

TRINITY COLLEGE LIBRARY

APR 19 1976

March/April 1976

# New Jersey OUTDOORS





Brendan T. Byrne  
Governor

**Department of Environmental Protection**

David J. Bardin  
Commissioner

**Editorial Advisory Board**

Al Toth, *Chairman*  
(Chairman, New Jersey Fish and Game Council)

Jack Krauskopf, *Director*  
Office of Newark Studies

Richard J. Sullivan  
Center for Environmental Studies  
Princeton University

Irwin Zonis, *Vice President*  
Essex Chemical Corporation

**New Jersey Outdoors Magazine**

Steve Perrone	<i>Contributors</i>
Editor	Joan Galli
Harry Grosch	Bob McDowell
Photographer	Pete McLain
Lucy Brennan	Carlton Smith
Bob Oldenburg	
Circulation	
Edi Joseph	
Environmental News	

NEW JERSEY OUTDOORS is the bi-monthly magazine of the Department of Environmental Protection of New Jersey. This publication is dedicated to the wise management and conservation of our natural resources and to foster a greater appreciation of the outdoors.

(Note: Costs of publishing the magazine not covered by subscriptions are met primarily from the Fish and Game License Fund, administered in the Department of Environmental Protection by the Division of Fish, Game, and Shellfisheries, and from general revenues available to the Department of Environmental Protection.)

Second-class postage is paid at Trenton, N.J. and additional mailing offices. Subscriptions are \$3.00 per year and three years for \$8.00 payable by check or money order to New Jersey Outdoors Mailing Office, P.O. Box 1809, Trenton, N.J. 08625. Change of address should be reported to the above address. Send old and new addresses and the zip code numbers. The Post Office will not forward copies unless forwarding postage is provided by the subscriber. Allow six weeks for change of address to take effect. Unsolicited material is sent to the magazine at the risk of the sender. Permission granted to reprint with credit to New Jersey Outdoors. Publication office is Rm 702, Labor and Industry Building, John Fitch Way Plaza, Trenton, N.J. 08625.

# New Jersey OUTDOORS

<b>A Birds Eye View of Wildlife In the Suburbs</b>	<b>2</b>
<i>By Neal Munch</i>	
<b>Trout Stocking — What's New for '76?</b>	<b>4</b>
<i>By Walter S. Murawski</i>	
<b>New Jersey Audubon and Outdoor Recreation</b>	<b>6</b>
<i>By Liz Anderson</i>	
<b>The Ballad of Moe and Sal</b>	<b>8</b>
<i>By Robert Soldwedel</i>	
<b>Spring in the Ramapos</b>	<b>10</b>
<i>By Dick Riker</i>	
<b>Happiness is Training Your Own Beagle</b>	<b>14</b>
<i>By Dr. Len Wolgast</i>	
<b>Cowpens Island</b>	<b>18</b>
<i>By Lee Widjeskog</i>	
<b>Batona Trail</b>	<b>21</b>
<i>By Jon Kuser</i>	
<b>1975-76 Whitetailed Deer Harvest</b>	<b>27</b>
<i>By George Howard</i>	

## FEATURES

<b>Arbor Day</b>	<b>13</b>
<b>Environmental News</b>	<b>16A</b>
<b>For the Birds</b>	<b>17</b>
<b>Letter From a Concerned N.J. Sportsman</b>	<b>25</b>
<b>Liberty Park</b>	<b>26</b>
<b>Cardinal Art Aids Children's Hospital</b>	<b>32</b>
<b>Cover Captions</b>	<b>32</b>



# from the editor

## now is the time

The debate over the best way to manage and maintain our wildlife resources drones on and on—in various areas and at many levels—in the nation's capitol and in countless regional areas; on television, radio, and newspapers and magazines across the land. But despite all this discussion and coverage, the most serious threat to wildlife—urbanization of the countryside—continues to make habitats unsuitable for wildlife.

NOW IS THE TIME to ask ourselves to contribute more than rhetoric to the preservation of our wildlife heritage. A large percentage of our nation's endangered species is in this state because of alteration and destruction of wildlife habitat. Indeed, loss of living space is now the single most important factor responsible for the reduction in wildlife numbers.

NOW IS THE TIME to act positively to counteract these losses. Each one of us can, in a small but important way, preserve and enhance the wildlife resources of our communities. Creating and improving backyard habitat for wildlife is educational; it can be tailored to fit any budget, and is fun.

NOW IS THE TIME to create wildlife habitat in

your own backyard, school yard, or around your office or apartment complex. Dozens of books and articles have been written about creating and improving wildlife habitat. (For a free listing, write to Backyard Wildlife, N.J. Division of Fish, Game, and Shellfisheries, P.O. Box 1809, Trenton, N.J. 08625). Many of the works are entertaining narratives of the authors' personal experiences in their own backyards.

The vast amount of information available on the subject of backyard wildlife is overwhelming, and sometimes contradictory. Therefore, this information has been developed into an article designed to facilitate and encourage your participation in a program to enhance the life style of all New Jersey residents—wildlife and man alike. The first article in this series appears on page two of this issue. The articles to follow in subsequent issues of *New Jersey Outdoors* will be designed to supply you with the information necessary to create your own backyard wildlife refuge.

NOW IS THE TIME—start today—because a bird in the bush is an irreplaceable natural wonder.

Joan Halli

## in this issue

Spring is here and it's time to think about gardening and green thumbs. The opening article by Neal Munch, of the U.S. Soil Conservation Service, tells how to make your backyard attractive to wildlife . . . birds, bees and furry critters.

Spring means trout fishing and Walt Murawski of the Bureau of Fisheries gives us the lowdown on angling prospects for our stocked New Jersey streams and lakes.

Liz Anderson of New Jersey Audubon Society writes about Audubon's environmental education program for school age children. This field trip sequence for grades K through 6 is called "Bridges to the Natural World."

And in a humorous vein, trout stocking and fishing as seen from a trout's eye view, "The Ballad of Moe and Sal." This tale of one day (opening day) in a hatchery trout's life was written by fisheries biologist, Bob Soldwedel, our resident humorist.

For spectacular Spring and Summer displays of color, travel north to Ringwood State Park in the Ramapo mountains just below the New York State Border. First read the article by Park Superintendent Dick Riker, and enjoy the photographs by Harry Grosch.

"Happiness is Training Your Own Beagle," writes Len Wolgast, Assistant Professor of Wildlife Biology at Cook College, Rutgers University. "For the Birds," by the whistling wizard of the Conservation and Environmental Studies Center in Whitesbog gives the "where," "how," and "why" of bird feeding.

A group of concerned New Jerseyans in Ocean City would like to turn Cowpens Island, located just off the ninth street bridge, into a bird sanctuary. Wildlife biologist Lee Widjeskog, who conducted a preliminary inventory, found just about all the common wading birds nesting on this island.

An early Spring hike on the Batona Trail which winds almost thirty miles through the Pine Barrens is described by John Kuser. The author gives some advice on the footwear recommended for hiking in this area.

If the ever increasing amount of trash and throwaways on our beaches concerns you and turns your stomach, read the letter from Bob Lick, President of the New Jersey Beach Buggy Association.

George Howard, chief of the Bureau of Wildlife Management in DEP's Division of Fish, Game and Shellfisheries, reports on how the 1975-76 Whitetailed Deer Harvest added an estimated ten million dollars to New Jersey's economy.

Note that one half of our postage paid subscription blank contains a miniature Reader Survey. Please fill it out and drop it in the mail. Thank You.

Steve Penne

New Jersey State Library



# a birds eye view of wildlife in the suburbs

BY NEAL MUNCH

U.S. Soil Conservation Service



J. GALLI

***Flowering dogwood, commonly used for landscaping produces bright red berries attractive to many species of birds.***

If New York City can be the subject of two delightful books on natural history, one authored by John Kiernan which appeared a number of years ago and the more recent book by Elizabeth Barlow, then certainly the spreading residential suburbs of New Jersey in this most densely populated state, could be a veritable paradise for many forms of interesting wildlife—if we all lend a hand. And what better way to celebrate this country's bicentennial than to restore a bit of our national heritage in our own backyard.

A census by the Monmouth Audubon Club makes clear that the richness of suburban wildlife depends on the action of many individual homeowners. This census by club members shows that 86 species of birds utilized residential back yards in the winter season.

Further, a study of 96 counties in 12 northeastern states shows, for instance, that 85 percent of the rural land being developed went to residential use and that the average lot size for each home was one-half acre.

Now, on a national basis, this means we are converting about 850,000 acres of rural land, mostly fine wildlife habitat, to residential use each year.

All this development includes a lot of people as well as land for about 7 out of every 10 of us; or that 70 percent of the population now lives in cities and suburbs. By the year 2000, projections estimate that this ratio will grow to 8 out of 10. The great amount of converted acreage in New Jersey and the many people on this land can do wonders to recreate lost wildlife habitat and thus restore many forms of interesting and enjoy-

*(Continued on page 30)*





JOE LOMAX

*Young robin  
resting on  
holly branch.*



J. GALLI

*Firethorn or  
pyracantha is a  
dual purpose plant  
providing both  
food and cover  
for wildlife.*



# trout stocking - what's new for '76?

BY WALTER S. MURAWSKI  
*Principal Fisheries Biologist*



*Hatchery brown trout often take a liking to alewife herring and gain considerable length and weight before finally being caught in lakes such as Greenwood Lake, where these beauties were taken.*

Before we look at what's new in trout stocking for the Bicentennial Year, let us look back to a year ago when we were preparing our stocking lists for the 1975 season. At that time we expected to be able to stock 577,000 trout during that year. Fortunately because of a mild winter which resulted in good survival for our hatchery trout we outdid ourselves and stocked just about 597,000 brook, brown, rainbow and golden trout before our stocking terminated at the end of May. Our present estimates of this year's stockable trout are not quite as high as last year but are certainly more than adequate to cover our basic stocking obligation of about 545,000 trout. They are expected to average about 10 inches (range from 7 to 18 inches) in length.

As in the present years we will be receiving a certain

amount of trout from the U.S. Fish and Wildlife Service, however because of a recent disastrous disease problem in their Lamar, Pennsylvania hatchery, they will be able to supply us with only 15,000 trout. As per our request these will all be catchable size brook trout which we do not raise in our hatchery because of past problems with disease. This species is a necessity for us because it is the only trout species that can tolerate the acid waters found in the southern coastal portions of New Jersey.

Certainly one of the plus factors that will make a big difference to the angler this year is the large number of two year old brown trout that we have on hand. In actuality, it is about five and half times as many as in 1975. Browns of this age are important because these are the ones that, because of their



large size, immediately start feeding on the landlocked alewife in certain of our large impoundments and thus become the backbone of a summer fishery and a subsequent holdover fishery. These browns are also of high value in our better streams because of their great ability not only to adapt to the adverse temperature conditions that set in during the summer period, but in fact establish or supplement natural spawning populations in the tributaries to these streams. Thus, this larger number of two year old brown trout, the great majority of which are expected to run between 10 and 13 inches in length at stocking time, should substantially enhance fishing in the latter part of the stocking season and thereafter.

In 1976 we will see the final stocking of our supply of golden rainbow trout. At present we have about 9,000 two year olds which should range between 8 and 12 inches in length at stocking time. Experience has shown us that because of their high visibility they are not suitable for stocking in clear streams and our research has shown that in lakes they do not provide as good a return as the normal rainbow trout. In fact, we have no record of any golden rainbow ever having held over to the following year.

Another finding of our research on trout stocking has been the fact that in Round Valley and Spruce Run reservoirs the rainbow trout outdoes the brown trout by about two to one in providing a fishery for the first week of the season. This is a critical week because the anglers are out in force and the waters are generally still too cold for active trout feeding. Consequently, we have decided to stock only rainbows during the preseason stocking period in both of these reservoirs. This should add much to the enjoyment of the early season reservoir angler.

Of interest to the trout angler in this Bicentennial Year are several major changes in the Fish Code. The most obvious of these has been the transfer of 61 waters from the "closed waters" list to the "open waters" list leaving only 17 waters on the "closed" list. This change was made so as to minimize

the loss of in-season fishing time on those waters where angling is carried on for species other than trout. The "closed water" classification was left on the remaining waters primarily because they are highly important for trout angling and support essentially a single fishery—trout, during the months of April and May. It is expected that this combination of closed and open waters will allow for a maximum of fishing recreation time and provide the maximum opportunity for a successful fishing experience for the greatest number of anglers; and yet not substantially promote the old problem of truck following.

Another change for '76 is the reduction of the daily bag limit from six to four trout on June 1st. This change was made in order to stretch out the harvest of the stocked trout through the summer. In subsequent years this same pattern of the six trout limit for April through May and four trout and thereafter is expected to be followed for the general trout waters of the state. The value of spreading the harvest out over this period should prove beneficial not only in our trout maintenance streams but in our trout maintenance lakes and reservoirs as well. The term "trout maintenance waters" refers to those waters that in fact support trout throughout the year, and they include Round Valley Reservoir, Lake Hopatcong and portions of the Flatbrook, Paulinskill and Pequest rivers to name a few.

This change will have little effect in the many warmwater impoundments that we stock because they receive their last stocking by the middle of May in recognition of the fact that they will become too warm by June for trout survival. Thus, even if the trout are not caught, very few survivors can be expected after that month.

These changes are part of the Division's continuing effort to make the trout stocking program more responsive to the environmental requirements of trout. At the same time, we want to maximize its recreational value to the angling public, yet recognizing that "good trout fishing" has a little different meaning to each angler. □

## ***Opening Day on the Flatbrook***

Photos by Harry Grosch





# NEW JERSEY AUDUBON AND OUTDOOR RECREATION

BY LIZ ANDERSON

PHOTOS SUPPLIED BY N.J. AUDUBON SOCIETY

In an overgrown field, twenty-three fourth graders from Wyckoff's Sicomac School gathered excitedly around a New Jersey Audubon Society teacher-naturalist. Accompanied by their regular classroom teacher and several class mothers, the youngsters had shortly beforehand arrived at one of New Jersey Audubon's sanctuaries. Within a few minutes they were sitting in the nature center classroom listening intently as the naturalist explained what they would be experiencing that day in a once treeless pasture that was slowly reverting to woodland. The naturalist talked about plant and animal habitats, answered some questions, and then showed the class how to use a Polaroid camera. A discussion about how to use a set of pictures to tell other people about plant and animal habitats continued from the indoor classroom to the outdoor classroom.

Small groups, each armed with their own camera, dispersed to marked areas of the field. The children worked enthusiastically to get "instant" shots that showed how their own corner of the field was different from other sections.

"Hey, she said there would be trees coming up to start a forest. Look! They're here! Take a picture of those trees!" Two eight-year-olds, smiling broadly, joined hands and with their arms encircled a small clump of red maple trees they had identified by using a simplified tree key. They used their bodies to show the relative size of the young trees. That, they decided, would make a good shot to compare with the one where they had put their arms around the dark opening of a rabbit trail through a tangle of ground-covering goldenrod.

The enthusiastic youngsters were involved in a field trip called GET A PICTURE! that their teacher had selected from New Jersey Audubon's unique field trip curriculum, *Bridges to the Natural World*. Each group of students were to visit several specified sections during their halfday field trip. Under the guidance of a naturalist they would gather data through



Fourth-grader using camera for "GET A PICTURE!" field trip.



At least one parent is included with each student team in school field programs.

photographic techniques, soil testing, identification strategies, and quantitative measurements. This information would subsequently be used to caption a photo essay of their trip when they returned to their own classroom, thus reinforcing their verbal and writing communication skills.

Other field trips in the *Bridges* curriculum encourage youngsters to use their senses and stretch their minds (kindergarten); find out who lives where and why in the natural world (grade one); discover edible wild foods and food chains (grade two); begin map skills and orienteering during a treasure hunt for soil animals (grade three); explore new worlds through picture taking, blindfold walks, and discovery of pond life (grade four); experience American history through spinning, dyeing, rock and mineral



identification, and natural history detective work (grade five); discover that bird banding, study of forest succession, and water ecology are ways to learn the relationship of the natural cycles and man (grade six).

The *Bridges* curriculum is New Jersey Audubon's answer to the request by school officials in recent years that field trips be more closely related to the curriculum existing in a particular school or district. There was a particular need to bring environmental education to early childhood grades and to special education students. Richard Farrar, Audubon's executive director comments, "We were asked for an environmental experience program for school children in all grades in all parts of the state. Schools wanted something that integrated easily into existing science, mathematics, social studies, language arts, and fine arts programs—and at a minimal cost."

"Our education staff," continues Farrar, "pulled together a really fine program that met these criteria. All the experiences are field-tested and deal with process as much as content. There is no need for the kinds of programs that address themselves to specific but ephemeral problems; children are best served by a non-preaching environmental experience."

A key feature of New Jersey Audubon's efforts is the responsiveness of its staff to special school needs. The *Bridges* program itself is flexible enough to be modified, or certain aspects of a field trip emphasized, after preliminary conferences with the classroom teacher. A brochure (available from Education Department, New Jersey Audubon Society, 790 Ewing Avenue, Franklin Lakes, New Jersey 07417) points out that "each experience is for the teacher . . . an adventure for which to prepare and from which to build." New Jersey Audubon's teacher-naturalists help lay the groundwork in the school classroom and provide follow-up materials to help the learning process continue. They have even arranged for extended experience in an overnight arrangement.

The program is designed to be offered on the school grounds as well as at any of the New Jersey Audubon sanctuaries, and staff naturalists are available to consult with schools in the development of school natural areas and trails. One such "Guide to the Natural Grounds" was prepared for the Upper Greenwood Lake School in West Milford. The forty-two page spiral-bound guide covers twenty-seven trail stations; is illustrated and indexed; has annotated lists of reptiles, amphibians, mammals, and selected plants of North Jersey; and contains suggested lessons that can be chosen by teachers on each grade level.

The teachers in the school were introduced to the trail on a recent Professional Day. Their comments:

"It's alive, you know?—I walk on that trail and know it's my school, and my textbooks all come to life."

"I can teach math or social studies or art out of doors. And the kids learn. They really learn."

"I used to think nature was birds and . . . I don't know . . . now, I feel a part of my environment . . . and the kids know it and like it."

"I didn't realize that all these trees are only about forty years old. In fact, I thought . . . well, I hadn't thought about them at all."

"They've always neglected the early grades, young children can now really get into it. Whoever thought of adopting a tree? It's exciting!"

New Jersey Audubon's commitment to environmental education does not stop at the end of the formal school term. In addition to in-service seminars and curriculum workshops in school districts, the society offers a related and unique summer experience for children, teachers, and others. A week-long outdoor nature workshop, with parallel experiences for all age groups during the day becomes a vacation climax for outdoor education and outdoor awareness in New Jersey. Individuals or families live for the week in cabins and share swimming, square-dancing, and other activities in their free time. It's a great experience and brings to everyone the spirit of New Jersey Audubon's *Bridges to the Natural World* program—outdoor education as a way of life. □

"When students watch birds being banded for the first time you often see a change in their whole feeling about the world around them—from animals as objects to animals as another form of life."—quote from a school teacher.



Taking field data—an important learning experience in Audubon school programs.



# The Ballad of Moe and Sal



**Moe**



**Sal**

BY  
BOB SOLDWEDEL

Ours is the story of two brown trout "Sal" and "Moe." For two years they have been in training at the Charles O. Hayford Fish Hatchery in Hackettstown and the time is drawing near when they'll be sent up to the front. Both know of the proud tradition of pool 82 from which thousands before them had been graduated and had served with distinction. Sal had a 0.2 inch edge on Moe in size, being 10.6 inches in total length, but the untrained eye would not be able to distinguish them from any of the other thousands of trout in the 82nd. Ten and half inches is a pretty good size for a two-year old trout and they owed their growth to the chow that the hatchery served up, bland but nutritious. In the 82nd everyone griped about the chow but everybody ate it. Griping in fact seemed to be the major pastime. And so life went on day in and day out, reveille at sunrise, close order drill around the area, time out for chow, more close-order drill and taps at sunset.

Talk about monotony. But now as the end of March approached this humdrum existence was about to come to a screeching halt.

The graduation exercises were short and sweet. Count off by the numbers and into the truck. And there they sat, over seven hundred of them so cramped that you couldn't move a fin without poking somebody else in the eye. Sal looked around, he knew most of the guys from the 82nd, but there were a whole bunch of rainbows from the 81st in with them, too. The bows looked rather flabby, he thought to himself, guess the training wasn't as strenuous in the 81st. A lot of the guys were stripped of their fins too, probably for minor infractions of the rules. He didn't have long to dwell on the subject, however, because the lid slammed, the lights went out and they started to bounce around. A lot of the guys got sick.

Sal heard a voice behind him say "I'm scared". It was Moe. "We're all

scared, Moe" he answered. Nobody spoke much, they just let themselves be bounced around in the dark, thinking their own private thoughts.

Suddenly, the trip came to an abrupt end, throwing everybody against the front of the tank, squashing one rainbow in the process. Their first casualty. Then came the light and the first thing Sal knew, he was scooped up and sent hurtling through space. "Why did I ever volunteer for an airborne outfit" he thought. He hit the water with a bone-shaking splash and blacked out for an instance. When he came out of it, bodies were still landing all around him. Moe almost landed on his head. Everybody was dazed and disoriented. One poor devil, a 12.8 inch brown named Hal, was swimming upside-down having bounced off a rock. His first jump had been his last.

"The poor s.o.b." said Moe, "he was the biggest guy in our unit".

"Too bad his brains didn't match his





## Hal

size" said Sal, "he should have braced himself for that landing."

A much crueler fate befell Mary\* a 9.7 inch rainbow. Having missed the "drop-zone" entirely, she landed on the far shore at least two yards from the stream.

"I can't bear to see her suffer like that" said Sal turning his head away, "better to go quick like Hal, never knowing what hit you."

What was left of this battalion of the 82nd and the support troops from the



## Mary

\* Yes, dear reader, there were women in this unit. The 82nd was an equal opportunity outfit with no sexual discrimination. At this point in time nobody cared what sex they were.

81st formed up in the first deep hole they came to where they were confronted by the biggest brown trout any of them had ever seen. His name was Wolfgang. He looked them over with obvious sadistic amusement and spoke, "I would like at this time to say a few words to the new arrivals to the Musconetcong River. A lot of you're away from the hatchery for the foist time. Well, let me tell you

these here streams properly so they built the hatchery and started turning you recruits out by the truckload so that we could give a better account of ourselves against the enemy whose numbers grow stronger every day. It seems like that more of us they turn out at the hatchery the more of the enemy comes out to get us. It's kinda like what you would call "escalation."



## Wolfgang

this is a whole new ballgame. You're gonna learn that they didn't teach you everything at the hatchery. That's if you're around long enough to learn. Ha-Ha. A lot of you may ask Why are we all gathered here together? and I'll try and explain it to you. A long time ago some real smart college guys decided that there wasn't enough of us to man

## Brunhilde

"Oh, why must this senseless killing go on!" screamed a 10.3 inch female brown named Brunhilde. "First we escalate, then they escalate. Where will it end? Couldn't we begin a unilateral disengagement?"

"Lady, are you a dove or a trout" snapped a disgusted Wolfgang. "The battle ain't even started yet and you're

(Continued on page 20)





**CRAB APPLE BLOOMS**



**BASKET OF GOLD**

# **SPRING IN THE RAMAPOS**

**BY DICK RIKER**

**PHOTOS BY HARRY GROSCH**

Two weeks or more after the first faint touch of green is seen in the trees and shrubs of central Jersey, spring peepers commence their chorus in the high swamps of the Ramapos. Spring is slow in arriving

**AZALEA GARDENS**







**CARNATIONS**

among these mountains. These rolling remnants of peaks that once stood as high as the Rockies still keep the New Jersey-New York boundary from Mahwah to Greenwood Lake relatively secluded and peaceful. Large areas of woodlands dedicated as watersheds, parks, and forests make up great sections of this border country. And tucked in among the hills and ridges that now barely reach one thousand feet in height is Ringwood State Park.

During our colonial period this area was a major source of iron. Streams provided power for water-wheels that drove the bellows of iron furnaces and forges. Men cut hardwood trees to make charcoal and magnetite ore was removed from the hard rock of the Ramapos only with the greatest effort. Amer-

*(Continued on pg. 12)*



**RHODODENDRON**

**CRAB APPLE VISTA**





ican and French troops passed up and down the valleys as they traveled between West Point, Morristown and Valley Forge during the Revolution. The Ramapo iron industry helped win the Revolution and later the Civil War.

As the years passed there came a quieter time. The iron industry sagged under the competition of anthracite coal and cheap western iron ore. The sweep of the railroads across our nation providing inexpensive transportation meant the end of the Ramapo iron industry. Too rugged for anything more than marginal farming, the tiny valleys and coves of the Ramapos basked in summer sun and slept in winter snows.

In the years following the Civil War, private estates and summer homes of the well-to-do were built in the cool hills and the 20,000 acres of woodlands surrounding the Ringwood Iron Works of history became the Ringwood Manor estate of Abram S. Hewitt, ironmaster, industrialist, and son-in-law of Peter Cooper of New York. In 1936, Erskine Hewitt, heir to the Ringwood estate, gave Ringwood Manor and the land immediately surrounding it to the state as a park and museum. His nephew, Norvin Hewitt Green, gave the state additional lands around the Manor bringing the park up to 579 acres.

As suburbia spread rapidly towards the Ramapos, the need to expand the State Park System became apparent and, in 1964, the 571 acre Shepherd Lake Section of the park was acquired with Green Acres funds. With this purchase a swimming beach, picnic grounds, skeet and trap ranges, and a fine lake for boating and fishing were added to the park facilities. Again in 1966 the park was enlarged with the addition of the 1100 acres of adjoining woodlands known as Skylands. Additions to the park are still being made with more than 400 acres added during 1975.

Skylands had been the private estate of Clarence McKenzie Lewis, a New York investment banker. On a high point overlooking what is now the Wanaque Reservoir, he built a forty-four room English Jacobean Manor House complete with antique stained glass windows and ancient wood paneling brought from castles and manors in Europe. Each stone forming the outer walls was quarried on the estate and placed weather side out to give the Manor a look of antiquity. As his hobby was horticulture, he surrounded his castle with 250 acres of gardens, lawns, shrubs, trees and farm. Skylands was a well known private garden throughout the 1930s and 40's. In 1953 Mr. Lewis sold the estate to a young liberal arts college and the following twelve years saw the uncared for gardens slowly return to forest as the college could not afford the more than 65 gardeners and groundsmen that Mr. Lewis employed.

After acquiring the property from the college in December of 1966, the Department of Environmental Protection started the restoration of the gardens and

grounds of Skylands, a continuing task. But the lawns lie smooth and green now and thousands of daffodils sparkle in the early spring sunlight. By early May the crabapple blossoms create a half mile long blood-red streak in the pale green mountains. As the crabapple fades the more than 60 varieties of lilac start to bloom and Skylands Botanic Garden blazes from end to end with all the colors of Spring.

The May visitor has many flowering gardens to choose from. The wild garden stretches for more than a half mile along the eastern edge of the area. Here among shade-dappled woodlands Trillium and Blood-root bloom and deer drink from the Bog Pond. Canada Geese nest on Swan Pond Island and the low, moist meadow is flooded with the colors of water-loving iris. Under high oaks east of the formal Perennial Garden is a new Rhododendron Garden. Here, red, pink, and white trusses glow against a dark green spruce during late May and early June. In the Moraine Garden, heather competes with massed primroses for the visitors attention.

As Spring advances the Rose Garden captures the visitor and Azaleas blooming throughout the gardens brings you back again and again. Finally it is Summer and the Annual Garden steals the show. The Spring flowering gardens are now contrasting shades of green and, where once brighter colors blazed, there is cool shade for visitor and wildlife alike.

Spring in the Ramapo Mountains means trout season, and on the western edges of the parklands runs the Wanaque River, which leaves Greenwood Lake and winds for two and a half miles through state lands to the Wanaque Reservoir. This well-stocked stretch of water has long been known to trout fishermen. Shepherd Lake is heavily stocked with trout each Spring and has a good population of bass and pickerel. Boats are available for the visiting angler and there is a small ramp for those who bring their boats. The picturesque stream that flows through the picnic area at Ringwood Manor is also stocked.

Ringwood State Park offers a great variety of activities to park visitors. Tours of Ringwood Manor and Skylands Manor during the warmer months, picnicking, bathing and fishing, a botanical garden, and in the fall there is hunting for deer and grouse. Hikers travel the trails in all seasons. In winter snowmobilers and cross country skiers enjoy the high places of the Ramapo. The park can be reached from Route 23 at Riverdale via Passaic County Route 511; from the east by way of the Parkway, Route 208 and Skyline Drive, and from the north by Route 17 to Sloatsburg, N.Y. and then south on the Sloatsburg-Ringwood Road for five miles. Further information and maps of the park can be obtained at the park office in Ringwood Manor every day except Thanksgiving, Christmas and New Years Day or by writing to: Ringwood State Park, Box 1304, Ringwood, N.J. 07456. □



# Arbor Day

... in celebration of trees



JOE KLEIM

**THE 'PEACE' TREE.** The Salem Oak (above) took its place in New Jersey history more than 300 years ago when, under its boughs, a treaty of peace and friendship was concluded between the Lenni Lenape Indians and John Fenwick, leader of one of the first groups to settle in the area now known as Salem County. The year was 1675. The sturdy white oak (20 ft. 6 in. in circumference at breast height) still stands, surrounded by the historic Salem Friends' Burial Ground in Salem City, Salem County. "Salem," like the Hebrew word "Shalom" and the Arabic word "Salaam," means "Peace."

Arbor Day, sometimes called "the birthday celebration for trees," is observed in New Jersey on the last Friday in April—the 30th day of the month this year. The law establishing Arbor Day is administered by the state Department of Education. The measure requires that suitable ceremonies be carried out in each of the state's school systems.

That trees and other green plants deserve to be so honored is easy to understand when we consider the many ways in which our lives are made more comfortable by their presence—indeed, their very existence is important to life.

Here are just a few ways in which trees and green plants work for us: they

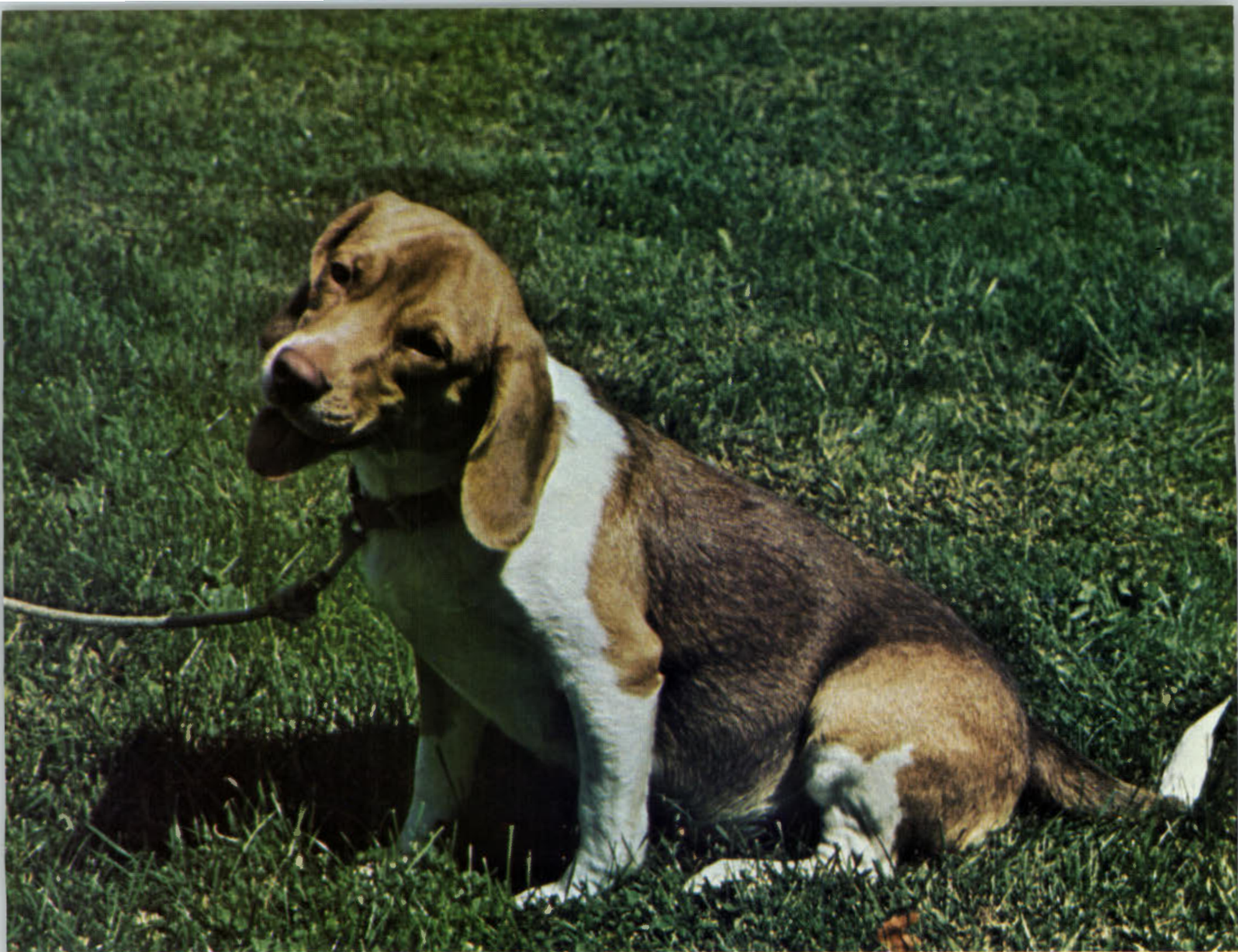
- absorb the carbon dioxide which our bodies discard and they produce in its place oxygen, which is necessary to life
- shield us from pollutants as they catch the dust and trap the noise from our roadways in their leaves

- act as effective air conditioners (one good-sized apple tree is said to be the equivalent of eight air conditioners of windowsill size)
- provide food, shelter and beauty
- provide homes for birds and animals, as well as protection and food

That's a start—how many others can you name?

The effects of different pollutants on green plants have been well covered in past NJO articles, but should be considered when deciding which type of tree to plant. Two other considerations are where to plant it and what purpose it is to serve. For example, if protection from the winter winds is the aim, then an evergreen placed in the proper places will act as a windbreaker and shield. If relief from the heat of the summer sun is the aim, then planting trees that are deciduous is the answer—their leaves will provide overhead shelter and the tree will be open underneath allowing the air to flow through. Such trees should be placed so that the air currents will be funneled through the house. □





*"Susie" one and one half years*

## **Happiness Is Training Your Own Beagle**

BY DR. LEN WOLGAST

PHOTOS BY AUTHOR

At nine o'clock on a summer evening a police car pulled up to my van, which was stopped on a lonely dirt road. My fiancé, Elaine, and my hunting partner's fiancé, Veronica, were inside the van with Sprig, a three and a half month old beagle pup. My hunting buddy, Bob, and I had spotted a cottontail and were outside trying to

show it to Susie, a littermate of Sprig's. The suspicious officer was quite surprised when he found out that all we were doing was trying to start our beagle pups on their life-long careers of chasing rabbits. Two nights later Susie let out her first squeals of excitement as she finally "opened up" on the trail of a cottontail. Sprig started one

night after Susie.

Following the March/April 1975 issue of *New Jersey Outdoors*, in which I discussed why the beagle makes such a fine hunting companion for the New Jersey sportsman, I received many inquiries on how to go about buying and training a beagle.

It is very rewarding to watch your



beagle pup develop into an accomplished hunting hound, but you always run some risk when you buy a pup. Regardless of his breeding, there is always a certain probability that your pup will just not have what it takes to be a consistent producer of game. However, if you buy your pup from a reputable breeder and his parents were good hunting or field trial dogs, you have an excellent chance of getting a beagle that will be a good hunter.

Everyone has a different idea on how to choose the "best" pup in a litter. Some people like the largest, others the smallest, while still others choose the pup that comes to them when the clap their hands. In my opinion there is no foolproof way of selecting the best pup. Just make sure the one you choose does not have any physical defects, feed him a balanced diet as he is developing so he can achieve his full genetic potential, and chances are your pup will be as good as any.

Once your beagle pup is around three months old, take him for walks in relatively open fields so he will learn not to be afraid of the many strange sights and smells that he will encounter away from home. Do not stay out for more than an hour at a time, and give your pup plenty of op-

portunity to explore anything of interest to him. Gradually, travel into denser cover so your pup will learn to find you even though you are out of sight. If you happen to see a rabbit, encourage your pup to track it. It is quite normal for young beagles to be more interested in objects other than rabbits, and they will often ignore rabbit scent completely until they are old enough to be interested.

If your pup has not started "opening up" by the time he is three and a half to four months old, you should ride back roads at dusk until you spot a rabbit, then grab your pup and point out the rabbit to him. Often pups will sight-chase their first couple of rabbits, but will soon associate the scent of a rabbit with the critter they see. The first squeals which a pup lets out as he begins to track his first rabbit are one of the most satisfying sounds a beagler ever hears.

Once started, it is just a matter of time until your pup becomes experienced enough to not let rabbits outsmart him. Rabbits use many tricks to lose a hound—they will often run down a fallen log, double back along their own trail, and in some situations, cross streams. Only an experienced beagle can unravel the trail of a wise, old cottontail.

Many beagles are excellent rabbit producers by the age of two years. Susie, the pup I mentioned at the beginning of this article, was regularly producing many rabbits by the age of eight months. Of course, she gets more experience every week, and is thus getting better and better all the time. Once your pup reaches this stage, he should be run at least once or twice a week for an hour or two during the early morning or late evening.

All that remains to be done to complete the training of your beagle is to teach him not to run "bad game." This category includes any species you personally do not want to hunt, and, of course, deer, since it's illegal to hunt them with dogs in New Jersey. Many methods have been used to break beagles of running bad game; most involve inflicting some sort of punishment on your beagle when he is caught chasing the wrong critter. Some dogs, though, will continue to run bad game regardless of how much punishment they receive. The most foolproof method involves the use of a remote-control electronic collar through which the trainer can administer an electric shock when his beagle is chasing bad game. One big advantage of this form of punishment is that the hound does not associate the shock with his trainer, but rather with the scent of the animal he is tracking. The trainer must be absolutely certain, however, that his beagle is not running desirable game, such as rabbits, or he may ruin his hound forever.

If your pup is a little shy, it is often a good idea to get him used to loud noises before taking him into the woods during hunting season. Clapping your hands loudly or firing a cap pistol at feeding time will teach your pup to associate loud noises with pleasure. Once your hound is tracking rabbits, you may want to fire blanks from a pistol when he is a good distance away. Gradually, shorten the distance at which you fire, and soon your pup will associate loud noises with the pleasure of tracking a rabbit.

As you can see, the beagle is an easily trained hunting dog. This training can be accomplished practically anywhere in the state, and training a beagle is an extremely satisfying experience. The end result will be a heavier game bag and many happy days spent afield with a hound you trained yourself. □

*Seven week pup "Jack" being introduced to the field*





## wildlife weekend for teachers

The Division of Fish, Game, and Shellfisheries is co-sponsoring a Wildlife Workshop at the New Jersey State School of Conservation in Branchville, New Jersey. Teachers will be treated to field courses in deer management, bureau management, and fisheries management and other topics dealing with wildlife conservation. The courses will be taught by wildlife and fisheries biologists from the Division of Fish, Game, and Shellfisheries. The courses will be held at the New Jersey State School of Conservation, May 21, 22, and 23. Anyone interested can make arrangements for attendance and get details from the New Jersey School of Conservation, Branchville, N.J. (201-948-4646). The cost for this is \$35 for room, board, and instruction for the weekend.

## of 2,000,000 chemicals how many are unknown killers?

Despite alarming evidence of the hazards of such toxic substances as polybrominated biphenyl (PBB), legislation to control these chemicals has been bogged down in Congress since 1971. There are laws to regulate pesticides, food additives, and atomic wastes, but no statute requires premarket testing of industrial chemicals, and no federal agency has authority to control hazardous substances at their manufacturing source.

In 1971 the Council on Environmental Quality reported that there are about 2,000,000 known chemical compounds and thousands of new chemicals are discovered each year. Of these, several hundred go into commercial production with scanty testing. Dr. Umberto Saffioti, associate director for carcinogenesis at the National Cancer Institute, estimates that no more than 6,000 chemicals have been tested to determine whether they cause cancer, and of those only half have been adequately tested. About 1,000 have shown some sign of being carcinogenic.

Congress began considering toxic substances legislation in 1971, and the House and Senate passed different bills in 1973. The conferees never reached agreement, however, as a result of heavy pressure from the chemical industry.

House and Senate hearings were held in 1975, and the Senate was expected to pass a bill before Christmas which would mandate some controls over industrial chemicals. While the House Subcommittee on Consumer Protection and Finance of the Interstate and Foreign Commerce Committee began marking up a bill in late fall, full committee action is not expected until early this year.

The thorniest issue of the legislation concerns the premarket screening of new chemicals and testing of existing chemicals, which the chemical industry strongly resists.

— CYNTHIA WILSON  
*Audubon* — January 1976





# Environmental News

PHOTOS BY JOE KLEIM



**HANCOCK HOUSE.** On March 21, 1778, 30 Quaker patriots were ambushed and massacred in Hancock House (above) by British troops in retaliation for having sent cattle to Washington's starving army at Valley Forge. The house, built in 1734 by Judge William Hancock, is one of the finest examples of South Jersey style Flemish bond decorative brick architecture (glazed bricks laid in patterns). Located at Hancock's Bridge, near Salem, Salem County, the house is currently closed to visitors while restoration work is going on. (Contracts totaling \$288,433 were let in October 1975 for general construction work, plumbing, heating, ventilating, air conditioning and electrical work. Hancock House is scheduled to reopen this coming October.)

## 82 Mile Floodway Mapped Along Delaware

The department has completed the mapping and delineation of 82 miles of floodway along the main stem of the Delaware River. The floodway extends from the Calhoun Street Bridge in Trenton (Mercer County) upstream to Tocks Island in Pahaquarry Township (Warren County).

The completion of the delineation places the area under the New Jersey Flood Plains Act, subjecting it to a set of land use regulations to protect such areas from dangerous development.

Governor Brendan Byrne had directed DEP to begin delineation of a flood plain area along the river on July 31, 1975, when he led the governors of New York and Delaware in opposing the Tocks Island Dam project. He had set January as the deadline for completion of the project, and DEP finished the work

well within the time limit.

Noting that one of the major arguments in favor of the Tocks Island project was flood control along the Delaware, the Governor said, "The delineation of a flood plain area along the river and the enforcement of land use regulations under the Flood Plains Act

(Continued on page 16B)

## REVIEW OF SEWERAGE AUTHORITY MANAGEMENT PRACTICES BEGINS

A review of the management practices of municipal, county, and regional sewerage authorities by DEP is being conducted in cooperation with the County and Municipal Government Study Commission, the New Jersey Water Pollution Control Association and the federal Environmental Protection Agency (EPA).

Stating that "these construction projects represent an investment of public funds which must be protected," Governor Brendan Byrne on December 11, 1975 announced the program and the appointment of Kenneth A. Konz of Toms River as a special assistant to Environmental Protection Commissioner Bardin to guide the review process.



Konz, an auditor with EPA for the past four years, is on a one-year loan to DEP. A certified internal auditor, Konz for the past two years has been responsible for managing all operational and internal audit activities within EPA, Region III, Philadelphia. He prepared the guidelines used by EPA in auditing their grants and contracts. His task as special assistant to the DEP Commissioner is to help the department and the water pollution control community assure the public that its wastewater facilities are managed honestly, prudently and efficiently. □

## STATE'S AIR QUALITY IMPROVING

Recently released statistics show that New Jersey's auto emission inspection/maintenance program is working by reducing vehicle-related carbon monoxide levels in the state. DEP's Division of Environmental Quality found that carbon monoxide levels have continued to decline even though gasoline consumption is higher than at the

(Continued on page 16D)





### ZELIKSON IS DEPUTY DIRECTOR FOR WATER RESOURCES DIVISION

Jeffrey Zelikson, 30, of East Windsor, is deputy director of DEP's Division of Water Resources. His responsibilities include assisting the division director and supervising the division's water pollution control elements. Zelikson, who had been deputy assistant director in charge of monitoring, surveillance and enforcement prior to assuming his new position, also reviewed projects submitted by industry for certification by the commissioner under the New Jersey Industrial Pollution Control Financing Law. Before joining DEP, he served five years with the U.S. Environmental Protection Agency (EPA), Region II, in the development and initial operation of the water discharge permit program. Earlier, he worked four years for the research and engineering subsidiary of Exxon developing wastewater and water treatment systems for oil refineries and chemical plants. Zelikson received a degree in mechanical engineering from City College of New York in 1967. □

(Continued from page 16A)

### 82 MILE FLOODWAY MAPPED

reduces the danger of flood damage and preserves the natural beauty of the region."

The land use regulations in the flood plain area prohibit the erection of structures for occupancy by humans or animals; the placing, depositing or dumping of solid wastes on flood delineation areas; the processing, storage or disposal of pesticides, domestic or industrial wastes, radioactive materials, petroleum products or hazardous materials; the construction of septic systems for commercial or residential use and the storage of materials or equipment for such systems.

The delineation of the area was approved by DEP following public hearings conducted by the state's Water Policy and Supply Council at Lambertville (Hunterdon County) on September 30, 1975 and at Belvidere (Warren County). □

### 200 stream sites

### DEP EXPANDS WATER MONITORING PROGRAM

Water quality data is flowing into the offices of DEP's Division of Water Resources on a regular basis from 200 stream sites around the state, a gauge on progress being made in the campaign to clean up the state's surface waters. Monitoring water quality has become a high priority program for the state's water pollution program.

A network of 100 DEP water sampling stations became operational in March. In addition, another 100 sampling stations are already in operation and being monitored by the U.S. Geological Survey (USGS), using federal/state matching funds. Though there has been a monitoring program in New Jersey since the early 1960's, today's sampling techniques are far more sophisticated and give more values than those used 10 years ago. Also, with the expansion in the number of sites to be sampled, a steady, reliable source of stream data from different parts of the state on a year-round basis will be at hand. The data will be used to assess the water quality in any given stream, or part of it, at any time.

Once a month state inspectors and USGS fieldmen check sites, taking water samples. The samples are then sent for analysis to both the state Department of Health laboratories in Trenton and to the USGS labs in Albany, N.Y. The USGS has agreed to take "bottom" samples—samples of river bottom mud—and to analyze them. All data collected through the monitoring network will be incorporated into the federal Environmental Protection Agency's data storage and retrieval system (data bank) now being assembled.

Monitoring stream water quality involves at least three general areas—physical characteristics (including reading on turbidity, solids, temperatures and rates of flow), chemical characteristics (including oxygen demand materials, nutrients and heavy metals), and bacterial characteristics (including coliform counts). □



### MRS. BETTY WILSON NAMED DEP ASSISTANT COMMISSIONER

Mrs. Betty Wilson of Berkeley Heights was appointed assistant commissioner by Environmental Commissioner David J. Bardin on January 6. Mrs. Wilson's top priority responsibility is to coordinate a state drive to deal with flood hazards in the Passaic River Basin, complementing the proposed Congressional authorization of federally funded solutions. She will consult with local governments and citizen groups in the state in order to identify and promote the alternative ways of dealing with the long-standing, perennial hazard. (Because of the basin's unique geology and density of development, the potential for disastrous flooding has been termed the most serious in the state.)

Mrs. Wilson will also represent the DEP Commissioner on the New Jersey Economic Development Authority and in making presentations to the Congress. Her responsibilities will include regional projects requiring intergovernmental coordination and resolution of executive policy issues.

Mrs. Wilson was graduated summa cum laude in 1967 from Jersey City State College, which named her Outstanding Alumna in 1974. □

### State Facilities Available for Legitimate 'BICEN' Events

Established Bicentennial organizations and historical societies have been offered the use of facilities in state parks, forests and historic sites for Bicentennial activities during 1976. Several such events, programs and meetings have already been scheduled at Washington Crossing State Park, Batsto Village in Wharton State Forest, Allaire State Park and Skylands Manor in Ringwood State Park. DEP, whose Division of Parks and Forestry administers the 40 state parks, 10 state forests and 26 historic sites, will make the facilities available for legitimate 'Bicen'

activities as can be scheduled and accommodated.

Interested organizations may contact directly the following Regional Park Supervisors for further information: **North Jersey**—John Broshkevitch, Hopatcong State Park, Landing, 07850 (Phone: 201-398-1684); **Central Jersey**—Richard Barker, Monmouth Battlefield State Park, RD #1, Freehold, 07728 (Phone: 201-462-8782); and **South Jersey**—Sydney Walker, Batsto Village, Batsto, RD #1, Hammonton, 08037 (Phone: 609-561-0024). □





## Public cooperation vital

# STOP FOREST FIRES BEFORE THEY START

*Now is the time for property owners in forested areas to remove debris and flammable materials to help guard against the spring outbreak of forest fires. Acting State Firewarden James A. Cumming said, "cleaning up and removing existing fire hazards now, while the ground is wet, is an important step in reducing the possibility of forest fires later on." Dry conditions and high winds usually prevail during the spring season, but forest fires can take place at anytime when the woods are dry enough to burn, he said.*

*Cumming reminded property owners that permits are required for recreational fires within 200 feet of woodland. Prescribed burning for hazard reduction, the elimination of infested plant life, orchard prunings or herbaceous plant material by commercial woodland or farming interests also requires a special permit. The permits can be obtained from local firewardens. He cautioned that Chapter 2 of the State Air Pollution Control Code prohibits open burning of rubbish, garbage, trade waste, buildings or structures, fallen leaves or plant life, and prohibits any salvage operation by this method.*

For eight of the past nine years, New Jersey has held its forest fire damage to under 10,500 acres. During 1975, there were 1,690 fires which burned 4,937 of the 2.7 million acres under the surveillance of the Forest Fire Service, a unit within DEP's Division of Parks and Forestry. (It was in 1971 that more than 40,000 acres of forests went up in smoke. It cost the taxpayers \$193,902 just to extinguish the flames—this figure does not include charges for salaried employees, equipment and supplies, not the value of destroyed trees, wildlife and recreational facilities.)

Public cooperation, including good individual conservation practices of hunters, fishermen, picnickers, and residents, along with the use of modern firefighting equipment, intensive training of forest fire personnel, is vital in forest fire control.

In New Jersey, the spring forest fire season extends from mid-March through mid-May, peaking in April. During this time, eight air attack bases will be maintained and fully staffed. Four of the bases are for helicopters: Hopatcong State Park (Morris County), Newark Watershed (Passaic County), Holmansville State Quail Farm (Ocean County), and Davis Field in Mays Landing (Atlantic County). Four fixed-wing air tankers will be stationed at Coyle Field on Route 72 (Bur-

lington County), the Downtown Airport (Gloucester County), Hammonton Air Park (Atlantic County), and Lakewood Airport (Ocean County).

These aircraft, loaded with liquid fire retardant, will be on standby alert during the danger period. Under actual fire conditions, the helicopters and fixed-wing aircraft drop retardant on a blaze and keep it under control until the arrival of Forest Fire Service crews and equipment. Aircraft are extremely effective in containing such blazes because of their ability to provide rapid initial attack. Helicopters are also useful for observation purposes.

Only special permits for burning during daylight hours will be issued in forested areas while the Air Attack Program is in operation.

There are three State Forest Fire Service division headquarters which serve as home bases for Section Firewardens and Local Firewardens. To report a forest fire directly or to obtain other information, please call: Division "A" Headquarters, Landing: 201-398-7300; Division "B" Headquarters, Lanoka Harbor: 201-349-3991; or Division "C" Headquarters, Mays Landing: 609-625-1121.

Prevention is the only "cure" for forest fires. □

## Federal offshore EIS inadequate

# DEP CITES OIL PIPELINE RISKS FOR BEACHES

DEP on January 27 submitted its comments on the U.S. Department of Interior's draft environmental impact statement (EIS) on the proposed 1976 Outer Continental Shelf Oil and Gas Lease Sale Offshore the Mid-Atlantic States (OCS Sale No. 40). The comments amplify and support the issues raised by Governor Byrne in a hearing held the same day before Interior in Atlantic City. (The detailed comments were prepared by the state's Offshore Oil and Gas Task Force of which Dr. Glenn Paulson, DEP Assistant Commissioner for Science, is chairman.)

Environmental Protection Commissioner David J. Bardin, in an accompanying letter to Curtis J. Berklund, director of Interior's Bureau of Land Management, emphasized that "New Jersey is evaluating whether oil pipelines crossing the Atlantic Coast beaches would pose unacceptable risks to public safety, to the tourist industry, or to other important resources of the Atlantic Coast." He said the state would reserve the right to make the final decision.

Bardin also urged Interior to include several additional stipulations in the lease agreements: 1) Stiff penalties for companies which fail to explore their leased areas promptly 2) Full and timely disclosure of pertinent information to all levels of government 3) Strict and unlimited liability for direct and indirect costs of damages to oil spills or other adverse impacts 4) An adequate oil spill contingency fund requirement, and 5) Mandatory unification of exploratory work. □

## CAFRA PERMIT ACTIONS

Two samples of Coastal Area Facility Review Act (CAFRA) permit actions taken in January provide a glimpse of the program's efforts to ensure proper development of the coastal zone. CAFRA is administered by DEP's Division of Marine Services.

**Approved:** The application from the Township of Neptune Sewerage Authority (Monmouth County). The proposal consists of a regional treatment plant, a pumping station, five force mains, an ocean outfall pipeline extended from an existing facility, and a diffuser system. The facilities will serve Avon-by-the-Sea, Bradley Beach, Neptune City and Neptune Township, and will replace six existing primary treatment plants and one secondary plant. The new system will also eliminate six existing ocean outfall lines.

**Denied:** The application from Courtway Associates to construct a 28-unit single family housing subdivision in Middle Township (Cape May County). The plans called for building the project on a 50.8-acre site with a one-acre lot for each house, the balance in streets, woodland and bog. The permit was denied because the bulk of the housing acreage is poorly drained soil, some of it with the water table at the surface. DEP and the Cape May County Department of Health concluded that septic tanks would not function properly. DEP recommended that the firm re-evaluate its plans for the entire tract, consider adopting less intensive use of the land to keep the housing out of the environmentally sensitive areas, and submit a new application to DEP. □





## MANAHAWKIN FOREST IS U.S. NATURAL LANDMARK

The Manahawkin Bottomland Hardwood Forest in Ocean County has been listed in the National Registry of Natural Landmarks. The 64-acre tract preserves a mature, bottomland hardwood area. This type of forest is rare in southeastern New Jersey. The National Park Service said the large amount of animal life and the undisturbed condition of the forest testifies to its age. The publicly owned forest is administered by DEP. □

## AIR POLLUTION NIGHTWATCH: 'OFF HOURS' PHONE SERVICE

On January 22 DEP established a special Nightwatch air pollution answering service to handle telephone complaints of smoke or odors at night and on weekends and holidays when state offices are closed. In his announcement, Governor Byrne said that the Nightwatch operation will enable enforcement personnel to respond quickly to problems that occur outside of normal office hours . . . . it will relay the complaints promptly to the proper individual in the appropriate part of the state. The numbers to call for the new air pollution alert answering service are 609-924-2043 or 201-747-2662.

During normal business hours air pollution complaints are handled at four field offices: Newark, 201-648-2075; Springfield, 201-648-2560; Trenton, 609-292-6706; and Pennsauken, 609-665-0755.

DEP's Environmental Action Line service may be called day or night at 609-292-7172 to report other abuses of the environment. □

## WATERFOWL POPULATION UP

The annual inventory of water birds wintering in New Jersey's marshlands was taken in January. The survey, conducted by wildlife management specialists in DEP's Division of Fish, Game and Shellfisheries, indicated that about 415,000 waterfowl used the wetlands and water areas—an increase of approximately 60,000 birds over the 1975 count. Included in the inventory were ducks, geese and swans. □



## NEW BEACH BUGGY RULES, FEES FOR ISLAND BEACH PERMITS

New rules for securing permits and operating beach buggies this year at Island Beach State Park have been issued by DEP. The fee for such vehicles has been raised from \$75 to \$100 a year.

Three-day permits are available only by request and payment of \$10 at the Island Beach gatehouse, with a limit of 50 in effect at any one time. These permits expire at midnight on the third full day after day of issue and may be renewed only after a 24-hour waiting period.

Island Beach State Park will be closed to all persons excepting beach buggy permit holders, fishermen and lessees from 12 midnight to 4 a.m. Residents and persons on official business are exempt from this exclusion. Leaseholders are restricted to their leased premises during these hours unless actively engaged in fishing or in transit. Beach buggy permit holders and fishermen are required, during these hours, to register with park officials and to park in a designated location unless actively engaged in fishing.

Application forms are available from the Island Beach State Park Office or by mail from the DEP Bureau of Parks, Box 1420, Trenton 08625. □

## WATER POLLUTION CONTROL AS A CAREER FOR WOMEN

For two weeks in early January, a group of Douglass College undergraduates, as part of their "career externships," explored the various aspects of water pollution control within the framework of DEP's Division of Water Resources (DWR) as well as on field visits to a sewage treatment plant and an interceptor sewer pipeline construction site. Mrs. Judith H. Miller, an assistant environmental engineer in DWR's Office of Environmental Assessment, coordinated the program. □

### Sorry, Men . . .

## NATIONAL GUARD AIDED TRENTON

As often happens when attempting to give credit to many groups, the name of one is inadvertently omitted. Such was the case with the New Jersey National Guard in the "Coping with Trenton's Water Disaster" story which appeared in the November/December 1975 NJO Environmental News pages. Sgt. John Purpuro of C-Co. 104th Engr. Bn., informed NJO that it was the "specially trained men of the water purification section of Hq.-Co. 104th Engineer Battalion, under the supervision of S.F.C. Snow, who manned the water purification units during the crisis."



## CITY PARKS APPROVED FOR GREEN ACRES AID

Making use of available sites in built-up areas and developing them as multi-purpose outdoor recreation areas is a goal of the voter supported Green Acres program. Recently approved applications from the Borough of Belmar (Monmouth County) and the Town of West New York (Hudson County) fall into this category.

BELMAR: A Green Acres matching grant of \$78,000 will help the borough acquire the last remaining undeveloped land parcel in Belmar large enough to accommodate a variety of recreational activities. The 2.98-acre tract, known as Three-Acre Park, is an abandoned petroleum tank site. The borough plans to develop this property as a municipal park. The state grant will provide one-half of the total purchase price. The borough will meet the rest of the expense itself.

WEST NEW YORK: A Green Acres matching grant of \$181,000 will be used by the town to develop 60th Street Recreation Area. Included in the plans for the 20-acre site are a picnic area, swimming pool, baseball field; tennis, handball and bocce courts; volleyball and roller hockey areas; and trails for walking, jogging and bicycling. A comfort station will be built. Within walking distance and bicycle range for most residents of the vicinity, the park site also is convenient to bus transportation. The town will contribute a matching dollar amount to meet the \$362,000 cost of the project. □

(Continued from page 16A)

## Auto emissions test program a factor

## AIR QUALITY IMPROVING

start of the inspection/maintenance program in February 1974. Continued improvement is expected as a result of the more stringent Phase II emission standards implemented at test lanes in November 1975.

Carbon monoxide data taken over a three-year period from 18 air monitoring stations throughout the state was analyzed, averaged and compared. These figures show an average 12 percent reduction in ambient carbon monoxide levels since the February 1974 inception of mandatory emission inspections. The decline in this air pollutant's level is linked directly to the drop in vehicle-related emissions, since DEP emission analysis indicated that 95 percent of all such pollution comes from vehicular sources.

(The third and final phase of New Jersey's auto emission standards, scheduled for implementation this past February, has been delayed at least until January 1977 because of budget cuts.) □



# for the birds by

**The Conservation and  
Environmental Studies Center's  
Whistling Wizard of Whitesbog**

Due to the fact that birds can't read calendars, but rather are more in tune to variables such as light intensity, climate, and other natural phenomena, birds don't realize that spring has officially arrived. In fact, for many birds winter is still a stark reality. Particularly if their migration pattern or a spring storm forces a temporary halt to migration, and time must be spent in an urban or suburban part of New Jersey where a harsh winter and land usage combine factors to make the amount of feed available very small.

The Wizard maintains dozens of feeders of different sorts at Whitesbog because the possibility described above is not just a hypothetical problem. The phrase used during the Bi-annual, February and October Bird Seed Savings Day at the Conservation and Environmental Studies Center, "March is really a critical time for wild birds," best describes the Wizard's feelings. This is because most seeds and insects won't be available until late March or early April.

If your family wants to be like the Whistling Wizard of Whitesbog just follow the directions developed as part of a new release for Bird Seed Savings Day. Also, active in the Bird Seed Savings Day cooperative program is the New Jersey Audubon Society, and the Nature Center, at Lincroft, Monmouth County, New Jersey.

There's still time to help though feeding should have begun in October. Once you get started, you should keep it up through the winter months. Birds get accustomed to traveling regular routes and expect to find food when they get to their regular stops.

The best place for a feeder is in a sunny spot out of the wind near bushes or trees. Birds do not like to fly across open spaces.

You don't have to go out and buy an elaborate colored plastic feeder; you can build your own, like an open platform with one inch sides to keep the seed from blowing away. It should have drainage holes in the bottom and preferably a cover to keep off rain and snow too.

Once the birds get used to finding food at your home, the feeder can be moved closer to the house or window. Part of the fun of feeding birds is to watch their antics and learn to identify each species.

If you want to be selective and attract chickadees, nuthatches, cardinals, evening grosbeaks, goldfinches, purple finches, or pine siskins, for example, put only sunflower in your window feeder. A new seed growing in popularity is thistle seed used now in



a new mixture with regular bird seed with a special feeder which will attract only the numerous members of the finch family, leaving the sunflower to an even more select group of species.

For ground feeding birds such as sparrows, juncos, mourning doves, quail, cardinals and towhees, use a regular wild bird seed mixture or finely cracked corn (chick feed). Be sure however that you stay away from the mixtures often sold in retail outlets with a high "junk" seed content which will be untouched by the birds and wasted. The Wizard recommends the type of wild bird seed mix containing a small amount of less preferred seed and a high percentage of thistle, sunflower, peanut hearts, white millet and cracked corn, all preferred types of seeds.

Other methods of attracting birds to your yard include the use of beef suet, available at your local grocery store, and placed in wire mesh feeders or in suet bags on the trunks. Suet will attract many of the same birds that sunflower seeds will and in addition will bring many of the species of woodpeckers to your yard. Peanutbutter, high in protein and available energy will be fondly devoured by many species. Offered in a specially made peanut butter log or simply smeared on the bark of a tree, it too will bring additional species to your yard. **ONE NOTE, BE SURE TO USE THE CHUNKY STYLE OR MIX IT WITH WILD BIRD SEED SO AS NOT TO CHOKES THE BIRDS YOU'RE TRYING TO HELP.**

Other foods often used include stale doughnuts, bacon drippings mixed with seed, crumbs or cereal, cracked corn for bluejays and squirrels, whole peanuts and other nuts.

Incidentally, if you want to learn more about CESC'S Bird Seed Savings Day, and obtain information about obtaining free sketches for Bird Feeder construction, write or call the Wizard at:

The Conservation and Environmental Studies  
Center, Inc.

RR No. 7 Box 2230

Browns Mills, New Jersey 08015

Telephone: 609-893-9151

You and "the birds" will be better for your effort!





PHOTOS BY AUTHOR

# COWPENS ISLAND

LEE WIDJESKOG

*Assistant Wildlife Biologist*

Each spring hundreds of wading birds flock to Cowpens Island on the east side of Ocean City, New Jersey to start nesting once again. The birds can be seen flying to and from the island throughout the day, but the view is most spectacular in the evenings. At that time the birds approach the island from all directions as hundreds upon hundreds of herons, egrets and ibises come in to spend the night. The birds can be heard squawking, hooting and cooing as they settle down for the end of the day.

This island is located within the city limits of Ocean City and just south of the 9th Street bridge. It was once covered with salt marsh cordgrass but when the N.J. Intra-Coastal Waterway was dug, the U.S. Army Corps of Engineers used the north end of the island to deposit soil. Eventually, this spoil area was elevated high enough to support a few cedar trees, bayberry bushes, poison ivy, foxtail reed and high tide bush. This new habitat proved ideal as a nesting area for the wading birds in Atlantic and Cape May counties. A

recent survey shows eight species of birds presently resting on the site. These include the glossy ibis, snowy egret, great egret, blue heron, tri-colored heron, green heron, black-crowned night heron, and the yellow-crowned night heron.

The presence of these birds has attracted the attention of residents of Ocean City. The Ocean City Bicentennial Committee has selected as one of its projects, the establishment of Cowpens Island as a bird sanctuary to prevent the island rookery from ever being destroyed by development. The committee plans to build a walkway near the 9th Street information booth from which to observe the birds during their flights.

At this writing the proposal for the sanctuary has had its "first reading" at the City Council Meeting and may be passed by the time this article is read. Such actions will insure the existence of this rookery for years to come. □





*The snowy egret is readily identified by its yellow feet and black bill.*



*Black-crowned night heron nestlings, at Cowpens Island.*



*The great egret tends to nest off the ground in low trees or bushes.*



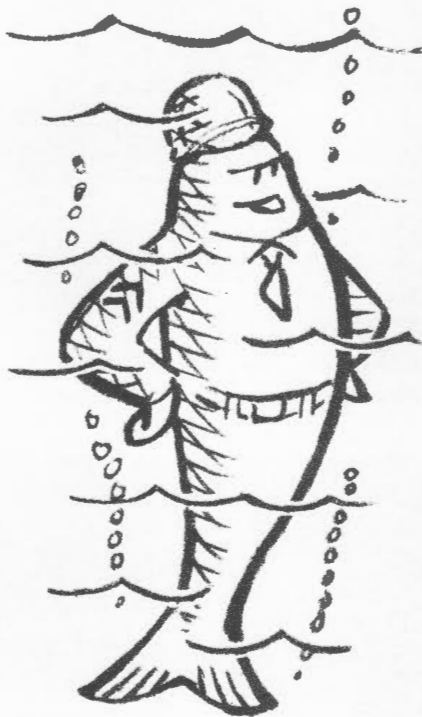
*Snowy egret nestlings resemble the "Peanuts" cartoon character "Woodstock."*



*A black-crowned night heron feeding for minnows.*



## The Ballad of Moe and Sal



### Calvin

cracking up. You broads are all alike. They should keep you in the no-kill stretch where you belong."

"Male chauvinist pig," screamed Brunhilde and away she and several of her women's lib followers swam, upstream to the no-kill stretch in protest.\*\*

"Now that we got rid of the faint-hearts, I shall continue" said Wolfgang. "I would now like to introduce to you Corporal Calvin who will give us a few words about the terrain and the topography."

Calvin came forward. He was a 6.8 inch brooktrout.

"Get a load of the short hick" snickered Moe to Sal.

"I heard that" yelled Calvin. "I didn't free load off the state for two years like you fat cats. While you were getting free hand-outs, I had to scrape for nymphs in a tiny little stream. Have you ever tasted a mayfly? No. Of course not. Let me tell you there ain't much meat on your average mayfly. Why son, I'm twice your age,

twice as smart and twice as tough. When you guys are looking for a pebble to get under for cover, I'll be holed up in my snug little habitat laughing at you. I'll be around long after 90 percent of you are gone. Now if there are no further interruptions I'll get back to my subject.

"First let me say that you're very lucky to be in the Musconetcong instead of some park pond down in the city or in one of them non-trout waters.\*\*\* The Musconetcong is *trout-maintenance waters* which means its water's chemical and physical characteristics are such that you will be able to survive year-round. There also is a wide diversity of habitat which enables it to support a lot of trout. Not like some of them *improved* channelized beauties where the only cover is in your imagination. Now on my left you got Schooley's Mountain Brook, Beatty's Brook and a sewerage treatment plant. Don't swim up the sewerage treatment plant's effluent. That stuff will kill you."

"Thank you, corporal, for your words of enlightenment" said Wolfgang. "You trout are lucky that you've been stocked pre-season cause you got time to spread out. Wait till you see what happens to the replacements we got in a few weeks that don't have the benefit of an orientation period. O.K. so now you're on your own. Don't take any rubber salmon eggs."

"What's a rubber salmon egg?" asked Sal.

"What's a salmon?" asked Moe.

For the next few days Sal and Moe and everybody else just kind of "hung around", not doing much of anything. Yet each knew instinctively that "It" was coming.

"I hope I don't chicken out. This waiting is murder" worried Moe. "I'm too young to die."

"Shut up. You're making me nervous" said Sal. "Let's find something to eat. I wonder where the chow line starts?"

"How can you think about eating at a time like this" asked Moe. "It must only be 42°F. Brown Trout? Heck I feel more like a blue trout."

"You're going to feel like a black and blue trout if you don't shape up, Moe" growled Sal.

And then on a dull drab morning, "It" came. Suddenly the placid Musconet-

cong was charged by a thousand rubber-legged creatures. Screaming and yelling their fierce battle cries, exalting over their conquests and cheering each other on. Most of the rainbows and a lot of the browns fell in the initial onslaught. The dazed survivors ran for cover. The enemy had tasted blood and were now in a frenzy. The stream was full of metal and feathers moving at high speeds in every direction. Many a trout found out too late what a salmon egg was and few lived to tell about it. But the enemy was paying a price too. Many large bodies were floundering in the stream. His weapons were being ensnared by every root and rock. His personal belongings were floating down the stream or sinking to the bottom. His spirit was dampened and his strength sapped. Sal knew if he could just get through the next few hours he had it made. He tried to get beneath an undercut bank and found Wolfgang and Moe and a few others.

"Get in here and keep your head down" said Wolfgang. "We'll be safe if you just sit here and wait it out."

"I can't stand it" screamed Gloria, a 10.7 inch rainbow." I'm taking the next salmon egg out of here!"

"Get back you fool" yelled Wolfgang, but it was too late. She was gone, the last casualty of the day.

It was a sleepless night for the survivors and the next day they found there was plenty of "fin-room" in the once crowded pool. The battle was over with only a few snipers around picking off an occasional trout.

"Well the worst is over" said Wolfgang, "we're over the proverbial hump. Now we can all relax a little till the replacements get here next week and it starts all over again. Now you guys are veterans." □

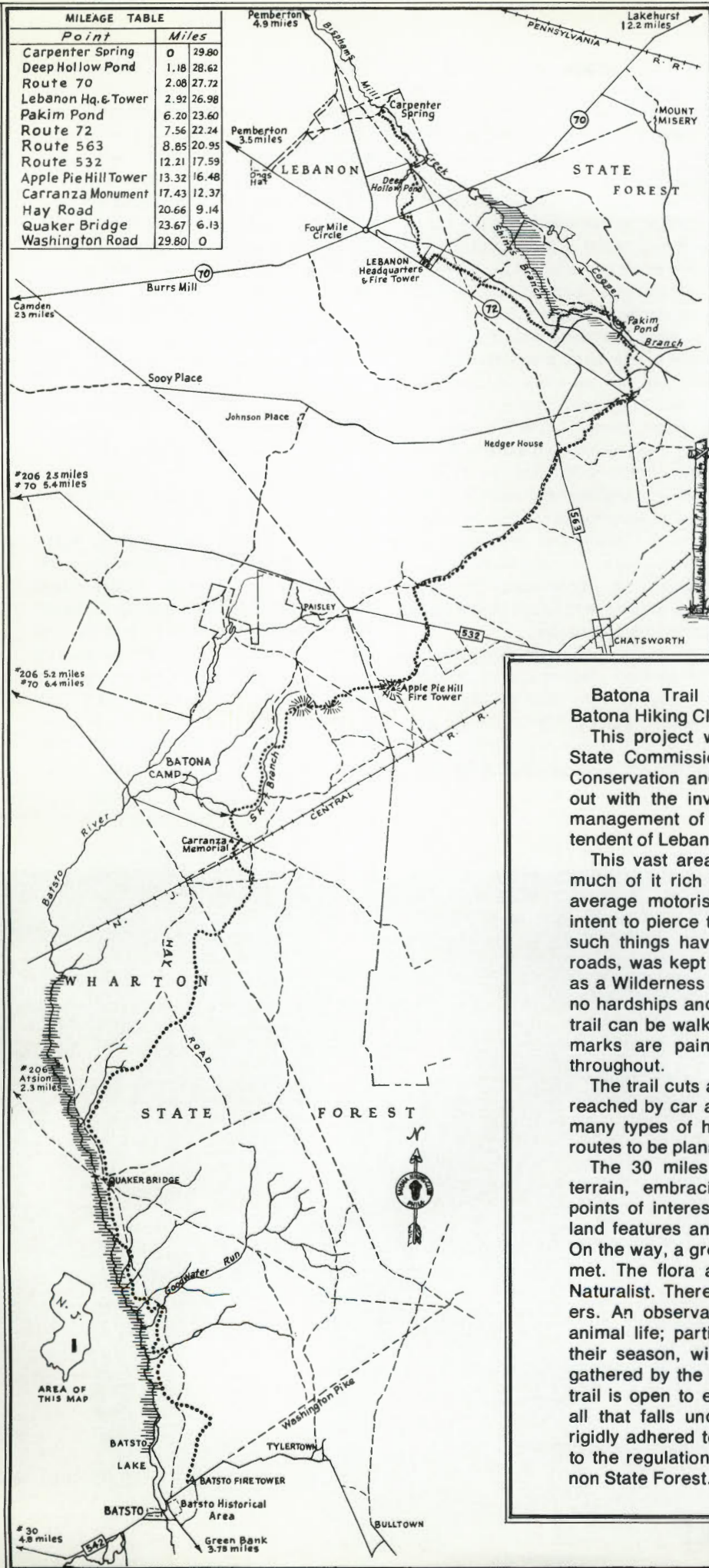
**Author's Note:** It is not the Division's policy to mishandle or mistreat the trout it stocks and its personnel have gone to extraordinary lengths to rescue stranded trout. All this concern of course is little comfort to that very small percentage of trout that wind up as pre-battle casualties. The system is not perfect and this piece of satire is offered to show that its shortcomings are recognized. Recognition of the problem is the first step towards its solution.

Be sure to watch for the sequel "Son of ..." the story of a holdover trout in a "fly-fishing-only" area, where we will recognize some more problems with the program.

\*\* The no-kill stretch really isn't in "protest." It's in the Musconetcong, starting at the bridge on Schooley's Mountain Road, extending downstream approximately one mile to the entrance of the river into the Johnson property, Route 57.

\*\*\* How you may ask, does a brook trout that's never been out of the Musconetcong drainage know about park ponds et al? Don't worry about it. Maybe a migratory waterfowl told him.





# batona trail

BY JOHN KUSER

PHOTOS BY AUTHOR

Batona Trail was charted and built in 1961 by the Batona Hiking Club of Philadelphia.

This project was made possible by the permission of State Commissioner of the New Jersey Department of Conservation and Economic Development. It was carried out with the invaluable interest and cooperation of the management of the Wharton State Forest; and Superintendent of Lebanon State Forest.

This vast area of genuine wilderness in South Jersey, much of it rich in historic lore, lies unsuspected by the average motorist racing down the highway. It was the intent to pierce this area for the benefit of those to whom such things have meaning. The use of roads, even dirt roads, was kept to a minimum. Batona Trail was planned as a Wilderness Trail, and it is exactly that. Yet, there are no hardships and hiking obstacles to be encountered. The trail can be walked from end to end by anyone. The blaze marks are painted pink, and can be readily followed throughout.

The trail cuts across a number of roads and thus can be reached by car at many points. This makes it possible for many types of hikes of desirable lengths, and variety of routes to be planned.

The 30 miles of Batona Trail traverse a diversity of terrain, embracing many attractions. There are many points of interest as indicated. The route covers varying land features and variegated types of forest and shrubs. On the way, a great number of streams and waterways are met. The flora and fauna of this region will delight the Naturalist. There are abundant assortments of wild flowers. An observant eye will catch much of the bird and animal life; particularly our famous white-tailed deer. In their season, wild blueberries and huckleberries can be gathered by the handful in many sections. The use of the trail is open to everyone, but with the understanding that all that falls under the heading of Conservation will be rigidly adhered to. Everyone using Batona Trail is subject to the regulations of the Wharton State Forest and Lebanon State Forest.



"Boom, boom, boom-boom-boom-b-b-b-boom!" The muffled, throbbing drumming of a ruffed grouse awakened me in the predawn darkness of an early spring morning. It was pitch dark inside the tent, yet it must be morning or the bird would not be drumming. I looked at my watch with a flashlight and saw that it was five o'clock. The grouse was drumming every minute or two, starting with a flurry and then a rhythmic wing-beat, faster and faster towards the end. That sound could carry for miles through the stillness of the pine country where we were camped on a bluff above the Batsto River in the wilderness area of Wharton State Forest.

It was cold as well as dark. I reached up and felt ice on the underside of the ripstop nylon, and wondered how much dry firewood was left from last night's campfire. A cheery fire and a hot breakfast would be much appreciated in another hour, but right now it was too early, too dark to see anything, and too cold besides. My tentmate, Frank, was still asleep, judging from his breathing. There were ten of us in five tents at Lower Forge campground on the Batsto; we had backpacked in the night before, coming down the Batona Trail from Lebanon State Forest to the north.

At 5:15 the underside of the tent top looked dimly gray, and a robin somewhere outside woke up and began to sing. Soon a cardinal and a Carolina wren joined the chorus, and a song sparrow started his bubbling melody. Now it was nearly 6:00, and the brighter light coming in revealed that the top of the tent was really a brilliant orange. A flock of redwinged blackbirds flew over the campground, and a pair of wood ducks whistled out over the river. There was no wind, and not a sound other than the calls of the birds broke the quiet of the morning, for we were several miles inside the wilderness area—far enough away from towns, highways, and air lanes to imagine that we were hundreds of miles from civilization, or perhaps that we were visiting here back in Indian times a few hundred years ago. No motor vehicles are allowed in the wilderness area: no jeeps, no snowmobiles, no motorbikes, no motorboats; the only ways for a camper to reach Lower Forge are backpack and canoe.

Our two-day, two-night camping trip by ten forestry students and Outdoor Club members from Cook College, Rutgers was organized by students who wanted to come and see some of the things they had been studying in forestry,

geology, bird identification, etc. and visit the Pine Barrens, which many of us had never seen. Some were experienced hikers, but two or three had never gone camping before; for them it was a new experience to shoulder a 35-pound pack, tramp off into the woods, and set up a tent for the night. They all learned outdoor skills very fast! For the new hikers, the main problems were soreness, blisters, and fatigue. One of our neophytes looked as if he were walking on eggs at the end of the first day, his legs and feet hurt so much. But there were problems for experienced outdoorsmen too—the fine sand on the trail got into shoes and rubbed like sandpaper, and one of our veteran hikers hobbled out using tent poles for makeshift crutches to keep some of the weight off his sandpapered toes.

We had camped Friday night at Butler Place, just off Route 72, leaving one car near camp at Lebanon State Forest headquarters and the other car at Batsto Village, where we were to end the trip Sunday. On Saturday morning we walked a couple of miles west along the road to the Batona Trail crossing, and from there we followed the trail 15 miles south to Lower Forge. There were only four other people at Lower Forge camp-





ground on the night that we pitched our tents there. Two were canoers who had paddled down the Batsto River from Atsion Lake on Saturday and stopped for the night before continuing down river to Green Bank on Sunday. The other two were hikers who had backpacked in from Route 206, which runs to the west of the wilderness area. Three of the four were recent Rutgers graduates, which our party soon discovered over convivial campfires on Saturday night.

Now all our group was up, and a blazing fire of pine logs warmed us as we watched the sun rise through the forest. Camp stoves were lighted and soon water was boiling to make hot oatmeal, tea, and kipper snacks for breakfast. Our cooking equipment included an Optimus stove, a Svea stove, a couple of Teflon-lined pans, and an old blackened pot which was perched over the open wood fire. We compared notes on all this apparatus, as we had done with tents, sleeping bags, packs, and shoes throughout the week-end. Most of us preferred the camp stoves over open fires for cooking, because the stoves start quicker, their heat is steadier, and pans and coffeepot do not collect soot which gets all over the rest of your gear.





They can be used along trails where it is not legal to collect firewood, and at times when fire regulations forbid an open fire in the woods. I think we will see wider use of camp stoves in the future, especially here in the East—but you still can't beat a big, roaring fire for a warmer-upper on a frosty morning.

By midday of our second day on the Batona Trail, we had some definite ideas about what types of footwear were suitable for the type of country we were in. The trail runs roughly 30 miles through flatland forest on the New Jersey coastal plain, and your feet tread a surface far different from the hard, rocky footing characteristic of the Appalachian Trail in the northwestern part of the state. Most of the Batona Trail's surface is hard-packed sandy soil sparsely covered with grass, pine needles, and leaves; here and there the sand is loose underfoot, as on a dry beach, and you tend to sink in at each step. Some of us wore

hiking boots and some made the trip in sneakers; I wore leather-topped Adidas, which are not as high or heavy as hiking boots, but still do not allow sand to get in as readily as it does into cloth sneakers. I found the Adidas very satisfactory.

The Batona Trail was charted and built in 1959 by the Batona Hiking Club of Philadelphia. It runs a total distance of 29.8 miles from its northern end at Carpenter Spring, near Pemberton, to its southern end near Batsto Village on State Highway 542. Along this distance, it goes past the firetower and pine plantations in Lebanon State Forest, the campsites and beach at Pakim Pond, another firetower on top of Apple Pie Hill (from which you can see miles of South Jersey's pine country on a clear day), then past the Carranza Memorial and along the Batsto River, which it reaches at Quaker Bridge and more or less follows down to Batsto. Midway

along the trail is Batona Camp, a good place to stop if you are hiking the full length of the trail in two days. Farther south is Lower Forge campground, half a mile off the trail in the wilderness area and more remote than Batona Camp. Most of the Batona Trail runs through open pine forest, but there are stretches of oak woods north of Lebanon State Forest, a swamp near Pakim Pond, and a cedar bog near Batona Camp. The lower end of the trail along the Batsto River is wild and beautiful, with vistas of primeval pine forest, holly, laurel, and blueberry understory, the placid river winding its way southeastward to the Atlantic, and a trail of sparkling white sand crisscrossing the evergreen forest.

Whenever I leave a wilderness area after a soul-satisfying hike, the vistas viewed and enjoyed during the hike remain with me and provide me with many hours of pleasant contemplation. □

## there are jobs and profits in pollution control

Economic doomsayers to the contrary, there are jobs to be had and profits to be made in pollution control. That's a point the President's Council on Environmental Quality has been trying to get across for over a year. In December, it made its biggest effort to date when it brought together 300 executives of businesses which manufacture pollution control equipment to attend the nation's first Environmental Industry Conference in Washington, D.C. If clean air and water are as American as apple pie, pollution control is as red, white, and blue as the free enterprise system. CEQ and others provided an array of statistics and facts to demonstrate it. Here are some of them:

- Environmental expenditures amount to less than two percent of the nation's Gross National Product. That means, pollution abatement in 1974 cost between \$34 and \$40 per person in the U.S.
- In terms of health effects alone, air pollution costs the public an estimated \$12 billion each year in lost work, extra health care, and premature deaths.
- According to the Bureau of Labor Statistics, for every billion dollars of federal expenditures for pollution control, 66,900 jobs are generated. If that figure holds true, the \$16.7 billion spent for pollution control in 1975—\$5.7 in public monies and \$11 billion in private monies—could provide more than a million jobs.
- In contrast, the Environmental Protection Agency reports that since 1971, there have been only 71 plant closings due to pollution control requirements, resulting in a loss of 15,700 jobs or sixteen one-thousandths of the labor force. And in most cases, the environmental requirements were only one of the reasons for the shutdown.
- The sale of catalysts to control auto pollution amounted to \$350 million in 1975 and was expected to reach \$900 million by 1979.

- The Department of Commerce is about to release a study which projects a multi-billion dollar export market for pollution control devices within a few years.

### Financial Boon

Pollution control can be a financial boon not only to the equipment manufacturers but also to the companies which have to do the cleanup. For example:

- Union Camp, a paper mill, now earns more than a dollar for each pound of its mill wastes that are turned into flavors and fragrances; it used to get only eight cents for the sale of the wastes themselves.
- Another mill, Westavco, is converting mill wastes into chemical products, and last year its sales amounted to \$45 million.
- For a \$217 million capital investment, Dow Corning is not only recovering chlorine and hydrogen it used to emit into the air but is also reducing its operating costs in manufacturing silicon by \$900,000 annually.
- A Goldkist poultry plant has cut its water use by 32 percent and its wastes by 66 percent to produce a net saving of \$2.33 for every dollar expended.

And, of course, pollution control means resources saved for society as a whole. For example, for every ton of steel produced from recycled municipal waste instead of virgin ore:

- Enough energy is saved to power the average American home for eight months.
- Two hundred pounds of air pollutants are eliminated.
- Fresh water consumption is reduced 6,700 gallons.
- Wastes discharged into water are reduced 107 pounds.
- Close to three tons of mining wastes are eliminated.

*Conservation News—National Wildlife Federation*





Photo supplied by the author

## *letter from . . . a concerned N.J. sportsman.*

Dear Mr. Perrone:

Since my youth, I have been in the outdoors as often as possible; listening to the sweet music of my beagles, stalking deer with gun or bow, canoeing one of our comely rivers, fishing a pine hidden lake for pickerel, or "mating" on a charter boat out of Barnegat Inlet. But, fifteen years ago I gave up all of those pastimes for a sport, which I believe to be without equal, surf/jetty fishing for striped bass.

Recently, while taking a relaxing walk during a lull in the fishing at Island Beach State Park, I realized that all the activities I have loved in my life have one thing in common. No matter how successful the hunt or how full the fish box the day was always impaired, somewhat, by litter. I personally abhor anyone that litters as much as those who consider themselves sportsmen, while they disregard property, waste fish and game.

As I mentioned, most of my spare time in the past fifteen years has been spent on a beach somewhere from Maine to Florida and I have observed that beach litter is usually the heaviest near areas that have considerable boat traffic (inlets).

Some boatmen, charter and party boat patrons, do not realize or they do not care that the containers they toss in the ocean or waterways will most likely end up on a beach and not decompose for many years. I have enclosed various photos to illustrate the point.

I am not saying that only boatmen litter. My home is located on a county park, and I have picked up an unbelievable amount of litter in the years I have lived there.

What's the solution to the litter problem? The "Pitch-In" campaign, the crying indian on television, and other public educational efforts have not been successful; littering is increasing.

Our resources are extremely over taxed: manpower to handle our solid waste, disposal sites for solid waste (both landfill and ocean) and raw materials for the manufacture of containers. All these resources must be conserved.

The New Jersey Beach Buggy Association, which I am proud to be president, believes that drastic steps must be taken immediately.

Litter laws must be revised. I cite law C.2A: 170-69.1 "Pollution of tidal waters," in which, a person can only be fined for littering a waterway if that litter he throws overboard "will tend to litter any established bathing beach or any beach customarily used for bathing purposes".

What about all of our other beaches? This is a big loophole and how it ever was written this way is beyond me.

Probably the one biggest tool for reducing litter and at the same time greatly conserving our valuable resources is the elimination of nonreturnable containers. This has proven successful in the state of Oregon and must be incorporated nationwide. NJBBA is forming a strong coalition to press for legislation banning nonreturnable containers in New Jersey.

We must change the "throw it away mentality" if we are ever to fish our beaches, walk our parks, hunt our fields and woodlands, drive our highways without the eyesore of beer and soda cans or plastic containers.

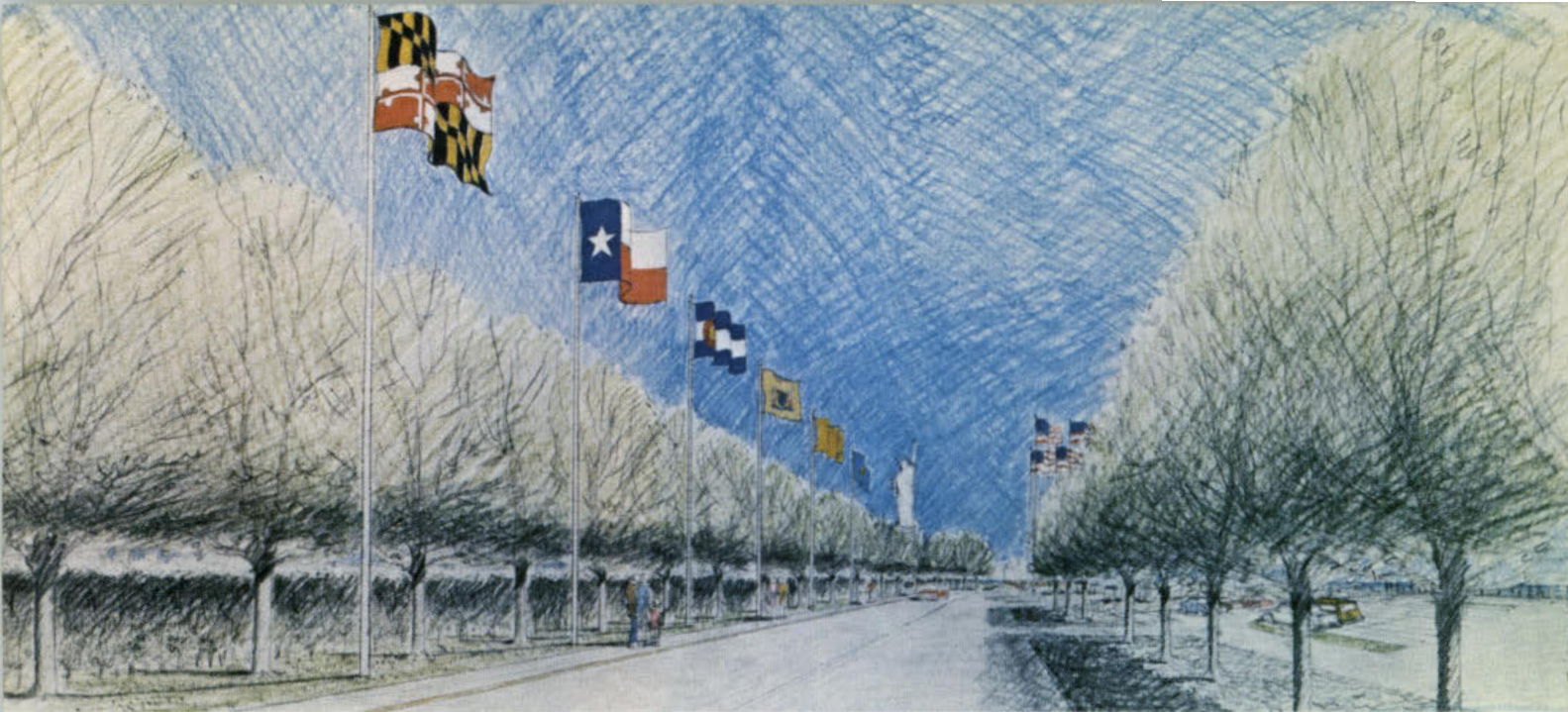
Sincerely,

*R. E. Lick*

R. E. Lick, President  
New Jersey Beach Buggy Association







**'76 ENTRANCE DRIVE AND FLAGS OF THE STATES.** Flags of the 50 states will line the entrance drive to be built in Phase I of Liberty Park development. In the artist's concept above, the Statue of Liberty is in the background on the left, and the flags of the 13 original colonies can be glimpsed in the background on the right.

## Bicentennial project launched

# LIBERTY PARK WORK UNDERWAY

Liberty State Park is becoming a reality. Work began in February on the initial phase of construction—a 30-acre park development on the southern rim of the tract, opposite the Statue of Liberty. A \$1.2 million contract for this work was awarded to low-bidding Farm Harvesting Company of Morris Plains (Morris County).

In his February 4 announcement of the contract award, Governor Brendan Byrne said, "The contract launches a Bicentennial park project of national significance by utilizing \$2.4 million in federal Title X grant money. The grant is one of the largest in the nation awarded by the Economic Development Administration with the aim of putting people back to work."

The project will provide an access road, parking area, Hudson River harbor vista and a picnic area, as well as a dock for sightseeing vessels. Construction is scheduled for completion in 90 days with opening ceremonies to be held on Flag Day, June 14.

The remaining funds from the federal grant will finance the second part of the project which includes the stabilization, restoration and cleanup of the old Central of New Jersey Railroad Terminal at the northern rim of the park. Work on the terminal, which was placed on both the state and national registers of historic places in September 1975, is slated to begin in March.

In May, the U.S. Army Corps of Engineers will start to remove the hulks and derelict piers of the New York harbor shore, beginning the work at Liberty Park.

The access road to be built in the first phase of development will connect to Interchange 14B of the New Jersey Turnpike Extension near Jersey City. A large part of the labor-intensive project involves cleanup and removal of debris collected over the years followed by replacement with trees, plants and grass. Byrne said the job would employ "several

hundred" workers using federal Comprehensive Employment (CETA) funds.

The design requirements for Liberty State Park-76 were prepared as a joint effort by the state's departments of Environmental Protection, Transportation and Treasury; the Division of Building and Construction; and consultants Geddes, Brecher, Qualls, Cunningham.

### Liberty Park land acquisition

#### BYRNE URGES LETTER CAMPAIGN FOR FEDERAL MATCHING FUNDS

With the first phase of Liberty Park development in progress, Governor Byrne said, "The next step is to convince the U.S. Secretary of the Interior, Thomas Kleppe, to release \$5 million in Bureau of Outdoor Recreation (BOR) funds so that the state can quickly finish land acquisition—especially the vital center portion of the park and the shoreline opposite Ellis Island."

Because of the national importance of Liberty Park, Byrne urged "interested Americans" to write to Secretary Kleppe (U.S. Department of the Interior, Washington, D.C.) in support of the request for federal funds.

About 300 acres of the Liberty Park site are now publicly owned, and the state wants to acquire about 400 acres which would tie together the state's holdings. Green Acres funds would be used to match the BOR grant. □



# 1975-76 **WHITETAILED DEER HARVEST**

BY  
**GEORGE P. HOWARD**  
*Chief, Bureau of Wildlife Management*







Photos by Harry Grosch

The 12,697 white-tailed deer reported by New Jersey sportsmen during the four 1975-76 deer seasons represent the second highest deer harvest ever experienced in this State. (See season and county breakdowns in Table 1). The overall harvest record of 13,147 deer recorded as recently as 1974, and the more than 48,000 deer taken by New Jersey hunters during the past four years, are evidence of the overall success of the New Jersey deer management program. While these figures are at first glance impressive, they become even more so when one considers that New Jersey deer harvests have increased in recent years in spite of deer habitat losses which are occurring annually. A better managed deer herd is producing more surplus animals for the sportsmen even though vast areas of formerly high quality deer habitat have been lost forever to industrial and residential development.

Even more meaningful than the actual harvest totals are the recreational and economic benefits New Jersey citizens enjoy from the white-tailed deer resource. New Jersey sportsmen devoted over one million recreation days to the pursuit of the whitetail with firearm and bow during the 1975-76 seasons. Tens of thousands of days were spent observing deer throughout the year by the non-hunting as well as the hunting public. A minimum of 760,000 pounds of high quality venison valued at more than one million dollars was produced by the

1975-76 harvest. It is also estimated that at least ten million dollars was added to the New Jersey economy last year by deer hunters in the pursuit of their sport. In addition, the harvest benefited New Jersey deer populations in general by reducing the number of deer present in most areas to the carrying capacity of the winter range available. While not all areas of the State have accepted the scientific deer management program developed by the Wildlife Management Bureau, it is a fact that a better managed deer herd is producing a greater annual harvest in those areas where adequate habitat is present and proper herd control has been achieved.

Two new programs related to deer hunting in New Jersey were initiated by the Wildlife Management Bureau and put into effect by the Fish & Game Council this year. One, the legalization of rifled shotgun slugs for firearm hunting statewide proved to be popular, efficient and safe, with 27 percent of the successful firearm deer hunters reporting that they used shotgun slugs to take their deer. As expected, slug use varied depending upon habitat conditions from more than 35 percent in Sussex and Passaic to less than 10 percent in the more densely vegetated counties of Atlantic and Burlington. Overall more than 1800 deer were taken with slugs during the regular firearm deer season. An indication as to the safety aspects of shotgun slugs is the report of only two accidents (no fatalities) with slugs, both self inflicted, in 1975.

The other new program inaugurated this year was the long awaited winter bow season which took place

County	Firearm	Fall Bow	Special	Winter Bow	Total
Atlantic	387	73	6	9	475
Bergen	45	7	8	0	60
Burlington	422	105	88	10	625
Camden	61	15	0	2	78
Cape May	102	25	0	3	130
Cumberland	315	54	47	11	427
Essex	9	2	0	0	11
Gloucester	72	26	0	3	101
Hunterdon	1386	501	1345	47	3279
Mercer	218	83	166	8	475
Middlesex	111	70	50	3	234
Monmouth	145	35	59	6	245
Morris	626	147	442	22	1237
Ocean	343	45	153	4	545
Passaic	213	56	66	12	347
Salem	223	88	76	2	389
Somerset	378	117	265	13	773
Sussex	866	151	452	13	1482
Warren	872	226	663	23	1784
Total	6,794	1,826	3,886	191	12,697

TABLE 1.  
1975-76 DEER HARVEST TOTALS FOR NEW JERSEY.



January 3 through January 10, 1976. During this season over 10,000 enthusiastic bow and arrow hunters took advantage of the unique opportunities available from the pursuit of the elusive whitetail during the below-freezing temperatures of January. The 2,017 deer reported harvested by archers during the fall and winter seasons (1826 fall and 191 winter) attest to the efficiency of the modern day archer and his equipment in the harvest of deer. The winter archery season also demonstrated that bow and arrow deer hunting can

provide an abundance of high quality recreational experiences to those willing to accept the challenge.

Overall the 1975-76 New Jersey deer seasons again proved to be safe, satisfying and productive for the more than one hundred and fifty thousand New Jersey citizens who are also deer hunters. They were also adequate, necessary and effective in accomplishing the objective of proper management of the New Jersey deer resource. □





(Continued from page 2)

## a birds eye view of wildlife in the suburbs

*Plantings such as this  
hemlock provide cover for  
wildlife as well as  
enhancing property values.*



J. GALLI

able wildlife. And many residents have done just this in their own backyards since their reason for moving to the suburbs in the first place was to enjoy the "country atmosphere".

### Keep the Trees

One of the finest ways of saving the "country" for our enjoyment is to spare those trees during development. Developers have found that their homes have a greater sale value when trees remain as a setting for the home. Both greater values and municipal ordinances regulating tree removal in developments are, in fact, greatly reducing wholesale scalping of woodlands. But a word of warning, leaving the trees does not necessarily mean saving the trees for where bulldozers scrape and pack the land when clearing the understory or shrubs beneath the trees, shallow roots are destroyed. Soon the trees decline and die and the owner pays another premium to remove dead trees. This problem is one reason we like to see the understory of native shrubs beneath the trees left intact. Another compelling reason to leave the understory undisturbed is to control damaging erosion and siltation and also to reduce flooding downstream.

### Back to Nature

Many families have gone so far as to have no lawn to mow, no crabgrass to fight and very few leaves to rake since the house is set entirely in that native landscape. Native flora encourages native fauna and with winter feeding, a home in such a setting literally

abounds with a wide variety of native birds and animals.

However, where homes are set on former farmland where corn and potatoes grew, there are no trees nor understory. Here is an interesting challenge for new families to develop a naturalized yard that will recreate homes for wildlife and be aesthetically pleasing as well. It is indeed discouraging to see large housing developments, each home with allotted shrubs and trees, all of the same barren wildlife value and the remaining portion of the lot a close-cropped near wasteland of insect proofed grass.

### Plant for Wildlife

Here is a partial list of shrubs and small trees that will afford a year round food supply of berries and fruit that will furnish protective and nesting cover and provide beauty too:

A variety of shrubs as a border for your lot is needed to give a diversity of habitat to attract many kinds of wildlife. For berries through the winter and into spring, hollies are great: the American holly we all know, *Ilex opaca*; or the various ink berries, as *Ilex glabra*; the native deciduous holly, *Ilex verticillata* with bright red berries on dark stems, so showy in late fall and early winter. If the back yard has the room, we like a shrub often in disrepute for its vigor—multiflora rose. The fruit will be edible into April and we have seen long hedges of this rose stripped clean in March when a late snow covered all other sources of food for migratory birds.





ROBERT MANGOLD

**Blue jay attracted by  
wildlife plantings.**

In severe winter storms rabbits will survive in its dense, thorny clumps by eating the bark and cambium of the stems. Firethorn or pyracantha, is excellent for both berries and dense cover. Bayberry *Myrica* bears waxy, white, aromatic berries, a favorite of some birds.

For spring the earliest fruiting we have seen is the fragrant honeysuckle, *Lonicera fragrantissima*. In Freehold its first fruit is a juicy treat for the birds in late April or early May. It will often blossom in January or February and is semi-evergreen.

For summer fare, tartarian honeysuckle, the cotoneasters, our native arrowwood *Viburnum dentatum* and other viburnums, our native shadbush *Amelanchier* and spice bush *Lindera* are all relished by birds. And, if you are willing to share, cultivated blueberries are a favorite.

For fall the heaviest producer is probably autumn olive *Elaeagnus*. The birds flock to these tall shrubs. The dogwoods, both shrub and small tree, are also favored for their fruit. Amur honeysuckle, hawthorns, mountain ash will also add beauty and berries for fall.

We must add two favorites of ours, the delightful shrub *Abelia grandiflora*, which blooms all summer and into late fall, furnishing a dependable nectar supply, and our native, late blooming pepper bush *Clethra alnifolia* that fills the air with a sweet aroma when most other blooms have passed. The pepper-like seeds of this shrub are eagerly sought by small birds in the dead of winter.

Here are some fine larger trees, if you have the room—the pin oak, which yields a dependable crop of acorns of a size manageable for the larger birds and, of course, the favorite of squirrels; hemlock is great protection from the cold winter winds and it may attract a flock of crossbills for a feast; red maple *Acer rubrum* provides a welcome spring change in diet for the squirrels; mulberry and wild cherry produce abundant fruit over a long period.

#### **Winter Feeding**

But more can be done. Feeding during the winter will attract a wide variety of birds. Water, either a birdbath or small pond, is a must. We like a small plastic lined pond where robins can easily obtain and prepare the mud lining for their nest or native sparrows can search out favorite bugs in marshy edges, and frogs may lend their voice to the summer chorus. Fish should be kept in the pond to be sure you are not breeding mosquitos.

Both bird houses and squirrel houses may be needed since nesting sites will be slim without old trees and their hollow trunks and limbs.

Finally, don't let the house cat destroy the results of your labors of love.

These things each of us can enjoy in our own bit of property, but let's not forget the pressing need to keep certain large tracts of land managed for wildlife to provide a place where the deer, fox, waterfowl, and yes, even the pine barren tree frog may survive in the wild. □



---

## CARDINAL ART AIDS CHILDREN'S HOSPITAL

The St. Louis Football Cardinals, The National Wildlife Art Exchange, and the St. Louis Children's Hospital respectfully offer you the opportunity to obtain a FULL COLOR fine art collector print (prepaid — \$23.50) of "Cardinals in Winter" by one of America's foremost wildlife artists — Ron Jenkins of Arlee, Montana. The original painting is from the collection of the St. Louis Football Cardinals.

The National Wildlife Art Exchange of Vero Beach, Fla., in conjunction with the St. Louis Football Cardinals, have designated that \$9.00 from the sale of each collector print shall be donated to the St. Louis Children's Hospital (not for profit) to enable them to maintain and provide additional medical services to all deserving children, regardless of their color or creed. Your help is earnestly solicited.

The "Cardinals in Winter" fine art collector prints shall be available for a limited time only (through July 4, 1976). The FULL COLOR prints are printed on water-marked museum paper (100% rag) in a size of 16" x 20". They are shipped flat and guaranteed to arrive in original issue condition. On multiple orders, add \$20.50 for each additional print which is to be shipped in the same package to one address.

Mail your check (\$23.50) to NWAE/St. Louis Children's Hospital, Drawer 3385, Vero Beach, Florida 32960. ☐

---

### FRONT COVER

*Fishermen Always Come Out Early — photographed by David A. Bast with a 4 x 5 camera at a northern New Jersey trout stream.*

### INSIDE BACK COVER

*"Cardinals in Winter" by Ron Jenkins. This collector print can be purchased and a portion of proceeds will be donated to St. Louis Children's Hospital. See write-up at top of page.*

### BACK COVER

*Sam and Susie — photographed by Len Wolgast with Nikkormat using Ektachrome professional. See article "Happiness is Training Your Own Beagle" on page 14.*





r. jenkins  
© 1975



