

Kites come in many shapes and sizes. You can still buy some kites for \$1, but the average price in New Jersey for the traditional diamond shape and delta triangular kites is \$12 to \$15. Prices can go up to \$400, however, for the more sophisticated versions.

Parks and meadows also provide kiters with plenty of room to unwind. Trees and high buildings that create erratic drafts must be avoided. A hilltop is also a good launching pad; however, the side of a hill releases breezes that are often too turbulent and gusty for flying a kite.

Never fly a kite near electricity pylons. Although Benjamin Franklin experimented with a kite to prove the existence of electricity, some say it was a miracle that he survived the venture.

KiteLines issues these tips for novices and reminders for more advanced fliers:

- Use a stick or reel for winding the kite string.
- The kite should be bridled to face the wind at a lifting angle so that the wind will lift the kite into the sky. (The bridle is a line or series of lines attached to strong parts of the kite's structure to position it correctly into the wind.)
- Kite tails help to improve stability by creating extra longitudinal drag.
- The kite can be landed in a strong wind by winding in the string most of the way and then anchoring the line and walking toward the kite with the line under one armpit; pull down and back on the line, hand over hand.
- Long, arm-length pulls on the kite string increase the wind pressure on its surface and on its top side and produce a momentary lift, which sends the kite higher into the sky.

Furthermore, Leonard Conover emphasizes that running is the worst way to launch a kite, since it prevents the kiter from seeing the kite and reacting to it properly. If you don't find any wind, he advises from a *KiteLines* report: "use a lighter kite; make a high-start launch, even farther from your assistant, such as 200 to 500 feet; or accept conditions with grace: there will be another day."

For more information about the Greater Delaware Valley Kite Society write to Conover at Box 888, Newfield, NJ 08344, and for the Raritan Area Flyers, write to Brandes at PO Box 1094, Edison, NJ 08818. The office for KiteLines is 7106 Capfield Road, Baltimore, MD 21207-9990.

Gail Greco is a widely published author who teaches freelance magazine writing at the State University of New York at Binghamton. Her kite-flying roots are in New Jersey.

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

Citizen C Citizen Apparlame, NJ 08000 Dear Editor

Water

Your article entitled "Clean Water Begins With You" left me bewildered. How does one reconcile the DEP's printed concern for "pet wastes... washed into the ocean", with the *permit* granted by the DEP to Ciba Geigy in Toms River? This *permit* allows them to dump up to 4.5 million gallons per day of chemical waste into our ocean!

Jewel Regal Pine Beach, NJ

We have asked George McCann, Director of the Division of Water Resources, to respond to your letter. He advised that Ciba Geigy's permit is for the discharge of treated wastewater effluent, not chemical waste, from a wastewater treatment plant which includes an activated carbon process. Their permit requirements include an effluent toxicity limitation with the sensitive salt-water species mysid shrimp. All other permit effluent limits conform to Federal and State effluent and water quality standards. Ciba Geigy Corporation is presently in compliance with the toxicity limitations.

More about water

The May/June article "Clean Water Begins with You" can be enhanced with additional information prepared by the Passaic River Coalition. Aquifers which supply over 90% of the water for western Essex County and much of Morris County are the subject of a major new report, The Buried Valley Aquifer Systems: Resources and Contamination. The report is a compilation and analysis of available water quality, yield, geologic and aquifer data for the region. Copies of the report are available at a cost from the Passaic River Coalition, 246 Madisonville Road, Basking Ridge, NJ 07920.

Dr. Daniel J. Van Abs Trenton, NJ

NJO has received many letters regarding water and water quality as a result of the May/June article. Many of our readers may be interested in this additional information.

Happy Birthday 101

Enclosed please find payment for a New Jersey Outdoors gift subscription. I am sending Mr. Ethelbert S. Le Stourgeon a subscription to celebrate his 101st birthday. Mr. Le Stourgeon has been outdoorsman for the last seven decades and has been concerned about environmental issues such as conservation and wildlife resources. What better gift could I give him.

Russell Cookingham Director, Fish, Game & Wildlife, Trenton, NJ

Pinelands

Would any New Jersey Outdoors readers like to know why trees in the Pinelands "pigmy" forests are so small or learn why the New Jersey Pines attract scientists from around the world?

These and other questions can be answered by the Pinelands Speakers Organization, a group of experts on various Pinelands topics who are available to give talks and slide shows to schools, civic clubs and service organizations. Contact the Pinelands Commission, Public Programs Office, P.O. Box 7, New Lisbon, NJ 08064 for a directory of Pinelands Speakers.

Bob Bembridge Pinelands Commission

Black Bears

I recently attended the seminar on the New Jersey Black bear. I found it very interesting and educating. I hope to see more of this in the future. I have heard talk of a bear season in the near future—I am totally against this. If New Jersey has the habitat to support 400 to 500 bears, let these beautiful animals grow and live out their lives in an area where our children can enjoy them along with other beautiful birds and animals. It's been more than 20 years since we had a population of this size. Thanks to our wildlife management we can now see these beautiful animals again.

Tom Herdman Parsippany

Your letter has peaked our interest also and we have arranged for a series of articles on the history, research, biology and future of the black bear in the Garden State. The first article will appear in the November/December 1987 Issue.

Colliers Mills/Radon

Until recently I've only been sort of semi-following news broadcasts and newspaper articles on radio active stuff DEP is trying to place in the Colliers Mills Wildlife Management Area in Ocean County.

My friends and I hunt and have enjoyed many, many hours in Colliers Mills and other Wildlife Management Areas though the number of birds stocked in South Jersey is not as great a number as those put out in the Central and Northern regions, we still pay our \$15 fees for stamps and enjoy what birds we do see.

If and when it does happen, my \$15 will as will many of my friends' money go to Pennsylvania where we're reasonably sure the birds won't glow in the dark

Anyway, I'm pretty sure you know how I feel and I'm reasonably sure there are others who feel the same.

> Jospeh M. Frates Laurel Springs

John Gaston, DEP Assistant Commissioner, responds that at issue is radium-contaminated soil that had been removed from foundations and then stored in backyards of homes in North Jersey. The soil, contained in approximately 15,000 steel drums, actually poses less danger than a dental X-ray, but has become highly controversial, and the subject of numerous law suits.

The courts had ordered the containers removed from the backyards by a June 15 deadline. Colliers Mills was chosen because of its remoteness—but only as a SHORT TERM site. Drums would be stored high and dry and not endanger people or wildlife.

As of this writing, the courts are still debating the issue, while DEP and EPA are researching short and long term solutions. A board of dedicated citizens, the New Jersey Radium/Radon Advisory Board (R/RAB), which includes scientists and environmental activists, is diligently pursuing a solution to this issue through a public participation process. They are working with th state to find a community willing to store the drums under a 7.5 million dollar Superfund program until a permanent solution can be developed. Safety, public health and environmental integrity remain the prime consideration in all decisions of DEP, EPA, and the R/RAB.

$M \cdot U \cdot S \cdot H \cdot R \cdot O \cdot O \cdot M \cdot S$

Red Capped Sliber Stalk (edible)

Red Mushroom, Frosts Bolete (edible)

Amanita Rubescens (not edible)





OF THE NEW JERSEY PINES

Cornelius Hogenbirk is a writer and photographer. His words and pictures have appeared in several past issues of NEW JERSEY OUTDOORS.

PHOTOGRAPHS BY AUTHOR

BY CORNELIUS HOGENBIRK

Mushrooms, the ancient Greeks believed, arose from lightning hurled by their supreme deity, Zeus. Today we know that mushrooms appear in abundance when there is a plentiful supply of moisture and a suitable environment.

In southern New Jersey's vast Pinelands, suitable growing habitats abound. Here nature provides for the saprophytes—fungithat feed on dead organic matter such as layers of pine needles and cones, leaves, fallen branches, dead trees, tree stumps left by "wood pirates." The stumps are host to the saprophytes that are known as the lignicolous (living on wood) species. This group includes such prized edibles as the money mushroom, Armillariella mellea, and the brick tops, Naematoloma sublateritium, both of which grow in bright, picturesque clusters.

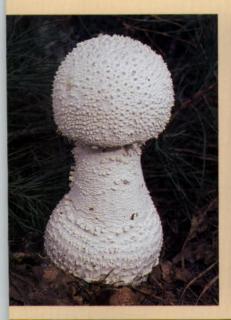
Although several lignicolous species are edible, others are not. A few are deadly, and could be mis-identified by an inexperienced person.

Another class of fungi that is plentiful in the Pinelands is the mycorrhizal mushroom. These form a symbiotic, or mutually beneficial, relationship with a higher plant life form, such as a tree. The fungi helps release otherwise unavailable nutrients from the soil and in return receive carbohydrates via the trees' rootlets. In addition the tree provides shelter and ground litter that absorbs the rainfall, holding in moisture and reducing run-off.

This relationship between certain fungi and pines and oaks has been used by forestry specialists to improve the success of reforestation projects. An effective mycorrhizal fungus, such as the dye-markers false puffball, *Pisolithus tinctorius*, is used to innoculate pine tree seedlings. Such treatment has been known to increase tree seedling survival rates from approximately 50 percent to almost 90 percent, with accelerated growth and increased resistance to parasites. Widespread in the Pinelands, *Pisolithus tinctorius* was used by the ancient Phoenicians to make a rich golden-brown dye.

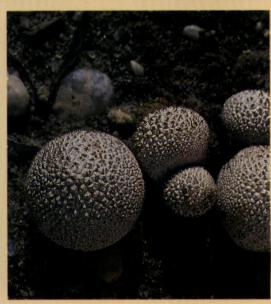
The pristine, sandy, acidic soil of the New











Clockwise from top left; Amanita Polyayramis (not edible) Variable Russula (edible) Puffball(s) (not edible) Old Man of the Woods (edible)

Jersey Pinelands nurtures not only plant life, fungi and fauna, but also unseen, mysterious micro-organisms. To digress just a few steps down the organic ladder, I'd like to make mention of a special monobactum, a single-celled organism discovered in the Goshen Pond swamp area adjacent to the Wading River as well as in the Atsion Lake region. This monobactum, unique to the Pinelands soil, led Squibb Pharmaceuticals to develop an antibiotic drug that is expected to have enormous medical potential. Squibb had screened more than a million bacteria from various habitats around the world. Ironically what Squibb had been searching for was right in their own backyard.

I, too, made an unusual Pinelands discovery one day. On one of my mushroom hunts along a sand trail near Waretown, I noted an oddly shaped, white, lumpy formation. I was puzzled—it was obviously a fungus of some kind—but which? I dug it up and placed it in my market basket. Back home I studied my guide books, but to no avail.

Still curious, I finally decided to send the sample to Sam Ristich, the renowned north-

eastern area mycologist, as mushroom experts are known. He wrote back, "I am finding some strange cells under the scope; let me work on this one." A week or so later Ristich wrote, "... the deformed Boletus you found turned out to be parasitized by an as-yet-unnamed Hypomyces mold, found only once before in Louisiana." The following year I checked the discovery spot, but without luck. How nice it would be to have such an unusual local find documented.

One of my favorite mushroom hunting grounds is along the borders of a sand trail that was formerly a bed of the old Tuckerton Railroad—the portion running between Waretown and Barnegat. This open trail passes through mixed woods, with the Jersey pitch pine being predominate. The woods are filled with various shrubs such as wild huckleberries, inkberry, american holly and great patches of mountain laurel. On certain side trails there are boggy areas with either wild cranberries or sphagnum mosses and stands of white cedar.

The photographs show just a handful of the various mushrooms that I have found in the

Pinelands. Amanitas are common. One of these is the deadly destroying angel, A. virosa. Another is the toxic, hallucinogenic, colorful yellow-orange fly agaric, A. muscaria. On one occasion I came upon an odd-looking warty, white, robust Amanita that even at four inches in diameter was still an immature "button." This was later identified as A. polypyramis, a species previously unknown in New Jersey.

One never knows what surprises may be awaiting on any hunt along a wooded sand trail. One time in a pile of humus, I found a cluster of five- to six-inch diameter, wavy-edge fruits with a deep royal blue. In another instance I came upon a bright group of the large, orange big laughing Gym, Bymnopilus spectablis. Clustered around the bases of the stems were numerous baby button "gyms" looking all the world like chicks under a mother hen's wings. The Audubon Society's Field Guide to North American Mushrooms states that the common name for this species came from Japan, where it was noted that ingestion of this mushroom caused unmotivated laughter and foolish behavior.

Numerous too, along the trails, are members of the bolete family, fungi that can be identified by the distinct tubes, or pores, beneath the cap, rather than gills. These range in color from bland tans to the startlingly brilliant red Frost's bolete, Boletus frostii, to a somber warted black curiosity, the Old Man of the Woods, Strobilomyces floccopus. Some of the boletes grow to be 8 and 10 inches in

diameter.

The aspect of mushrooming that seems to excite the most interest is their edibility. There are those who hunt the wild mushroom solely for food. They are called pot hunters or, formally, mycophagists.

The Pinelands has its share of table mushrooms. I learned from a garden farmer which of the local species he savored and how he prepared them. Best of all, but not right off, I found out where some of his secret hunting spots were. A mycophagist, it seems, enjoys "talking mushrooms" nearly as much as he does eating them. When I first showed an interest, this man's eyes lit up as he talked of his pickled wild mushrooms and of one of his specialties, a wild mushroom and barley soup. But when I ask "where?," a forgetful expression appeared. It was like asking a bayman where he was getting those baskets of Jersey littleneck clams, or a striped bass fisherman where he was catching those nice schoolies. Some things are sacred down Barnegat way.

The first edible this friend collects is the variable Russula, Russula variata. It usually appears after the first good rainfall in July, and off and on thereafter into the fall. This species favors open areas in the woodlands, wherever there are oak trees. At a good spot a peck basket can be gathered in a short time. The variata is a bit larger than the storebought kind, has a stumpy white stalk and white gills which are frequently and repeatedly forked. The cap color can vary from a shade of light red to purple or green. The spore print is white. The cuticle, or skin, is easily peeled off, resulting in a fine-looking all-white mushroom. It is good in fresh soups and stews.

Starting in September, the red-capped scaber stalk, Leccinum aurantiacum, can be collected in the pines. This good edible can be recognized by its reddish-brown cap, white spores (when young) and the black fibril tufts on its substantial white stalk. The thick white flesh does darken after being cut. The spore print is brown. This mushroom is best after it has been dried. The cap is cut into quarterinch sections and then sun dried. Simple twoby-two-foot trays with wire mesh bottoms can be used for the drying. The cut mushroom pieces should be protected by a cheesecloth covering. Final drying can be accomplished in an oven set very low.

During the scaber stalk's harvest period, the honey mushroom starts appearing on old oak stumps. My mycophagist friend hot-packs this variety in Mason jars. After that, if growing conditions are right, the brick tops will show up on other oak stumps. The farmer pickles these along with bits of chopped onion and celery. I like these tangy pickled wild mushrooms best of all.

It is fine to collect wild mushrooms to eat, but you must be 100-percent sure of what you are collecting. My friend, for example, has been collecting edible wild mushrooms for 50 years. He knows what he is collecting, and sticks to just the four species that his father before him, a Polish immigrant, had collected. Bear in mind that the Amanita species are quite common in the Pinelands, and that several of these are deadly.

In addition, just as some people are allergic to strawberries or shellfish, some will be allergic to a wild mushroom species. When sampling a wild mushroom dish for the first time, make it just a small tasting. If it agrees with you, you can always enjoy more later.

Mycology is a fascinating field, but one that is difficult for amateurs to explore on their own. A popular guidebook will help you get started. If your interest grows, consider joining the New Jersey Mycological Association (NJMA). The NJMA conducts field forays and holds a Fungus Fest each fall at the center. See right-hand column for details.

Sources for more mushroom information:

The Audubon Societu Field Guide to North American Mushrooms Gary H. Lincoff Alfred A. Knopf, New York Mushrooms of North

America Orson K. Miller, Jr. E.P. Dutton, New York

The Somerset EEC 190 Lord Stirling Road Basking Ridge, N.J. 07920 201-766-2489

New Jersey Pinelands Commission P.O. Box 7 New Lisbon, N.J. 08064

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Jar of "edibles"



South Jersey

Tops for Waterfowl



BY PETE MCLAIN

While the upland game and deer hunters may need to compete for a place to hunt, the Jersey waterfowlers have some of the best and least-crowded public waterfowl hunting to be found in the Atlantic Flyway. Few other states have the vast tidal wetlands and the excellent wildlife manangement areas, where there are more ducks than people.

There are over 250,000 acres of tidal wetland along the Atlantic Coast and the Delaware Bay and River. The Division of Fish, Game and Wildlife manages over 50,000 acres of prime waterfowl habitiat as wildlife management areas, which are open to public hunting. In addition, large acreages of the Forsythe and Barnegat National Wildlife

Refuges are open to hunting.

To make things even better for the Jersey waterfowl hunters, the State is the wintering ground for almost half a million waterfowl. About 65 percent of the brant and 33 percent of the black ducks in the Atlantic Flyway stay in New Jersey. During the fall, more than 250,000 snow geese and 10 to 15 thousand





PHOTOGRAPHS BY AUTHOR

Canada geese use the South Jersey tidal wetlands.

Although there is more than enough elbow room and a good supply of waterfowl in New Jersey, the wildfowl hunter must invest in the proper equipment to enjoy the best of the sport. It's possible to don a pair of hip boots, shove a box of shells into a hunting coat and walk the marsh and "jump shoot." But to really participate in the traditional waterfowl sport, an investment in clothing and equipment will add immeasurably to the pleasure of days in the field.

First, an outboard boat of 12 to 18 feet, which can be put on a trailer, will provide the transportation to wetlands, where you have the marsh to yourself. A boat can be covered with netting and marsh grass and can double as a duck blind.

Second, decoys are a must. If you are a puddle duck shooter, a dozen good-quality blacks, mallards, pintails or whatever species you are hunting will do the trick for most small water and tidal marsh shooting. If you elect to hunt the open bays and major rivers for diving ducks, a larger number of decoys will be required.

Every waterfowl hunter should buy the best quality protective clothing, boots and waders he can afford. In this day of quality equipment at reasonable prices, there is no need to be cold in the duck or goose blind. A good, insulated, waterproof camouflage parka, insulated waders, gloves, thermal underwear and a hat are basic.

The 12-gauge shotgun with a modified choke is a good choice. Whether it's a pump, autoloader or double gun depends on the preference of the owner. All modern shotguns will now handle steel shot loads, which are required on the South Jersey wetlands. Hunters using older double or imported guns should be cautious about shooting steel shot.

One of the joys of wildfowling is owning and using a retrieving dog. There is no greater thrill than training your own retriever. Whether you select a Labrador, Chesapeake Bay, a golden or another breed, you will be rewarded in companionship and in birds saved that might otherwise be lost as cripples.

Now, where to go in South Jersey to enjoy some of the best waterfowling in the Atlantic Flyway? The choices are so vast and numerous that it's impossible to recommend any one or even a dozen areas as the best.



However, I'll go out on a limb and list some excellent waterfowl hunting areas as starters. Some of the best are found by exploring the tidal marshes of the Atlantic Coast and Delaware Bay prior to the season. These are the areas where you might not see another hunter all day.

One of the wisest investments a hunter can make in New Jersey is a \$6.50 for a "Guide to Wildlife Management Areas," available from the Division of Fish, Game and Wildlife, CN 400, Trenton, NJ 08625. This 123-page book lists every wildlife management area, what wildlife is found there and a map.

Starting in Ocean County, the 7,500-acre Great Bay Management Area, just south of Tuckerton, provides access to Great Bay and thousands of acres of excellent puddle duck marsh. Just to the south is the designated public hunting area on the Forsythe National Wildlife Refuge. Here you will find the best brant and snow goose shooting in the Altantic Flyway and also excellent marsh duck hunting.

Moving down the coast, the famous 13,000-acre Tuckahoe-Corbin City Tract (MacNa-

mara Management Area) is superb for marsh ducks and early Canada goose hunting. On the coastal marshes below Ocean City, the Marmora Wetlands offer thousands of acres of excellent marsh and bayshore hunting.

The Delaware Bay marshes are greatly underutilized by waterfowl hunters. These tidal wetlands support large populations of waterfowl. Areas like the 5,100 acre Dennis Creek Management Area near Dennisville, Cape May County, are excellent. In Cumberland County, the Heislerville and Egg Island Management Areas, totaling over 14,000 acres, offer almost unlimited duck and goose hunting opportunities. Further up the Delaware Bay, the 3,000-acre Mad Horse Tract in Salem County is great for puddle ducks. These are just a few of the State-owned management areas. In addition, there are thousands of acres of private wetlands that are not posted and are available for hunting.

Wildfowling in New Jersey is a tradition dating back to Colonial times. It's a recreation for which you must invest in the proper equipment and spend the time to earn your reward of the best public waterfowl hunting you can find anywhere.



RedBank, Grucial Victory

BY FRANK T. DALE

Did you know that there are two Red Banks in New Jersey? As a native of the eastern part of the state the only one that I was familiar with was located on Route 35 on the way to the shore. Whenever the Battle of Red Bank was mentioned I pictured the battlefield in this location. Years later, while driving south on Route 295, I noticed a sign along the highway indicating a town called National Park. My curiosity aroused, I followed the sign to the town and there discovered an area called Red Bank, the location of Fort Mercer, the site of the Battle of Red Bank.

Fort Mercer is on a promontory jutting into the Delaware River just below Camden. Fort Mifflin is located across the river on the Philadelphia side. These two forts, with an array of underwater obstructions called *Chevaux-defrise* between them, effectively blockaded Philadelphia. The British General Howe had reached the city by a circuitous overland march through Maryland. Now he was in the city but he couldn't be reached by his supply ships until these forts were taken.

Fort Mercer was a pick-and-shovel fieldwork consisting of trenches and palisades. It was manned by 600 troops under the command of Colonel Christopher Greene of Rhode Island. Greene was one of those unspectacular middle-ranking officers who always seemed to turn up in the hottest spots and get the job done.

The construction of the fort was never completed but, as it turned out, 600 men weren't enough to defend the entire structure, anyway. Greene had his men construct a palisade through the middle of the fort and moved them all into the southern half.

General Howe elected to have his Hessian troops capture the fort. Colonel Von Donop was to lead about 1200 of his mercenaries in the assult. Early in the war, these Hessians had become surrounded with an aura of invincibility, something akin to the reputation Germanic troops in later wars were to enjoy. But colonial troops got their number at Trenton the winter before. Their bright uniforms and the habit of pressing ahead without seeking concealment made them easy targets. In truth, Americans considered them brave, but just a little stupid.

The Hessians crossed the Delaware upriver from the fort and approached it from the northeast. The land around the fort had been cleared so that the approach was observed and the attack prepared for. Von Donop sent an officer under a flag of truce to offer Greene an opportunity to surrender. This was tersely rejected.

The attack commenced at about four in the afternoon and in October this left little daylight. The Hessians advanced in their usual stolid manner and, with the help of ladders they carried with them, crossed the trenches and scaled the first palisade. The attackers had now entered the part of the fort that Greene had abandoned. Thinking that the Americans had fled, the Hessians cheered and threw their hats in the air. Their joy was shortlived. The defenders rose up from behind the second palisade and began firing. The slaughter was prodigious. Von Donop was hit as were many of his officers.

The one-sided victory at Red Bank came just a few days after the much larger success at Saratoga. Indeed, the American victory at Saratoga might never have happened had General Howe and his army been there as planned. Historians have long pondered Howe's abandoning the Saratoga operation for the rather uncertain benefits derived from the occupation of Philadelphia. Apparently he felt the capture of Philadelphia would be quick and easy and he would have time to send troops to Saratoga. As it turned out, in the fighting around Philadelphia, Howe had a tiger by the tail. He coundn't let go until it was too late.

With the hindsight that time allows us, we now know that the double victories at Saratoga and Red Bank convinced the French that American troops had both the will and skill to carry the war to a successful conclusion. They also became convinced that the Revolution was no mere regional uprising of New England malcontents. At Red Bank Rhode Island troops fought on New Jersey soil to defend a Pennsylvania city. The French alliance which was the result of these victories led inexorably to the final victory at Yorktown.

Make a point to visit the Red Bank battle-field. You won't be disappointed. To get there, go south on Route 295 until, just below Camden, you see a sign indicating a right turn into the town of National Park. This is the town where the battlefield is located. Drive until you come to it.

From the fort site you have excellent views across the river to Fort Mifflin and just upriver, Philadelphia and the Navy Yard. Bring binoculars.

You can also visit the Whitall House on the battlefield which served as a hospital for the wounded after the battle.

There is plenty of parking and a lovely picnic area.



Scottish Highlanders participating in a reenactment at Red Bank.

Frank T. Dale
Is a frequent contributor
to NEW JERSEY
OUTDOORS.



Hunting in New Jersey

these are the good ol' days

By David Chanda

The talk around the table at a typical hunting cabin is full of "Remember when ..." stories, with the experienced hunters teasing the younger ones with tales of the good ol' days. Yes, times have changed, and hunting in New Jersey may be different than it was 10, 20 or 30 years ago, but that doesn't mean that the changes have made things bad.

Quite the contrary! Many of the revisions in the hunting rules and regulations, and in State management practices, have greatly increased the opportunities for Garden State sportsmen and sportswomen. As a result, New Jersey offers its hunters a tremendous variety of activities throughout the year.

September marks the beginning of a new year for many Garden State sportsmen. While children are getting ready for the start of a new school year, and vacationers are preparing for the last long weekend of the summer, many sportsmen are gathering up their equipment and preparing for the start of the annual rail season.

Three species of rail are hunted in New Jersey—the Clapper, Virginia and sora rail. Rails can be found on the saltwater tidal marshes along the Jersey shore. These birds have been very abundant at times and have provided sportsmen with the ideal opportunity to improve their shooting for the upcoming small game and waterfowl seasons.

Later in the month of September, the annual fall bow season for deer opens. Bow hunting in New Jersey is an effective way of harvesting deer, and it is growing in importance as a means to manage our State's deer population. It is an extremely popular sport, with more than 45,000 licensed bow hunters participating annually. New Jersey leads the nation in the number of people who bow hunt

and in the number of deer taken by these hunters.

As October approaches, additional opportunities become available to hunters. The annual waterfowl season begins during the first few weeks of this month. Waterfowl hunting has changed dramatically over the past 50 years, and through the preservation of more than 250,000 acres of salt marsh, inland swamps, bogs and lakes, New Jersey has become one of the top waterfowl hunting states along the Atlantic Flyway. The Garden State is a wintering area for more than 300,000 ducks and geese annually.

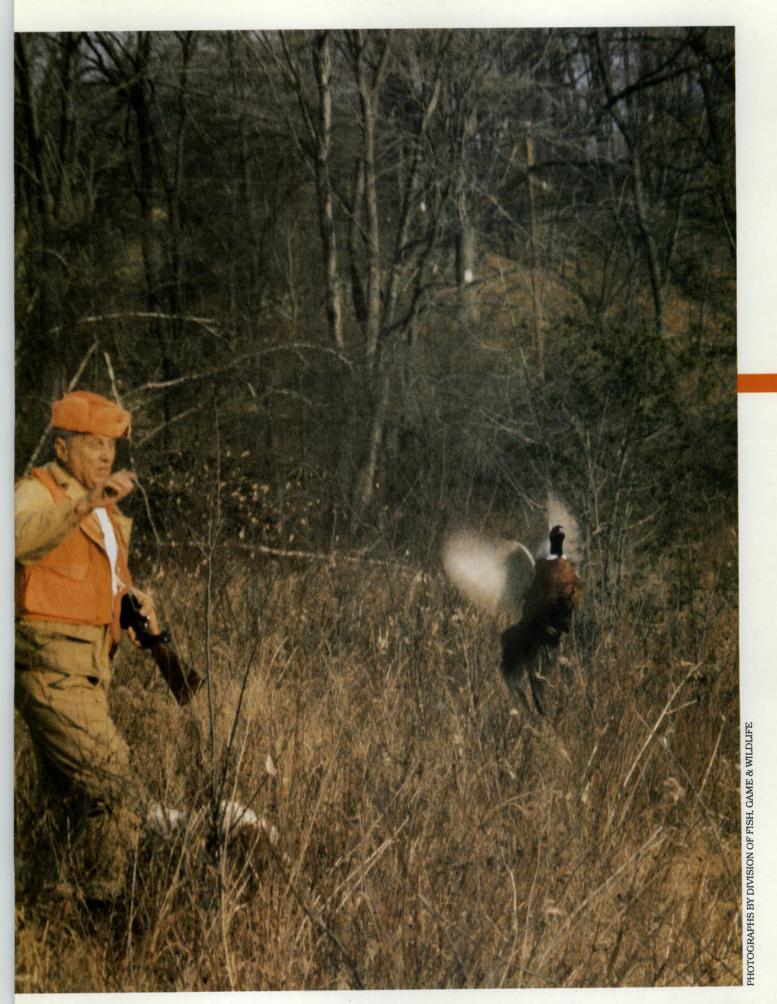
Favorite spots to hunt include many Stateowned Wildlife Management Areas (WMA) such as Great Bay Boulevard WMA near Tuckerton, L.G. MacNamara WMA near Tuckahoe, Dennis Creek WMA near Dennisville and Mad Horse Creek WMA near Canton.

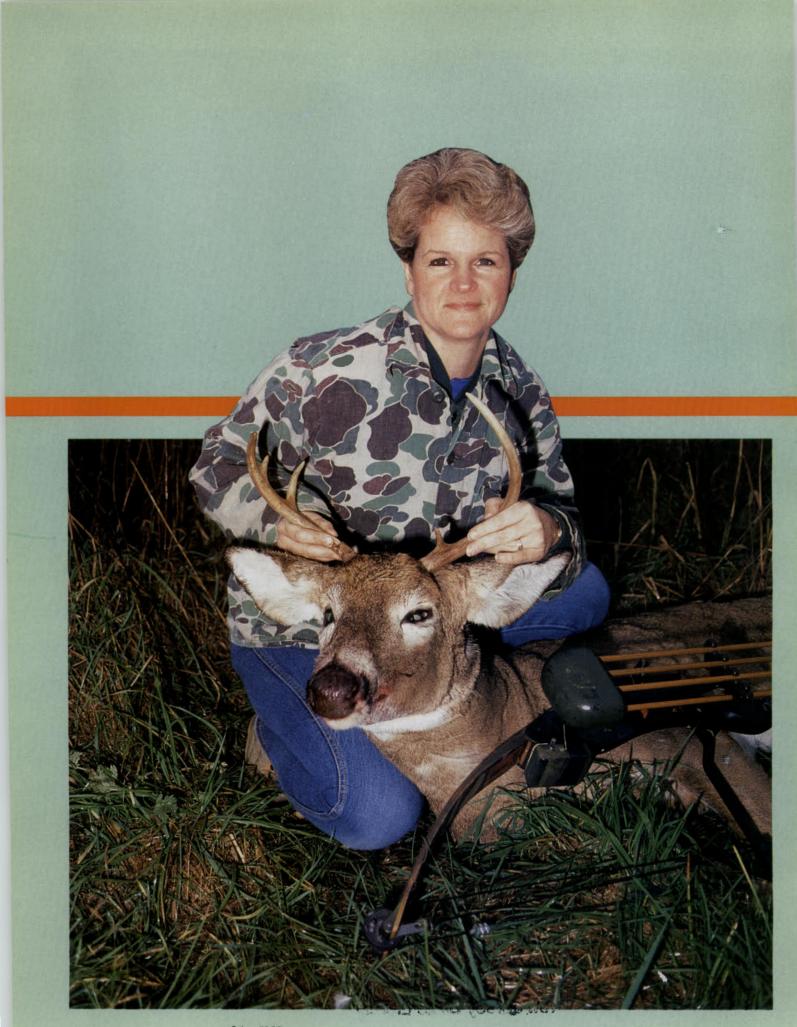
New Jersey leads many other states in the harvest of brant, snow geese, scaup and bufflehead. Other species such as mallards, black ducks, wood ducks and teal are also very popular among waterfowl hunters.

In addition to being the time for waterfowl hunting, October marks the start of the upland game season. The ruffled grouse, squirrel and woodchuck seasons all open during the middle of the month. These animals can be found throughout New Jersey and inhabit forested areas. They have all increased in popularity among hunters because of the early season that coincides with the pleasant autumn weather.

As November approaches, many hunters await the traditional opening of small game season. Now their attention is focused on pheasant, quail and rabbit. However, squirrel, grouse and woodcock seasons are still open, and with the recent addition of a fall bow permit season, it becomes difficult to decide just what sport to pursue!







As December approaches, the firearm deer hunter turns his attention to that elusive trophy white-tailed buck. New Jersey has one of the most progressive deer management programs in the country. Although many wildlife agencies manage their resources in ways similar to that of New Jersey, few of these agencies approach the precision achieved by the Division of Fish, Game and Wildlife.

New Jersey supports a prehunting population of 135,000 deer on three million acres of diverse range. During the 1986–1987 deer season, 122,000 sportsmen harvested 33,777 deer and participated in over one million mandays of recreation. More than \$75 million was contributed to New Jersey's economy by deer hunters.

Following the six-day firearm buck season is a special permit season and a ten-day muzzleloader season for deer. It is during these two seasons, as well as the bow season, that many of New Jersey's deer management objectives are achieved.

In January, the gun hunters' attention again returns to squirrel, grouse, quail and rabbits; at the same time, the attention of the waterfowl hunters might be on scaup and the bow hunter again has the opportunity to test his skills during the winter bow season. Harsh, cold winter weather makes this season a particularly tough challenge for dedicated sportsmen.

By March, most of our traditional seasons are but a fond memory. However, opportunities still present themselves as seasons on crow and woodchuck are opened. In addition, spring turkey hunting is just around the corner, which presents an opportunity to challenge one of nature's most wary creatures.

Prior to 1977, wild turkeys were not found in New Jersey. Through restoration efforts, the birds have made a tremendous comeback. In 1977, 22 hens and toms were brought here from New York and Vermont by the Division of Fish, Game and Wildlife. More than 5,000 wild turkeys can now be found in more than 15 counties.

In May of 1981, New Jersey had its first spring gobbler hunt in more than 100 years. Three hundred permits were issued to hunters and 77 toms were harvested. Today, New Jersey offers some of the best turkey hunting in the northeastern United States.

As one can see, there are a tremendous amount of opportunities available to New Jersey sportsmen and sportswomen. More than three and a half million days of hunting recreation are enjoyed by these outdoor enthusiasts and more than \$192 million is annually generated for the State's economy as they pursue their sport.

Probably one of the biggest problems faced by sportsmen today is access to land. However, with more than 470,000 acres of publicly owned land available for hunting, it shouldn't be difficult to find a place to hunt.

In spite of New Jersey's small size and high density of people, our wildlife continues to flourish. As long as we continue with sound wildlife management practices and receive the support of our citizens, wildlife will continue to thrive in the Garden State.

So, the next time someone tells you about hunting in New Jersey and the "good ol' days," stop and think a moment, because with what this state has to offer sportsmen and sportswomen—the good ol' days are today.

(If you would like additional information on seasons, bag limits, WMAs and so forth write to the Division at CN 400, Trenton, New Jersey 08625.)

Dave Chanda is a Principal Wildlife Biologist and Education Specialist with the Division of Fish, Game & Wildlife. He is a frequent contributor to NEW JERSEY OUTDOORS.

Smallmouth Bass

Robert McDowell, Asst. Director, Division of Fish, Game & Wildlife, is a frequent contributor to NEW JERSEY OUTDOORS. The smallmouth bass is an overlooked species in New Jersey. Unlike its close relative the largemouth, the smallmouth receives little attention from our State's freshwater anglers.

This lack of image is in no way related to the species' sporting qualities. And I am not saying that New Jersey's anglers don't like smallmouths, but these fish are not specifically sought by fishermen with the same gusto shown for trout or largemouths. In many other parts of North America, this fish is highly regarded for its fighting qualities and beauty.

Perhaps this lack of widespread popularity is related to the smallmouth's status as a non-native species. It will probably come as a shock to most fishermen to learn that the smallmouth was not found in New Jersey waters when the settlers first arrived in the Garden State.

The fish was originally found in the Great Lakes, the Upper Mississippi, the lakes of southern Ontario and the St. Lawrence River system. It is theorized that the opening of the Erie Canal in 1825 allowed the smallmouth access to the Hudson Valley river system. In addition, during this century the fish has been stocked by various government agencies and sportsmen's groups throughout the country.

Regardless of the origins of the smallmouth, it is truly a beautiful fish. It is slightly smaller than its largemouth cousin but larger than most of the other members of the sunfish family. The current State record smallmouth is 6 lb 4 oz; the current largemouth bass record is 10 lb 14 oz. The smallmouth bass is a deep greenish bronze on the back and on the sides, where it also has soft, darker coloring in vertical stripes. The darkness of the coloration depends on the environment. Fish from dark, clear waters tend to be deeper colored than those living in brighter habitats. Also, the more dominant, aggressive individuals in a group are darker in color.

The mouth of this fish is large and distinguishes it as a predator. However, the jaw hinge extends only as far as under the center of the eye, unlike the case in the largemouth, in which the jaw extends past the eye.

Another part of the beauty of this fish is where it lives. Not commonly found in shallow, quiet waters, it prefers deep, rocky lakes and ponds and larger, cool, clean rivers.

In the Garden State the Delaware River is the best known spot for smallmouth, but the north and south branches of the Raritan River have excellent populations of these bass. The Delaware has good numbers of small-mouths from the New York border to Trenton Falls. Good spots can also be found in almost any tributary to the Delaware.

Some of these tributaries have good small-mouth fishing for many miles upstream from their entry into the Delaware. A good example is the Paulinskill, in which good fishing can be found in the deeper pools and riffles nearly to the town of Newton in Sussex County, about 20 miles from the Delaware River.

One of the better smallmouth lakes in our State is Round Valley Reservoir in Hunterdon County. In recent years the numbers of these fish seem to have declined as largemouth populations have increased, but smallmouths can still be caught with the proper techniques and bait.

Many smallmouths are caught incidental to fish for other species. During the shad run in April and May, I have often caught smallmouths on shad darts. However, Bob Stewart, Fisheries Biologist with the Division of Fish, Game and Wildlife, states that "the best bait for this fish is hellgrammites and crayfish." (Hellgrammites are large insect larvae found in rocky, clean streams.) This would seem to be good advice, since 60 to 90 percent of the fish's diet is reported to be crayfish and aquatic insects.

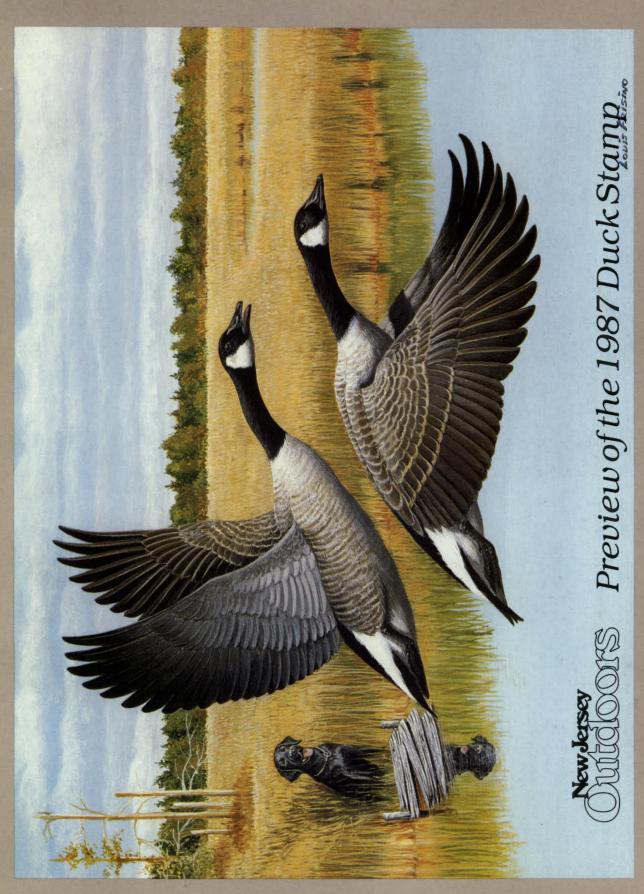
For best results, these natural baits should be fished near rock piles, brush or log heaps with just enough sinker weight to keep the bait near the bottom.

Artificial baits will also lure smallmouths. Spinners and small diving plugs seem to attract the most catches. Fishing with artificial baits can be very exciting because of the sudden, spectacular strike followed by a fantastic fight and an occasional thrashing jump so characteristic of this fish. The fight of this fish is much stronger than its size would suggest.

Regardless of the bait chosen, the best time to catch smallmouths is in the evening, after the sun has begun to set. Casting into the fast, rocky waters of the stream or the rock pile off the shore of the lake provides the best action. The season of the year is also important. I have had the best luck during the fall and early spring.

The smallmouth bass has been a successful immigrant to our State's waters. The habitats that support this very desirable fish are limited. However, for the anglers who seek this fish out, there is high quality sport, both from the fish and the beautiful waters in which it lives.





The 1987 New Jersey Waterfowl Stamp design was created by Louis Frisino. A New Jersey waterfowl stamp is required to hunt waterfowl in New Jersey. Proceeds from the sale of stamps and limited edition, artist signed prints are earmarked for the acquisition and conservation of waterfowl habitat. Over 4600 acres have been

purchased or donated since the first stamp was issued in 1984.

To find out where to purchase a print call 1-800-382-5723. Stamps can be purchased from the New Jersey Division of Fish, Game and Wildlife, CN 400, Trenton, NJ 08625 (609-292-2965).