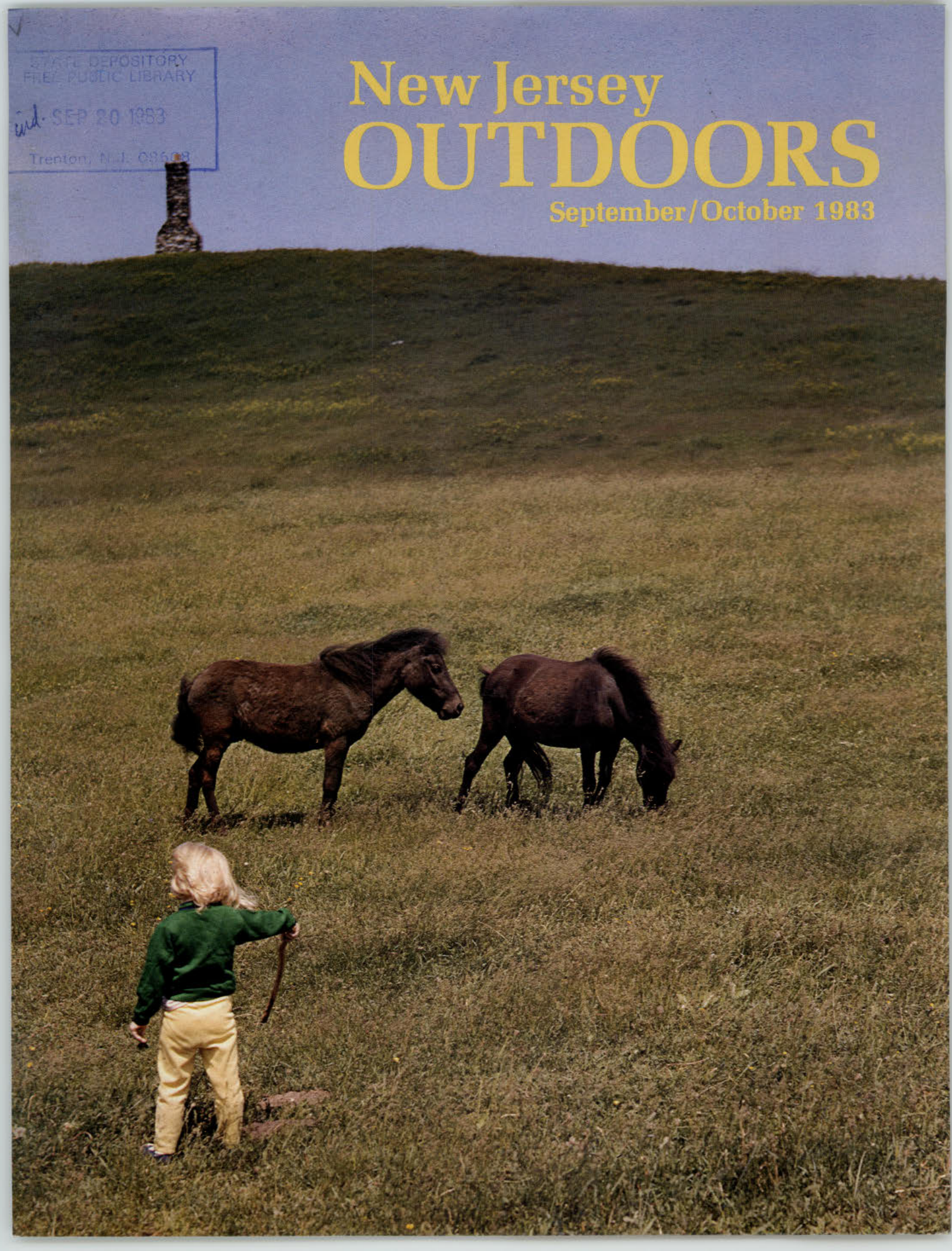
New Jersey OUTDOORS

September/October 1983



NEW JERSEY OUTDOORS CREDO

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

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New Jersey OUTDOORS

From The Editor

We have learned in the last decade or so that habitat is the key to the survival of wildlife. As you can see in the letter reprinted below, the American Indian tried to give us this message many, many moons ago.

Where is The Eagle?

The Great Chief in Washington sends word that he wishes to buy our land. How can you buy or sell the warmth of the land? The idea is strange to us. Yet we do not own the freshness of the air or the sparkle of the water. How can you buy them from us? Every part of this earth is sacred to my people. Every shiny pine needle, every shady shore, every mist in the dark woods, every clearing and humming insect is holy in the memory of my people.

We know that the white man does not understand our ways. One portion of the land is the same to him as the next, for he is a stranger who comes in the night and takes from the land whatever he needs. The earth is not his brother but his enemy, and when he has conquered it he moves on. He leaves his fathers' graves, and his children's birthright is forgotten.

"There is no quiet place in the white man's cities. No place to hear the leaves of spring or the rustle of insect wings. But perhaps because I am savage and do not understand, the clatter only seems to insult the ears. And what is there to life if a man cannot hear the lovely cry of the whippoorwill or the argument of the frog around the pond at night?

The whites too shall pass, perhaps sooner than other tribes. Continue to contaminate your own bed and you will one night suffocate in your own waste.

When the buffalo are all slaughtered, the wild horses all tamed, the secret corners of the forest heavy with the scent of many men, and the view of the ripe hills blotted by talking wires. Where is the thicket? Gone. Where is the eagle? Gone. And what will it be to say goodbye to the swift and the hunt, it will be the end of living and the beginning of survival."

Chief Sealth of the Duwanish Tribe from Washington State sent this letter to President Franklin Pierce in 1855.

In this issue

In the article titled, *Winter Gardening in the Delaware Valley,* author Joe Colanero tells us how to grow broccoli, cabbage, tomatoes, peppers and snap beans in October and November. No small feat. The writer, new to our publication, wrote a year-long series of gardening articles for the *Moorestown Observer,* and he is the former president of the South Jersey Organic Gardening Club.

An experienced backpacker and hiker, Ken Oravsky writes about *Getting Into Backpacking,* which discusses what you'll need, how to buy it, what is right for you and where to go. Ken has written for us before and, at present, is working for the National Park Service at the Statue of Liberty. *Backpacker* magazine recently published an article by Mr. Oravsky.

Exploring New Jersey's Trails was written by Greg Johnson of the Green Acres Program, Robert Cartica, Office of Natural Lands Management, and Robert Bambridge, of the Pinelands Commission. The article discusses several popular N.J. trails, some trails' history, and the impact of Green Acres Programs on the state's network of trails.

In the January/February 1983 issue, outdoor writer Scott McGonigle wrote the article titled, *Field Trials at Assunpink.* He's back with *Championship at Assunpink,* an account of the upland game amateur shooting dog championships held at the Assunpink Wildlife Management Area in February.

Waterloo Village Restoration, by Pat Reardon, discusses the ". . .unique colonial restoration combining history with the performing arts. . ." that has been happening this summer at Waterloo Village, and will continue on through the fall season. The author is new to our publication, but she is familiar to readers of *New Jersey Monthly* magazine and the *New York Times,* New Jersey section. Photographs were provided by Hank Pawlak.

Waterloo Village is located in Allamuchy Mountain State Park, and is accessible from Waterloo Road which runs east and west between Hackettstown and Route 206 in northern New Jersey.

The Little Gentleman in Black Velvet is not a critter you'll run into often. In fact, you may never see this animal. But they exist and many angry folks call them all sorts of names. Author Kathleen J. Patterson, a free lance writer from *Hastings-on-Hudson* N.Y. writes about moles, their history, their image, and their role in the scheme of things.

New Jersey Goes au Naturel discusses "natural areas" in our state and the role Green Acres has played in the acquisition of these areas.

Author Cathie Cush has written several articles for NJO and she tells me she was recently promoted to Editor of the *Sandpaper,* the weekly newsmagazine on Long Beach Island.

Eileen Van Kirk, a frequent contributor, is back with *Duster/A New Jersey Original,* which discusses the New Jersey history of this popular sailboat. Photos were provided by her son, Chris Van Kirk, owner of Duster #356. Historical photographs were provided by *the Duster Class Yacht Racing Association.*

More on Saltwater Fish by Bill Figley is a continuation of this series. As stated in July/August issue, the entire series will be available in one booklet at some future date.

Protecting New Jersey's Coast is about the work that needs to be done to protect our state's valuable shoreline. The article was written by Karen Kominsky, Coastal Resources, and Sally Dudley, a special assistant in the Natural Resources area.

Warren E. Fox is back with *Exploring the Great Egg Harbor River By Canoe.* Mr. Fox, from the South Jersey shore area, has written for us before, but not for awhile.

A new author, free lance writer Brion W. Babbitt, writes about *South Jersey Surf Fishing,* and September is the right time to begin.

Our wildlife in New Jersey article titled *The Mockingbird* is introduced by the Carol Decker illustration on the inside back cover. The article was written by nongame biologist Mimi Dunne, new to our pages.

The snap-out insert titled, *Green Acres/ Your Investment* was written by Anne Morris, of the N.J. Conservation Foundation.

Steve Perrone

Winter Gardening in the Delaware Valley

Why stop at fall harvests—enjoy hardy vegetables all winter

by Joe Colanero

Broccoli and cabbage are still in their beds
October has put some frost on their heads,
Don't be alarmed, they're hardy, no harm
Makes them sweeter, the farmers have said.

Rose Campbell

by Joe Colanero

For the last half dozen years our family has enjoyed fresh vegetables, home grown in our garden in Woodbury and brought to the dining room table throughout the entire winter. We have learned to take advantage of the natural ability of many vegetables to withstand our cold New Jersey winters with little or no protection. An added bonus is the fact that most plants will improve in flavor after being touched by fall frosts. Winter gardening is not new; it is doubtful that many of our animal friends could survive in this area without foraging for scarcer, but still available, edible plants. For us, having these plants available when the quality is declining and the price is increasing at the greengrocer renders them ever more precious. We have managed to have many vegetables in this unlikely season without resorting to any drastic measures and without utilizing a greenhouse.

The term "winter gardening" is somewhat of a misnomer since almost no growth actually occurs during the winter. What happens, however, is that the plants are protected and harvested well beyond the fall frosts and throughout the winter when most gardeners assume the season has ended. The garden itself can be the holding site until the vegetables are needed. As many other homes in our area, ours does not have a basement for storage. For this reason, the garden is our only choice.

We are learning what every beginning gardeners learns—that each vegetable has its own time when it likes to grow, each has its own season. For many crops, the cool fall is the ideal growing weather and allows for an extended harvest season. At our house it is common to see one of us dashing out in the snow to pull carrots or leeks for soup served a few minutes later.

Before we even get to winter, a transition period between an early frost and the winter garden enables us to continue picking tender summer vegetables such as tomatoes, peppers and snap beans. These heat-loving vegetables will continue to mature after a fall frost if they are helped. Often at our homesite, there may be an early light frost in late September or early October, but not a hard killing frost until November. The tender plants are watered with a garden hose after a night when the temperature drops to the low thirties or lower. The watering helps lessen the dehydrating effect of the evening frost on the plant tissue. Indian summer's warmth can add two or three weeks of welcome growth in the fall, especially when the soil remains moist for continued availability of nutrients. The Gloucester County Extension Service lists October 23 as the first average killing frost, but that information may be misleading from my experience. My log book shows many years when we harvested tomatoes, peppers and snap beans into November. Several years ago, the hard frost did not occur until November 21. The winter of 1977 is another story.

For me, Indian summer days are a delightful time to be outdoors getting the chores done; the weather is crisp and the mosquitoes are no longer a nuisance. The chores can be done at any time of day instead of the early morning hours during the hot summer months. Weeds, by this time, are under control or simply ignored since most plants are well established and can tolerate and share space. Also, these days are great for resuming the stimulating exercise of building up the reserve of the organic gardener's brown gold—compost. Spent summer plants and grass clippings are piled, tossed and turned. Shortly, leaves will be readily available for addition to the compost pile, most of them bagged for my convenience.

As mild fall temperatures are pushed aside by the colder northwest air, the hard frost arrives, marking the real winter garden season. With Lady Luck on my side, the final curtain may not arrive for the tender plants until November, but in any event, I am prepared.

Success at winter gardening primarily depends upon planning—early planning. While spring-grown vegetables can mature casually into summer, summer and fall, sown plants must be timed for maturity just before the growing season ends. To help with planning, check with the Cooperative Extension Agent in your county for exact average frost dates for your area. A further check with a local master gardener will help fine tune the dates, as geographic areas can vary due to local influences such as the ocean's effect near the shore.

Because winter garden vegetables will require either a long growing season or will be growing in soil depleted after a spring crop, soil fertility will have to be maintained. Dr. B.L. Pollack, researcher at Rutgers' Cook College, advises: "In sandy soil areas, any long season vegetable should be given additional applications of nitrogen and potash as they easily wash out of our soils." As an organic gardener, I prefer to apply manure tea every two or three weeks. The manure tea I use is made by adding about one-half shovel of aged manure to a bucket of water and allowed to steep for a few days. This solution is then diluted with more water to a weak tea strength and poured around the plant root zone. Such a manure tea will give the veg-

View of snow-covered garden and beyond to the Woodbury Creek.

Harvesting fall-grown carrots protected by a blanket of leaves. Notice stake for easy locating.

etables an added boost to carry them with vigor as they use up available soil nutrients. Other gardeners can add a balanced, water-soluble fertilizer to water and spread it similarly. Don't let a few early cold nights fool you into stopping the feedings. Keep fertilizing until early October.

Let me take you through my garden calendar from the first seeding of leeks indoors in March to the spinach sown outdoors in September.

The leek, a staple of winter, is a close relative of the onion. Long popular in Europe, the leek is growing in popularity here in the States. Since it is doubtful that I can rely on availability of leek plants from local greenhouses, I start them indoors in early March. I thin to about one inch as they emerge from the flats and transplant out in the garden soil in April, spacing the leeks six inches apart each way in my raised beds. I try to apply as much compost as I can spare as the leeks like rich, moist soil. Leeks appreciate the usual applications of manure tea, watering and weeding. As they grow, I hill the soil up around them to blanch the leeks to increase the edible portion. In late fall, I spread leaves about six inches thick to prevent the soil from freezing. Mark the area with stakes for easy location after the snow falls.

With snow brushed aside, kale remains green, delicious and ready for picking.

The next vegetable sown indoors is the parsnip. If you're patient and wait until they are frost sweetened, parsnips are delicious pan-fried with butter, mixed half and half with mashed potatoes or added to stew. Parsnips are sown in April or May directly out in the garden, three to four inches apart in loose soil free of stones or fresh manure. A very hardy vegetable, they will remain in the soil the entire winter with only leaves needed to assist in harvesting. Don't overplant.

In May brussels sprouts can be sown out in the nursery bed, an area I set aside for starting seedlings until they are ready to occupy their full space later. Brussels sprouts deserve a better reputation; the market-sold are so cabbagey tasting, but not our own fall-grown, deliciously sweet varieties. Brussels sprouts are extremely hardy and can be expected to bear up easily until the deep cold of January. When they are ready for transplanting about a month after being sown in the nursery bed, I put them eighteen inches to two feet apart in very rich soil. They need plenty of moisture, so I mulch them to keep the drying summer from stealing their vigor.

The rest of the cabbage family—cabbage, broccoli, collards and kale—can be seeded in a nursery bed area in June and transplanted four to six weeks later into well-fertilized soil. As with brussel sprouts, I give them a drink of water when set out, transplant solution or weak manure tea and mulch them as soon as their height allows. The mulch will help conserve moisture and maintain a cooler temperature. By growing our own, we can select our favorite tasty variety of cabbage such as Savoy, one of the attractive red types or Early Jersey Wakefield, a small handy-sized cabbage that is especially flavorful. Kale takes the title "King of the Winter Garden" with its ability to withstand bitter cold and yet remain green all winter. As with the others in the cabbage family, the flavor will improve after frost. Kale can be harvested any time during winter, whereas broccoli will have gone by in early December and cabbage about a month later. Collards match kale in hardiness and will withstand temperatures down to the teens.

As July arrives I prepare a raised bed area for carrots to be sown. Carrots prefer loose, sweet soil free of stones and without any recent additions of manure which would cause hairy, misshapen roots. I deeply dig the area for

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GETTING INTO BACK-PACKING

By Ken Oravsky

Though there are more ways to enjoy nature than I can enumerate on here, one of the most enjoyable I can think of is a good backpacking trip. There aren't many things that can compare with the freedom of carrying everything you need on your back; going when you want and stopping when you want; setting up camp in time to catch the sunset, and then having to walk only a short distance in the cool night air back to your tent. When you awaken, the scene is as perfect as it was 300 years ago—mist in the valley, dew on the ground and birds calling right over your tent.

If you think this experience sounds too distant, dangerous or expensive, you are wrong on all counts.

BACKPACKING—Past and Present

Backpacking per se is not new. Certain Indians while on hunting trips would carry a few essential items on their backs. Later on trappers and "mountain men" came to carry small packs. Today we would group their methods as woodcraft and survival techniques. The items they carried, such as axe and gun were to help them to carve a living for themselves out of the land, utilizing trees to build shelter and wildlife for their food.

By the early 1930's people began packing small tarps and their own supply of food. These folks were now becoming more self-contained; all they needed nature to supply for their survival was water, air and some firewood. Wildlife and trees began to be appreciated for their aesthetic qualities.

The completion of the 2000-mile Appalachian National Scenic Trail from Maine to Georgia on August 15, 1937 gave hikers almost endless hiking possibilities right close to home.

Today's backpacker now has available to him a wider choice of equipment than ever before, but with this choice can come the problems of needless expense and confusion.

View of Delaware Water Gap from Mt. Tammany. Viewpoint is reached by a spur trail off the Appalachian Trail in Worthington State Forest.

EQUIPMENT—What is Right for You?

A $100 rain parka, a fork, nesting pots, snow flaps, a pillow, an ice-axe, crampons and mountaineering boots all have one important thing in common: you don't need any of them for three-season backpacking in New Jersey (Spring-Summer-Fall backpacking in backpacker jargon). Simplify! Simplify! Simplify! Many people are deterred from backpacking because they think you need $800 worth of equipment to get from the Water Gap to Sunfish Pond. Another consideration is weight—not yours, your packs! Always think about the weight of an item, and *if* it is really necessary. I have never carried a fork, since everything (yes—even spaghetti) can be eaten with just a spoon. I never bring a pillow since extra clothing will suffice, and I never bring both a frying pan and a pot for a two night trip; instead choose meals that can be made with either one or the other.

Use a scale to help decide what to bring, and weigh *everything,* including cameras, tent stakes and full water bottles. Your pack should weigh-in at less than 25 pounds complete for an overnight summer trip. Naturally a box-spring and mattress will add some comfort at night, but remember that weight is the key factor of how free you feel on the trail, and how enjoyable your walk will be.

Now that we have discussed what items are not needed, we will look at what is needed.

The first piece of major equipment to look at is a pack. Look for good quality construction, good sewing and a generous, comfortable hip belt. Tell the salesperson what type of trips you are interested in and they will help you decide how large a pack you need. Ask the salesperson if you could have them put some weight (20 to 30 lbs.) in a few different packs to see how they feel. If the salesperson looks at you like you're crazy, it is time to politely find another store. Any serious equipment retailer will have small sand bags or bricks to help you get a true feeling of the pack—the way you will actually be using it.

The second important piece of equipment is a tent. The most popular tent today is the two-person variety with two-piece construction: a breathable inner tent with waterproof floor under a matched waterproof rain fly. These tents "breathe" well and yet will keep you completely dry in the worst of storms. A one-piece totally waterproof tent will get you soaking wet from your own moisture on a humid night.

Since there are over one hundred different styles, sizes and prices available, go to several well stocked stores and look around. When you narrow your choice down to a few, look at your choices by setting them up. See if you and the salesperson can set up a tent you are interested in inside the store, then take your shoes off* and see how comfortable the tent is inside. Weigh ease of setting up and comfort inside against price, weight and construction details, and you will be pleased with your choice.

Next on the list is your bed, i.e. a sleeping bag and a foam pad. Forget about those huge rectangular RV sleeping bags, they are not designed to be

There are several types of rugged and dependable white gasoline backpacking stoves available. They are small, light in weight and will provide many years of hot meals.

carried. Select a mummy shaped bag rated for the coldest temperature you expect to experience. Although there are sleeping bags that will keep you toasty warm at -40F, these expedition models are just useless extra weight and a waste of money if you only plan to use them for three-season backpacking in New Jersey. Quality is not to be confused with temperature rating. That same manufacturer surely makes three-season bags with the same integrity as expedition bags, the expedition models just weigh and cost more because they have more fill in them.

Don't get too caught up in the great "down" vs. "synthetic" battle. Whole chapters have been written about the virtues of each type of fill, yet I have one bag filled with each type of fill, and both have been completely satisfactory. Ask the salesperson to help you decide.

Under your sleeping bag goes a foam pad designed for this purpose. Inexpensive and light in weight, the pad insulates you from the cold ground and adds some comfort. Leave the cutting of evergreen boughs for old Daniel Boone movies.

The final piece of specialized equipment you will need is a backpacking stove. Since fires are prohibited in some areas and campfire cooking can be difficult to impossible depending on the weather, a little stove has become a standard for packers. Don't envision the classic Sterno stove here: there is a wide variety of little 1-1/2 pound stoves available that can boil water faster than your home range, yet simmer low enough for stew. Stoves are one piece of equipment you don't want to try out in the store—mainly because you can't learn much about them that way. Ask how well a stove performs in cold, wind and rain, and how dependable it is. Never sacrifice on dependability; cold soggy oatmeal is no fun on a cold soggy morning.

A two-man backpacking tent. Blue material is breathable to help eliminate condensation while brown material is waterproof. A good quality tent like this will keep you dry and comfortable in all weather.

PHOTOS BY AUTHOR

What? That's all the equipment? For now, yes. Don't spend a lot of money at first. Try hiking in running shoes or work boots—whatever you have. You'll know if you need backpacking boots later on. Bring enough clothing to keep you warm and comfortable even when it gets cool and rainy. As you go on you will be able to decide if you need a wind parka and heavy wool shirts. Go on some day hikes and think about what you really need. Map, compass and first aid kit are small but important items, while sunglasses may be unnecessary if you are going to be in the woods the whole trip. Remember to bring some sort of lightweight rain gear.

Cooking gear should be simple: a small aluminum pot is lightweight and yet adequate to make nutritional, tasty, and inexpensive meals. Macaroni and cheese, spaghetti and canned sausages, tuna casseroles, etc. All work well. Use powdered milk and bring some margarine if needed. It can keep for two weeks in your pack—it just won't remain solid in warm weather. I use supermarket foods almost exclusively in the woods; leave the expensive freeze-dried backpacking foods for Mt. Everest expeditions.

One final word about equipment. Consider renting it first. When you do decide to purchase, buy it directly. Catalogs are good, but unless you are very familiar with the equipment you could end up with something that is not really right for you.

WHERE TO GO

New Jersey offers nearly one hundred miles of marked backpacking trails, easy enough for the neophyte yet diverse and interesting enough for the veteran packer. In the northwest corner of the state, the Appalachian Trail winds 50.3

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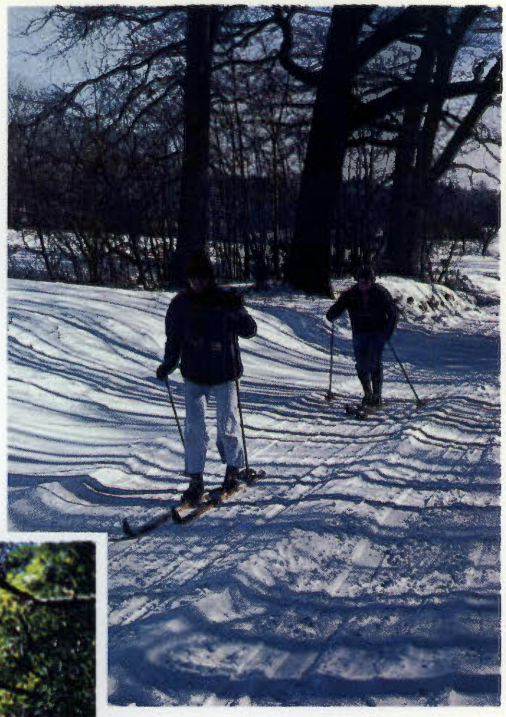
External frame backpacks are recommended for three-season backpacking. They are available in sizes and capacities to fit most anyone. Note the "S" curve in the frame to fit the contour of the back.

Stopping to photograph flowers along the Appalachian trail.

Exploring New Jersey's Trails



Compiled by Greg Johnson

Ours is a heritage of trails, of avenues and thoroughfares, footpaths and waterways. These passageways continue to be our corridors for transportation, commerce, and recreation.

Due to New Jersey's incredible geographic diversity, the state offers a vast variety of trail experiences. The trail that tops the ancient Appalachians now rests entirely on public land. New Jersey is the first state to buffer this valuable resource. other trails will guide you past historic sites or glide you through a stand of pine on a ribbon of pristine water.

While many trail benefits are obvious, for example, physical fitness, others are not so readily apparent. By providing a pathway to and sometimes a habitat for a number of plant and animal species, trails can serve as educational corridors. A link to our transportation heritage, abandoned rail lines make excellent multiple-use avenues. Not only will trail use help preserve historic and architectural sties like stations and bridges, but a potential mass transit corridor can be kept open.

STOP AND SMELL THE FLOWERS

by Robert Cartica

Trails have long provided the casual botanist with hours of enjoyment identifying and admiring wildflowers. Considering its size, our state contains a surprising variety of habitats and community types. Trails provide an opportunity to observe these communities and their corresponding differences in plant species composition. Let's take a sample of the wildflowers which may be viewed.

Tillman Ravine, in Stokes State Forest, typifies the hemlock-mixed hardwood forests of North Jersey. The dominant tree of this cool, moist ravine is the hemlock (its scientific name is *Tsuga canadensis*). Although the plant ground cover is typically sparse in this coniferous forest, some spring flowering species observable along the ravine's trails include trailing arbutus *(Epigaea repens)* with its clustered pink or white flowers and leathery leaves, pink lady's-slipper *(Cypripedium acaule),* which is a member of the orchid family, and the trout lily, *(Erythronium americanum)* with its bright yellow flowers and characteristic mottled leaves. In July the showy pink flowers of the rhododendron *(Rhododendron maximum)* are very impressive.

Traveling south to Lord Stirling Park in Somerset County we discover a maze of trails and catwalks traversing a North Jersey lowland hardwood forest dominanted mostly by oaks. Flowering spring herbs which may be observed in this wet forest include skunk cabbage *(Symplocarpus foetidus),* the leaves of which when crushed, give the plant its apt name; jack-in-the-pulpit *(Arisaema triphyllum),* whose curious flower resembles a preacher in his pulpit; larger blue-flag *(Irs versicolor),* known for its graceful stature and showy violet flowers, and several species of violets.

The Absegami Trail in Bass River State Forest provides a quick tour of two forest types characteristic of the South Jersey Pine Barrens. The trail begins in a forest dominated by pitch pine trees *(Pinus rigida).* Here we may find the famous white and pink flowered pyxiemoss *(Pyxidanthera barbulata)* whose needlelike leaves resemble those of a real moss, and the unusual turkeybeard *(Xerophyllum asphodeloides).* Proceeding along the trail we soon enter a denser forest of southern white cedar trees *(Chamaecyparis thyoides).* Often found on the bright green mossy surface of this wet forest is the carniverous pitcher plant *(Sarracenia purpurea),* which traps insects in its pitcher-like red and green leaves.

Please remember that one must never pick or otherwise disturb these wildflowers, but should leave them for others to observe.

PINING AWAY FOR SOUTH JERSEY

by Robert Bembridge

The Absegami Trail is only one of myriad recreational resources in the South Jersey Pinelands. There are 31 state parks, forests and wildlife management areas in the Pinelands which offer unique outdoor experiences. Most of the "trails" through these areas are sand roads or unmarked fire breaks that require the hiker to use a bit of care to make sure he does not get lost. However, the novice hiker can make the most of his sojourn in the Pinelands by following a few simple rules.

If you are unfamiliar with hiking in the Pines, first visit the ranger office at one of four state forests in the region—Wharton, Lebanon, Bass River or Belleplain. The ranger can point out nearby trails, tell you the approximate walking time, and familiarize you with some of the area's natural features.

The 41-mile Batona Trail is the principal hiking trail through the Pinelands. Beginning at "Ongs Hat" on Route 72 and ending at Evans Bridge on Route 563, the Batona Trail offers many natural and historical attractions. Apple Pie Hill, (*Apple Pie Hill/A Hike for Any Season*—NJO, March/April '83) near Chatsworth, features one of the most scenic vistas in the Pines. The trail is accessible from a variety of points, including Lebanon and Wharton state forests, and is clearly marked by pink dots so you don't have to worry about getting lost. The Batona also cuts through historic Batsto Village, an important 18-century iron-making town and a popular tourist attraction today.

Camping is permitted along the Batona Trail in designated areas. Permits can be obtained from the ranger offices at Lebanon and Wharton state forests.

Most of the property in the Pines is privately owned. Check with the local ranger to determine where hiking is permitted. If you wish to hike on private land, get the owner's permission first.

Topographical maps published by the United States Geological Survey show sand roads and fire trails which can be used by the hiker. These maps can be purchased at the Lebanon and Wharton state forest ranger offices or the Bureau of Geology and Topography, New Jersey Department of Environmental Protection, Trenton, New Jersey 08625, (609) 292-2506. Topographical maps can also be purchased at local map stores.

Brochures describing state forests and hiking opportunities in the Pinelands can be obtained from the Division of Parks and Forestry, State Park Service, CN 404, Trenton, New Jersey 08625, (609) 292-2797. A resource guide to recreation information about the Pinelands can be obtained from the Pinelands Commission, P.O. Box 7, New Lisbon, New Jersey 08064, (609) 894-9342.

STEP INTO YESTERDAY

by Greg Johnson

From the earliest inhabitants to the modern-day pathfinder, New Jersey's history has been interwoven with trails. Thoroughfares that once felt only the soft step of a moccasin or the begrudging roll of a colonial wagon wheel are now the arteries upon which New Jersey's life blood is so dependent. Yet not all our passageways have gone the way of the King's Highways. New trails are being blazed out of history's junkpile. Pieces of abandoned rail line and patches of utility right-of-way have been strung together to form the Lenape Trail, an urban escape route connecting Newark's historic James Street District with the rocky, wooded hills of the South Mountain Reservation.

The Delaware and Raritan Canal State Park is perhaps New Jersey's most often-used historic strip, for it contains both a water trail and towpath. First conceived by William Penn in the 1600s and completed in 1834, sections of the canal look much the same as they did 150 years ago. Bulky barges and stubborn mules have been replaced by canoeists, joggers, cross-country skiers, and horseback riders.

Though not a formal trail, the Tuckerton State Route still threads through the pines of Wharton State Forest. This 19th-century highway, which once ran from Camden to Tuckerton, is now a favorite of horseback riders.

Historic trails are important to our past and our future. These avenues have played a crucial role in both our state's and country's development. The potential to be preserved is enormous; an inventory of abandoned rail lines proves that. But many magnificent opportunities have been, and will continue to be, lost. Except for the time capsule that is Waterloo Village, the Morris Canal is but a memory.

"TODAY AND TOMORROW"

The number of factors that come into play in the development of a trail can be staggering. What initially appears as a simple idea actually involves years of dedication and cooperation by individuals, organizations and both state and local governments. Patriots Path clearly demonstrates this effort. The Whippany River, both scenic and historic, serves as the backbone for this 27-mile linear park. A path that skirts the edge of the river allows for a wide variety of recreational use. The park links both rural and urban to the natural and historic. An exciting side effect is the preservation and restoration of the Whippany River. A key element of Morris County's heritage, the waterway played an important role in the Revolution and the country's growth during the Industrial Era. The State Green Acres Program assisted in both the acquisition and development of Patriots Path. This stunning example of river corridor protection now serves as a touchstone for potential projects.

Still in its development stage, Montgomery Township has an eye on the floodplains that border the waterways flowing through the Somerset County countryside. Eventually trails will enhance these areas. Green Acres funds will enable the township to maintain a water quality that is certain to face pressure from development. When the pieces fall into place it is hoped that a tie-in with the Delaware and Raritan Canal State Park can be made.

The linear park concept is not confined to river corridors. Bridgewater, Warren, Bedminister, and Bernards Townships are acquiring 160 acres along the second Watchung Mountain Ridge. Sponsored by Somerset County, the project will receive funding from Green Acres and will eventually extend for 7½ miles. The areas will be kept in a natural state for hiking and erosion protection.

General information on the Green Acres Program and its application to trail development and preservation of our heritage through municipal and county land acquisition and facility development can be obtained from: Local Matching Assistance Program, Green Acres Program, CN 404, Trenton, New Jersey 08625.

In essence, the whole state is waiting to be explored. NJ

For over twenty years the Green Acres Program has taken an active role in improving the quality of New Jersey's outdoors. Though its impact on the state's network of trails has been substantial, this merely constitutes a small portion of the programs concerns. Our avenues and thoroughfares, footpaths and waterways will lead you to the various Green Acres projects throughout the state. They enhance and preserve our historic cities, our timeworn mountains, and deepest forest, and our sandy beaches.

the little gentleman in black velvet

ILLUSTRATIONS BY DOREEN CURTIN

By Kathleen J. Patterson

Mole-welted lawns are a familiar sight in the Northeast, to the despair of many an irate suburban lawnowner. But although moles may be at work in every yard in the neighborhood, we rarely see the animals themselves. That is, unless the family cat decides to bring one home as a "present," which is how I met my first mole, a feisty little thing that showed its gratitude for being rescued by sinking its teeth into my finger. Right through my fingernail. It was a graphic (painful!) introduction to the outsize strength of these diminutive diggers.

Literally "underground" workers, moles pursue a dark, earthy existence that seldom brings them into the daylight where we can see them. This suits the moles just fine. Exceptionally well-adapted for finding food and shelter underground, moles have little incentive to go topside.

When they do make a rare aboveground visit, moles are sometimes mistaken for small rodents such as mice or voles. Though similar in appearance, moles are not rodents but insectivores (Order Insectivora, Family Talpidae). The insectivores include the mole's closest relative, the frenetic shrew (Family Soricidae). Moles and shrews are the most primitive of the placental mammals, noteworthy for their small bodies and large appetites.

Although the name "mole" is applied to various molelike African rodents and to the pouched Australian marsupial "mole," only members of the Family Talpidae are true moles. The "talpids" are widely distributed throughout the temperate regions of North America, Asia, and Europe (with the exception of Ireland). No true moles are found in South America, Africa, or Australia.

The three species native to the northeastern United States are the eastern mole *(Scalopus aquaticus)*, the hairy-tailed mole *(Parascalops breweri)*, and the star-nosed mole *(Condylura cristata)*. They're easy to tell apart. The eastern mole is the "basic" model, with a bare snout and hairless tail. The hairy-tailed mole adds (of course) a furred tail, while the star-nosed mole has the most eye-catching variation with its odd nasal disk. None would ever win any beauty prizes, but their compact, cylindrical bodies couldn't be better suited for their tunneling lifestyle.

Massive shoulders (for their size) and huge, spadelike forefeet are the key adaptations that make moles such first-class miners. But virtually every part of their anatomy is tailored to the activities of life underground.

Hind limbs and lower body are smaller than the animal's upper portion and forefeet. This "broad-shouldered/slim-hipped" shape gives the mole greater leeway for maneuvering in tight tunnels. The neck is short and muscular.

The head tapers to a long, proboscislike snout. In the star-nosed mole this projection is spectacular, being topped by 22 fleshy feelers which form a "star." The snouts of all mole species are extremely sensitive to touch, a more useful sense in the animal's underground environment than sight. The snout contains thousands of nerve endings which may also be used to sense temperature and air pressure changes—despite their virtual blindness, moles have an excellent sense of direction.

Eyes and ears are hard to find on a mole; both organs are generally hidden in fur. The eyes are very small, and in the eastern and hairy-tailed moles, are covered by a skin membrane. Even in species such as the star-nosed mole, which lack the membrane covering, sight is poor. Experts believe moles may not even be able to distinguish between light and darkness.

Perhaps the most aesthetically pleasing part of the mole is its coat. Mole fur is like dark velvet—soft, thick and even-lengthed—accounting for moleskin's one-time popularity as a fashionable fur. As many as four million moleskins were once imported annually from England where the occupation of "moudie-man" (molecatcher) was practiced well into the 1950s.

All this specialized anatomy adds up to a six to eight inch powerhouse of digging machine. Because of their small size it is hard to appreciate just how strong moles actually are. Moles can excavate the equivalent of 50 times their body weight in 20 minutes. To equal this feat, a 170 pound man would have to mine four tons of earth during the same time period.

Depending on soil moisture content, moles can burrow through about 150 feet of dirt per day, with an average digging rate of 10 to 20 feet per hour. The mole uses a breast stroke to dig, pushing the excavated dirt upward with its head and body to form the familiar hummocky trail of the surface mole tunnel. When working at lower depths the mole gets rid of the excess earth through vertical shafts, which produce the cone-shaped mole-hill.

Moles construct two types of tunnels—the subsurface feeding tunnel and the deeper burrow system, located 10 or more inches below the surface and used for shelter.

The lower-level living-area tunnels may be used by generations of moles, but in most cases the young mole is on its own and must construct both feeding and dwelling tunnels.

It's a risky time when these inexperienced moles struggle to master the art of tunneling. They may end up above ground, easy targets for predators. Despite their strong, musky odor moles fall victim to owls, snakes, foxes, dogs, and, of course, cats. Even the mole's cousin, the short-tailed shrew, isn't above making a meal of its relative.

Once the tunnel system is established, the mole has no desire for company. Moles are strongly territorial and will fight trespasser moles to the death. There is no such thing as the "gentler sex" among moles. Females are every bit as aggressive as males, and both will fight the same or opposite sex with equal willingness.

Moles' unsociability ensures that each mole has sufficient feeding area to support it. In areas of greater food abundance, reclusiveness is not as necessary to survival and moles can occasionally be found living in groups.

It is not surprising that food has such as important influence on mole behavior. Forced by a high-throttle metabolism to eat at least one-third of their body weight in food daily, moles have voracious appetites. Earthworms are the preferred entree, but large quantities of beetles, ants, and insect larvae are also eaten. The semiaquatic star-nosed mole, which is an excellent swimmer, prefers to dine on crustaceans, isopods, and small fish.

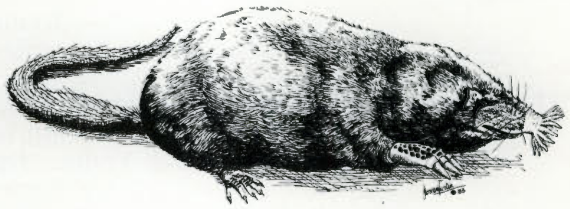
Eastern Mole

Moles mate during March and April, with four to six young born about one month later. A lovely, but decidedly fanciful, description of the relations between the sexes was given by the 18th century French naturalist the Count de Buffon, "... so lively and reciprocal an attachment subsists between the male and female, that they seem to dread and disrelish all other society." In reality moles seem able to suspend their antipathy toward each other barely long enough for the actual act of mating. Undoubtedly, the Count was indulging in more than a little Gallic anthropomorphizing!

The young are born in deep, leaf- or grass-lined nests. Completely blind and hairless at birth, moles are furred and almost fully grown within a month, ready to leave the nest. Sexual maturity, however, is not reached until they are close to one year old. The average lifespan of the mole seems to be about two years, though a small percentage live to be as old as five years of age.

People have always had a fascination for moles. This metaphoric appeal of the mole's "secretive" burrowing way has made it the subject of a fair amount of poetry and fiction.

D. H. Lawrence, in his "Second Best," poignantly describes the death of a mole. On a lighter and far less realistic note, Kenneth Grahame immortalized the mole for all time as the lovable Mr. Mole in *The Wind in the Willows.* More sinisterly, we recently have John LeCarre's infamous spy "mole," figuratively burrowing into the depths of British Intelligence.



Star-Nosed Mole

Aside from such literary appearances, moles have also earned themselves at least one historical footnote, in the unlikely role of assassin of a British King! The story goes that in 1702 the leg of King William III's horse connected with a molehill, resulting in the king's untimely death. From then on, the "late" king's political opponents, the Jacobites, always raised their glasses in a toast to "the little gentleman in black velvet."

Moles are best known, of course, as "pests." Moles have never had very good PR in this respect. As far back as 1697, John Worlidge, in his *Systema Agricultura: The Mystery of Husbandry Discovered,* denounced the mole as "... a most pernicious Enemy to Husbandry, by loosening the Earth, and destroying the Roots of Corn, Grass, Herbs, Flowers, etc. and also by casting up hills to the great hindrance of Corn, Pastures, etc."

Even before that, in 1566, an Act of Parliament had been passed "For the Preservation of Grain" that officially labeled the mole as vermin. The lowly status of the mole as a pest was reinforced throughout the following centuries in the high pay scales of professional molecatchers.

Moles are still hated by farmer, gardener, and suburban lawn-owner—unfortunately, not without justification. Moles do damage crops and garden plants by destroying the roots. Some pastureland also suffers from mole activities. Mole tunnels reduce grazing area, and pose a threat to livestock which, like King William's horse, may stumble in the loose earth. But there is another side to the story.

Moles prey on the useful earthworm, but they also eat the injurious wireworm and other crop pests. And moles are very efficient soil-aerators themselves, probably

continued on page 11

Hairy-Tailed Mole

New Jersey Goes au Naturel

By CATHIE CUSH

"In all things of nature there is something of the marvelous."

—Aristotle
"Parts of Animals"

"They paved Paradise, and put up a parking lot."
—Joni Mitchell
"Big Yellow Taxi"

Despite rumors circulating outside the state, Newark and Camden aren't the most scenic views New Jersey has to offer. (Although visitors might be pleasantly surprised to find that each city does have a picturesque park.)

Ironically, because New Jersey has more than her share of urban, heavily industrialized areas, her pristine areas are that much more precious. While most of the reasons for this may at first appear intangible, they are no less important.

Within the great acreage set aside by the state for recreation and preservation purposes, there are forty natural areas specially designated to preserve unique aspects of the state's environmental treasures, from its salt marshes to its forests to its wildlife.

A natural area can demonstrate a special feature like a biotic community or a rare species, explains Barry Leilich, a naturalist with the Department of Environmental Protection's Division of Parks and Forestry. "Landwise they can either be self-standing, or part of a park, forest or a wildlife management area."

Low-key sites, natural areas aren't bounded by billboards proclaiming "All Natural." Kuser Natural Area within High Point State Park is bounded on one side by Route 23, and a gate across the road marks the entrance. A hiker in Stokes State Forest, however, would have to know the roads that mark the boundaries of the 500-acre Tillman Ravine Natural Area to know whether he or she had entered the area. Where other natural areas are concerned, notes Leilich, "Sometimes you need a [United States Geological Survey] sheet to tell where it is."

Legislation providing for a natural areas system was proposed by then-Assemblyman Thomas H. Kean, and passed in March 1976. Two years later the system was formally included in the New Jersey administrative code. Sites to be designated as natural areas were to show a good mix of all New Jersey had to offer.

The 850-acre Dryden Kuser Natural Area in High Point, for example, demonstrates the ecologic balance and processes of plant and animal species associated with the northern bog habitat, and the effect of deer populations on that habitat, while the Tillman Ravine Area shows the effects of water erosion on exposed rock, and the 400-acre Whittingham Natural Area provides a refuge for beaver, otter, waterfowl and deer, and demonstrates a northern swamp and floodplain habitat. The Troy Meadows Natural Area in Morris County shows remnant wetland conditions resulting from the withdrawal of the Wisconsin ice sheet. The North Brigantine Natural Area in Atlantic County demonstrates sand dune and saltmarsh habitats and provides a refuge for coastal birds.

Although "we would never construct a bathing beach in a natural area," says Leilich, some recreational use of the areas is permitted, even encouraged. "One of the things that makes Cape May so attractive in the fall are the birding weekends," he says of the Cape May Natural Area.

"A natural area is every bit as much there for the enjoyment of the visitors as a park, forest or fish and wildlife management area. We just have to be a little more discriminative on how we develop it."

The State Green Acres Program has provided funding for ten natural areas; private donations and gifts from the National Lands Trust are other acquisition avenues.

In a time when balancing budgets and stretching dollars is a high priority, one is tempted to ask how the state can justify setting aside funds to maintain a piece of forest or beach in its natural state.

"How can you justify recreation?" Jim Leon responds rhetorically. "There is a need for people to recreate, and part of this experience includes areas such as natural areas—to find a relatively quiet area and enjoy it.

"I think any state should take a portion of its lands that are relatively undisturbed and preserve them as an example for this and future generations," continues Leon, a member of the State Parks service's staff.

Recreation in such areas, he says, has been proven to be of therapeutic value, and has been shown to "bring down the level of delinquency and crime," not to mention the inspiration pristine areas provide for artists and photographers.

A forested area provides noise abatement, oxygen and air purification and shade. "Numerous things can be found from just one tree," Leon notes.

"All these intangibles become very valuable when you put them together.

"I think the more lands we can acquire for recreation, the healthier it is for us," he says, adding that the division has "identified other lands that are of major natural significance and should be

Troy Meadows Natural Area in Morris County. DEP PHOTO

considered for inclusion" in the Natural Areas System.

If money grew on trees, there would be no problems acquiring whatever sites were deemed important. But that's not the case. "It will be up to the new Office of Natural Lands Management in DEP to come up with innovative approaches for preservation of these areas" says Thomas Hampton, Administrator of this program.

"It's vital to not only preserve existing areas but examine other lands and include them in the system. We have to set our priorities (for acquisition) on unusual and endangered species habitats to recognize and protect additional ecosystems."

"Take a place like Liberty Park," Leilich observes. There is a roughly 60-acre natural Area designated to demonstrate the saltmarsh habitat of various types of wildfowl, and to serve as a study area for urban encroachment. "You have a park in Jersey City that has more value as an interpretive tool than some of the others because of inner city visitors."

Hampton thinks state residents should see thoses parts of the state they might not have known existed. For example, the Kuser Natural Area is in Sussex County, far in the northwest corner of the state—hardly a place most commuters will pass on their way to work. Says Hampton, "I think we should be responsibile to the residents of the state to identify where natural areas are, and why they are being preserved."

While other states may point at New Jersey's urban blight and shake their figurative heads, or makes bad jokes, the Garden State may proudly show off her natural areas and have the last laugh in the shade of a hardwood forest. Some other states have similar natural area programs, and the National Park Service has developed a similar system known as the National Natural Landmarks Program.

Perhaps most ironic of all, New Jersey's Natural Areas System, as well as her other open land programs, may actually attract development to the state, although certainly not to the carefully protected sites themselves. Businesses trying to attract new employees to the area, want to say "yes, they have an extensive parks system of active and passive recreation and a well known management program."

For those who would prefer to sit back and make wisecracks about Jersey City, well, the joke's on them. NJ

LITTLE GENTLEMAN *continued from page 9*

more than balancing their inroads on the earthworm population.

Even if the mole were a far worse villian than it is painted as being, the natural world would be poorer for its absence. Few animals fill so unique an ecological niche as does the mole in its underground world.

Fortunately, there is little danger of mole extinction. Moles elude traps while the alleged noxious effects of the "mole-repellent" plant, the Caper Spurge, remain hypothetical for most moles. On a wider scale, agricultural-based mole-control efforts are not feasible because of the ecological hazards of pesticide use.

Perhaps the best means for dealing with those tunnel-tracked lawns is to simply accept them, and, along with the Jacobites, raise a glass to the curious little animal responsible, "the little gentleman in black velvet." NJ

Championship At Assunpink

By Scott McGonigle

The sun smiled on New Jersey last February. The second annual running of the Upland Game Amateur Shooting Dog Championship concluded on the 27th with perfect weather. With the fickle winter and spring, this had to be attributed to luck. Regardless, all were grateful—especially the dogs.

This was in stark contrast to the humidity and heat that prevailed during the inaugural running held the year before in May. It is still being debated who suffered the most that year: the handlers or the dogs. Changing the trial date from May to February proved successful. The entries grew from 28 to 32.

What drew them from several neighboring states and Canada was manifold. Naturally, the chance to put CH. in front of their dog's name was paramount. Also high on the list is the fine reputation that trialers hold for the Assunpink WMA as a top place to show their dogs. The Assunpink Wildlife Management Area is managed by DEP's Division of Fish, Game, and Wildlife. Except for 203 acres purchased with Fish, Game, and Wildlife funds, the more than 5400 acres of fields, hedgerows, and woods at Assunpink were purchased with Green Acres program funds.

The fine job that the Sussex County Field Trial Club did the year before in organizing and conducting the trial influenced many to return. Like the year before, the club obtained the services of two excellent judges: professional dog trainer Gerald Tracey, from Pennsylvania, and Dr. Phil Fogg, from Massachusetts. Both judges are recognized nationally for their knowledge and impartiality.

While the championship has been held in New Jersey for its first two runnings, it is regional, encompassing the entire Northeast. Eventually, the venue may change to another Northeastern state. This will probably not happen, though, for a number of years. Few other states have what New Jersey has to offer with the Assunpink grounds.

The newly crowned champion is Calico's Bitohoney, a five-year old setter female owned and handled by Bruce Hollowich from Butler, New Jersey. The orange-and-white setter ran in the 11th brace and immediately hit an edge on her right. Staying to the front, Honey racked up five well-mannered finds and one back. Throughout her hour she exhibited the drive and excitement in her hunting that judges look for in a champion.

Runner-up was a first-year shooting dog, Calico's Golden Spike. Spike, incidentally, was the winner of the companion derby stake the year before. He is owned by Dick Quackenbush from Riverside, New Jersey, and Leroy Fritts of Phillipsburg, New Jersey. He was handled by Quackenbush.

Like the winner, Spike also went immediately to work and stayed to the front. He, too, had five well-mannered finds. While both dogs ran stylishly (they were bred to), Honey held a marginal edge.

New Jersey Federation of Sportsmen's Clubs president Cole Gibbs took his new setter pup to the championship so they could both watch a lot of fine bird dogs.

PHOTOS BY WARREN GARRETSON

It's close performances like the above that makes the judges' job difficult. When two or more dogs run excellent hunting patterns, stay to the front—where they belong—and have an adequate number of finished finds, the judges have to split hairs. This is when how a dog carries his tail when hunting becomes important. Equally important is how hard the dog applies himself and how much drive he puts into his hunting.

When several good dogs are in the same trial, it's the little things that separate the winners. Often the difference between a placement and none is one step at flush (which is one too many), a merry tail, backing on sight, biddability, consistency, and determination.

There are two interesting observations about the winners this year: both are horseback winners and both are Jersey bred and Jersey trained. Many bird hunters when seeing their first horseback field trial leave with a negative reaction. Watching a bird dog running an edge a quarter-mile out can be a bit awesome.

They think, "That's not for me." And rightly so: a dog that runs that wide is of little use to the hunter on foot. What they don't realize is that most of those wide-running dogs range so far because they have been trained to. The same dog, with different training, may well range more moderately. The two winners proved it.

Both champion and runner-up are multiple winners from

horseback. But before the championship, both owners started working their dogs from foot. They were trained to restrict their range. A smart dog can tell the difference when his owner is on foot and when mounted, and adjust his range accordingly.

Both winners had five finds apiece. That's about one every ten minutes. Had those horseback dogs been running too wide, it is unlikely this could have happened. It could have easily taken more than 10 minutes to find the dog on point had he been running too wide.

For years many bird hunters have been going out of state to buy their dogs. The results of the championship prove that this is no longer necessary—if it ever was. Both dogs were bred in New Jersey and trained in New Jersey. And not ony have they won placements at Assunpink, but out-of-state as well.

The fact that both dogs came from Jersey-bred stock, and were trained to hunt Jersey cover probably gave them some edge over the competition. It is also something prospective puppy buyers should consider. Through trial and error, bird dogs have been developed that adapt to the varying kinds of cover found in New Jersey. What better place to look for a dog to hunt this kind of cover.

This is one of the advantages of Assunpink. The foot-handled championship course is laid out over ground that is constantly changing. After 10 minutes in an overgrown field, the dog may be called upon to run an edge along a low-cut field. Minutes later he will have to quarter his way through vine-tangled woods.

The variety of the course is such that a "specialist" dog is almost eliminated. To win, a dog has to show is ability to adjust his hunting methods to different kinds of cover. There's even a few hills. It would be stretching things to call them mountains, but they do serve to show how well a dog responds to uphill hunting.

It is because Assunpink offers such a wide variety of the different kinds of cover found in the Northeast that the championship will probably stay in New Jersey for several years. Its location in the center of the state makes it easy for trialers from Delaware, Pennsylvania, New York and Connecticut to attend either as handlers or spectators.

Because dedicated sportsmen and Green Acres programs have provided funds, New Jersey has class grounds to show class dogs. And since the championship is one in which handlers must walk, the trial will continue to draw larger entries each year. No longer will the bird hunter at his first trial respond by saying, "not for me."

He'll see bird dogs handled in much the same manner as he would handle them. And at a championship he'll see some of the best. He'll observe hard-driving dogs, seemingly going too fast, screech to a stop. Frozen in time, the dog will have a high head and a high tail. And he'll have birds pinned.

The reaction will probably be: "Is that dog for sale?"

NJ

Handler and dog watching flight of bird after flush and shot from blank gun.

The winners, handlers and judges. Left to right: Bruce Hollowich getting ready to flush quail being pointed by Ch. Calico's Bitahoney as judges Phil Fogg and Gerald Tracey observe. Dick Quackenbush is handling Runner-up Ch. Calico's Golden Spike that is honoring the pointing dog's find.

Come to the Second Annual Flemington Energy Fair
Sponsored by the South Branch Watershed Association
Where: Flemington Fairgrounds, Route 31, Flemington
When: Sunday, October 9, from 10 a.m. to 4 p.m.
What: Some 75 exhibits showing how to save energy through solar devices, windmills, more efficient furnaces, better insulation, etc.
Admission: Adults, $1
Further information: South Branch Watershed Association, 201-782-5513

PHOTOGRAPHS BY HANK PAWLAK

Waterloo Village Restoration

By Pat Reardon

Nestled in the hills of Sussex County on the banks of the Musconetcong River, Waterloo Village is resting—just briefly. New Jersey's unique colonial restoration combining history with the performing arts, has had a busy summer as host to symphonic music, folk music, jazz, blue-grass, and even ballet. Waiting in the wings are the antiques and crafts festivals as well as the exciting October war games of the British and Colonial encampment. But for the moment, the crowds have dispersed and a bucolic atmosphere reigns. Let us take a leisurely stroll down Old Public Road and perhaps recapture a sense of life as it was experienced here more than two hundred years ago.

Before it was anything else, the earth we now trample was an ancient meeting place and burial ground for the Munsee Indian Tribe. The hills were cloaked with oak and chestnut trees, and rich in iron veins. The iron eventually attracted the Philadelphia firm of Allen and Turner who, in 1760, constructed a four-fire, two-hammer forge, a grist and saw mill, and spacious mansions for the Iron-master and Forgeman. The pig iron from the Furnace (seven miles north) was transformed under enormous water-driven hammers into bar iron here. The settlement that grew around the forge took its name from the birthplace of Joseph Turner in Andover, Hampshire, England.

William Allen, the leading partner in the Ironworks, disapproved of the rebellion which was at that time spreading across the colonies, and subsequently refused to accept the Declaration of Independence. In 1778, the Continental Congress ordered the Andover Ironworks confiscated. Under the supervision of Colonel Thomas Maybury, the Ironworks then converted iron and steel into armaments for the American Army.

By the 1780's, very little of the timber from the surrounding hillsides remained, having been stripped to feed the forge fires. The deforested land was then leased to farmers by the heirs of the original owners. In 1790, the brothers George, Daniel, Samuel and John Smith began commercial farming operations at the site of the abandoned Andover Forge Farm. In November 1812, John Smith (Brigadier General of the Morris Militia) purchased the 282-acre Forge Farm for $13.37 per acre, shortly thereafter reviving the ironworks with the establishment of a foundry. In celebration of Wellington's defeat of Napoleon in Belgium in 1815, Smith chose to call his foundry Waterloo, and this name gradually became associated with the Village itself.

Belonging to this period are a number of restorations we may visit on our stroll through the past. Let us begin at Canal House, which was an early tenant house dating back to 1760. John Burrell, an English soldier who immigrated to the Village in the 1850's lived here for many years while he was the Smiths' store clerk. Another occu-

WATERLOO FESTIVALS

Sat. Sept. 3 12 noon-10 pm
1st Annual Waterloo Folk Festival: Judy Collins, Don McClain
Sun. Sept. 4 12 noon-7 pm
1st Annual Waterloo Folk Festival: The Roches and more
Sun. Sept. 11 3 pm
Mose Allison: Finest jazz pianist in U.S. for 30 years. "Parchman Farm," "Seventh Son," "Your Mind is on Vacation (But Your Mouth is Working Overtime)"
Sun. Sept. 18 3 pm Happy Days String Band
Sat. Sept. 24 10-6 Fall Antiques Festival
Sun. Sept. 25 10-6 Fall Antiques Festival
Sat. Oct. 1 11-6 Fall Crafts Festival
Sun. Oct. 2 11-6 Fall Crafts Festival
Sun. Oct. 9 12 noon-6 pm Oktoberfest
Sat. Oct. 29 10-6 pm
British & Colonial Encampment
Sun. Oct. 30 10-6 pm
British & Colonial Encampment
Call office for fees 201-347-0900, 201-347-4700

pant was Charles Dublin, locktender on the Morris Canal on which the Forge was situated. Three stories high, the house is built of stone with walls nearly twenty inches thick, and low ceilings to conserve heat. Built as a double house, each half is a mirror image of the other, each having its own kitchen on the first floor. In front of the fireplace used for cooking, baking, and heating, we may see several early kitchen utensils: a wafering iron for baking wafer cookies; a pierced wood foot stove which was heated with hot coals and then used for winter travel—a sort of portable foot warmer; and a pierced tin firepan used when the fire was "lost." This handy utensil served to carry fresh hot coals you could borrow from a neighbor in the event your fire went out. The hot coals could then be used to re-light your own defunct flames.

We descent narrow wooden stairs to find ourselves in Towpath Tavern, located under the store. This was once an old smokeroom and was used for storing meats. With six-foot-thick walls and brick floor, the room is cool. To take the chill off the air, Jackie the barmaid, stokes the fire in the cavernous fireplace across the room from where we sit. Our polished maple table is near the window looking out over the waters of the canal where several ducks swim about and gaze in curiously at us. Jackie serves us wine and beer along with a large crock of cheddar cheese accompanied by crackers. Garbed in eighteenth century apparel, she stops to chat. Copper kettles and burnished pots catch the firelight and gleam on the old pine hutch. Reluctantly, we leave.

Blacksmith shop.

Diagonally across from Canal House we now visit the General Store, circa 1831. Built on the bank of the Morris Canal, the store eventually became the center of a $75,000 per year business empire managed by the Smith family. Today we may purchase honey, jams, candies, brooms, candles, and pottery all hand made on the premises, as well as spectacularly beautiful dry flower arrangements created by Werner Meischner who also serves up cokes and hot dogs to visiting schoolchildren partronizing the snack bar.

Our next stop is the old gristmill in front of which is parked a wooden wagon laden with tons of yellow pumpkins. To our left stands the pillory in mock tribute to once public chastisement. Typical of those that once dotted the landscape of Sussex County, the gristmill is a three-story fieldstone building housing the wooden paddles of its great waterwheel against which a steady falling stream of water from the Musconetcong River ran. This wheel powered wooden cogs and axles that in turn rotated millstones weighing 2,200 pounds apiece. These "running stones" ground against stationery bedstones of 1,400 pounds each fastened in the floorboards beneath them. Grain fed between the grinding stones was refined into flour through the shearing action of sharp grooves or furrows dressed into the surface of both upper and lower stones. The furrows broke open the hardshell of the seed and enhanced the production of a fine meal. We joined a group of schoolchildren who watch in rapt attention as the process is repeated today.

Directly behind the gristmill, the sawmill stands at the edge of Mill Pond and Musconetocong River. While not an actual restoration but a brand new facility, the sawmill began operation on April 10 of this year. Standing on the stone foundation of the original sawmill and plaster mill built at the Village around 1835, it was raised with wooden peg construction, mortise-and-tenon joints, and supports cut with the original cast steel blade. The sawmill is powered at present by a single undershop waterwheel and stands, not only as an exhibit, but also as a working utility. The new mill is one of two ongoing projects at Waterloo funded by the Department of Environmental Protection.

Directly across the road from the mill, set back in graceful distance upon a grassy knoll, the Stagecoach Inn is our next stop. The building itself (white, two-story Georgian Colonial on a fieldstone foundation) dates back to the Andover Forge becoming an inn after the opening of Morris Canal in 1831. Beginning in 1837, weary pilgrims travelling the stagecoach route between Newark and the Delaware Water Gap, stopped for the night at the Inn for refreshments, and rested upon featherbeds, and perhaps tippled an ale or two in the adjoining tavern-house added to the building in 1836. Approaching from the front, we observe six angular columns supporting a roof extension that covers and shades the wide stone portico. The oak door through which we enter leads to the front parlor, where in early coaching days, travellers were seated upon the settee to await the coach's arrival.

We wander past the kitchen into the Tap Room. In the far corner is a reproduction of the register desk where guests signed in for a room. The rates were set by the county courts of Sussex as early as 1750. The more people slept in one bed, (five was the legal limit) the cheaper was the price. The number of bodies per bed, of course, necessitated sleeping crosswise. Only boots were removed for the night.

In the open bay of the hutch is a

Jake House 1874.

hand painted English gin dispenser. On the windowsill is the legal measure for a half yard of ale used to insure guests their proper allotment, and to discourage cheating by the tavern keeper.

Leaving the Inn, we pass the Peter Smith House, still under restoration. This second Empire Victorian mansion (often called the "Maples") was the residence of Peter Decker Smith, bank President and State Senator. The rambling residence on the adjoining property was once the Ironmaster's House, and was the center of Village life in pre-revolutionary war times.

Next we approach the Canal Museum of the Canal Society of New Jersey. Built in the latter half of the nineteenth century, it served as a residence for the schoolteacher, and later home to Harrison Smith, Canal boatman. The Museum houses artifacts, literature, maps, photographs, drawings, memorabilia, or anything of historical significance connected with Morris Canal including a glass encased model of a canal lock.

In its day, the Canal was considered a fantastic engineering feat, climbing the mountains from Easton (PA) to Lake Hopatcong, then journeying down again to Newark. In 1836, five years after the Canal was open between Phillipsburg and Newark, the main line was extended to tidewater at Jersey City for a total length of 102.15 miles. Within that distance, boats were lifted and lowered a total of 1,674 feet through the use of twenty-three inclined planes and thirty-four locks. By 1860, section boats (barges constructed in separate but joining sections) could carry seventy-five tons moving only 1.25 miles per hour, and making the journey in five days. Principal cargoes included coal and iron ore as well as grain, wood, bricks and lumber. Waterloo became a lock and plane stop along northern New Jersey's first bulk freight transportation system, and a bustling inland port. If we imagine intently we can almost hear, as in days of old, the mournful sound of the conch shell being blown to signal the lock keeper of an approaching barge.

The sun is just staring its descent as we leave the museum. Detouring from the road we cross a wide grassy expanse to find ourselves face to face with a straw man staunchly protecting a small garden patch in front of Jake House. This two-story frame building (circa 1874) was the garden house and tenant quarters for the Peter D. Smith house. Reconstructed in 1974, it is now used for candle-dipping demonstrations of the kind that take place regularly at Waterloo in the weaving barn, the pottery shed, the broom and cabinet shop, and the blacksmith shop.

We circle past the early homestead barn presently used for a carriage display. Stopping next at the herb garden, we enter from here into the new dining barn. This massive structure, of post and beam construction, is the second of two ongoing projects funded by DEP (the sawmill being the first). The 400-seat facility completed just this summer, contains three huge fireplaces, a large and small dining room, and a completely equipped up-to-date kitchen. The building was designed by Percy Leach and Louis Gualandi, co-founders of the present Waterloo Village Restoration.

Coming full circle, we find ourselves back on Old Public Road. Before we turn to leave we should climb the steps leading to the Waterloo United Methodist Church which has been in constant operation since its construction in 1859. Peter Smith was the catalyst for this site, generously donating the land, the cemetery, and $500 to begin work. Typical of the American Colonial period, the church's exterior is of white clapboard. Rising from a sharply pointed roof, the steeple still houses the original 800 pound bell, ordered from Troy (NY) at a cost of $329. Still tolled every Sunday morning by a rope above the loft, the bell ironically tolled for the first time on December 22, 1959 for the death of General John Smith, founder of Waterloo Village.

Dusk falls swiftly this time of year. Darkness huddles thickly in the pines as we hurry along the dirt path toward the parking meadow. Is it merely imagination or is that a shadowy figure we see stealing through the woods? And another. Can that be the rhythmic tramp of soliders' boots we hear, ever so faintly, upon the old wooden footbridge? Do we detect a camp fire just at the meadow's edge? Are the Redcoats coming?

No, not this time. But should we return on October 29 and 30, we may safely enjoy a re-enactment of those dangerous revolutionary days, when in this land King George's men engaged in battle with those of General George Washington. On that weekend Waterloo will host the British and Colonial Encampment to the delight of participants and observers alike. The Union Jack will fly, bugles will sound, musket fire will fill the autumn air to the tune of Yankee Doodle played with fife and drum. Tents will be pitched and campfires lit. The evening meal will be prepared by comely campfollowers garbed in gingham and wool plaids, white lace caps perched upon their heads, wide fringed shawls wrapped about their shoulders. The War of Independence will be fought again.

Environmental News

RADIATION PROTECTION COMMISSION MARKS 25 YEARS OF PUBLIC SERVICE. In a State House ceremony held this summer Governor Thomas H. Kean (above, right) honored the New Jersey Commission on Radiation Protection (CORP) for its 25 years of service to the state. In his presentation of certificates to the commission members honored for their individual years of service, Governor Kean stated, "Through your years of dedicated service without compensation, the citizens of New Jersey have been spared from unnecessary radiation exposure. You have been successful in establishing radiation safety requirements for all of us and for achieving regulations and certification."

Dr. Max Weiss (above, left), chairman of CORP since 1969 and a member since 1962, holds the certificate just received from the governor. Others honored include Dr. Benjamin Sonnenblick, vice chairman of CORP and its most senior member, appointed in 1958; Dr. Henry Powsner, CORP secretary, 1979; Dr. Seymour Baron, 1976; and Dr. Fred Sterzer, 1979. Also, governmental representatives of the commission: Eugene Fisher, who represents the Commissioner of Environmental Protection (Fisher is assistant director of Radiation, Pesticides, Environmental Labs, and Emergency Response for DEP's Division of Environmental Quality); Dr. Simon Levin represents the Commissioner of Labor (Levin is an occupational health consultant in the Office of Occupational Health and Safety of the department of Labor); and Robert Hung represents the Commissioner of Health (Hung is a member of the emergency response unit of the division of Epidemiology and Disease Control of the department of Health).

CORP was created in 1958 upon enactment of the Radiation Protection Act. Both CORP and a state Radiological Health Program created by the law were part of the state department of Health. Upon creation of the state department of Environmental Protection in 1970, CORP and the Bureau of Radiation Protection, as the Radiological Health Program is now known, were transferred to DEP.

In its early days, the commission faced issues such as the operation of fluoroscopic shoe fitting machines, inspection of TB x-ray machines and provided assistance to the federal Atomic Energy Commission. Today, the operations of the state program are much more complex, and the CORP now examines such issues as non-ionizing radiation, licensing and registration of radiation sources, nuclear medicine technology, certification of radiologic technologists and emergency response plans for the two nuclear plants in New Jersey.

APPEALS COURT UPHOLDS STATE SPILL FUND TAX

The Appellate Division of the New Jersey Superior Court on June 22 affirmed the April 23, 1982 judgment of the Tax Court of New Jersey which had upheld the constitutionality of the New Jersey Spill Compensation and Control Act and the Spill Fund tax it levies against a Superfund preemption challenge. That suit had been filed by five major corporations whose operations involve the use of recognized hazardous substances, including petroleum, and who are taxed under both acts.

DEP Commissioner Hughey said that the court's upholding the spill fund is a "major victory for New Jersey since it enables us to continue to finance the state's hazardous waste cleanup efforts through petroleum and chemical industry funding."

The plaintiffs—Exxon Corporation, the B.F. Goodrich Company, Union Carbide Corporation, Monsanto Company and Tenneco Chemicals, Inc.—had contended that the federal Superfund prohibited New Jersey from requiring the plaintiffs, as taxpayers under Superfund, from contributing to the New Jersey Spill Fund.

The Spill Compensation and Control Act, effective in 1977, prohibits the discharge of petroleum products and other hazardous substances. The law also provided for prompt removal and cleanup of such discharges, established a nonlapsing spill compensation fund to carry out the purposes of the act, and levied upon major facilities a tax to insure compensation for cleanup costs and damages associated with any discharge of hazardous substances.

Superfund, enacted by Congress four years after New Jersey's Spill Fund, provided $1.6 billion over a five-year period for the cleanup and removal of hazardous substances released into the environment. A tax levied against chemical and petroleum industries provides 87.5 percent of the funds needed, the remaining 12.5 percent is supplied through congressional appropriation.

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A PROUD MOMENT FOR MIDDLESEX COUNTY. DEP Commissioner Robert E. Hughey on June 14 issued the first departmental approval to a comprehensive work program for the provision of environmental health services within a county jurisdiction. The Middlesex County Environmental Health Work Plan is the first such program to receive DEP approval under the County Environmental Health Act of 1977. Above, Middlesex County Administrator John McHugh (left) and Middlesex County Freeholder Director Steve Capestro (right) witness the formal signing of the document by Commissioner Hughey.

The plan approval consists of interagency agreements between DEP and the county for the provision of certain environmental health services including air, noise, solid waste and laboratory facilities. Under the plan approval, Middlesex County has direct responsibility for coordination of monitoring and enforcement elements of various environmental regulations within the jurisdiction of the county. Under the work plan, the Middlesex County Health Department takes a coordinating and administrative role for those responsibilities contained within the interagency agreements. Some of the program elements, such as air pollution have and will continue to be largely a county function, while other areas, such as solid waste allow for a coordinated effort between municipal, county and state agencies.

ANNUAL REMINDER TO HUNTERS

With the fall hunting season "just around the corner," DEP's Division of Fish, Game and Wildlife (FGW) reminds hunters that for their protection state law requires that a ***"daylight fluorescent orange color" cap or an outer garment containing 200 square inches of orange fluorescent color material*** must be worn in New Jersey by persons hunting deer, rabbit, hare, squirrel, fox, railbirds, or game birds (other than waterfowl and wild turkey) with firearms.

Also, FGW reminds New Jersey hunters to keep their old firearm or bow hunting licenses to avoid being required to take, or repeat, a hunter education course. State law mandates that both adults and juveniles applying for firearm or bow and arrow hunting licenses must present their previous licenses (any state, any year) or a properly signed certificate showing that the applicant has satisfactorily completed the appropriate hunter education course.

HUDSON RIVERFRONT PROJECT APPROVED

DEP's Division of Coastal Resources this summer approved a waterfront development permit for construction of three 16-story high-rise towers and 17 low-rise townhouse condominiums in North Bergen (Hudson County). The development, to be built on 14.5 acres along River Road adjacent to the Hudson River, is in compliance with the state's coastal resource and development policies.

John W. Weingart, acting director of the division, said the project "represents an exemplary cooperative effort between the state, the public and the private sector." He explained that the owners, Roc Harbour, Inc., who are also the architects for the development, worked closely with the division staff to design a comprehensive public access plan and recreational amenities which will benefit all visitors. The developer scaled down the original proposal for 22-story towers to

continued on page 16D

OVER $5 MILLION IN GRANTS AWARDED FOR FLOOD CONTROL

Governor Kean on June 27 announced the approval of $5,020,737 in state grants for seven flood control projects in Bergen, Mercer, Morris, Passaic, Somerset and Union counties under the provisions of the Emergency Flood Control Bond Act of 1978. (The 1978 act provided $22 million for 50 percent matching grants up to $1 million to municipal and county governments with eligible flood control projects. It was initiated in 1979.)

The seven flood control projects encompass various flood control measures including a storm water pumping station, a dam, dikes, numerous channel improvements, replacement of culverts and other storm water drainage facilities. The applications were reviewed and processed by DEP's Division of Water Resources which administers the program.

The county and municipal governments awarded flood control project grants and the amounts are—Bergen County, $950,834 for projects in Englewood and Teaneck; Lyndhurst Township (Bergen County), $379,615; Mercer County, $1 million; Borough of Madison (Morris), $50,000; Paterson (Passaic), $560,288; Somerset County, $600,000 for a project in Bernardsville; and Union County, $1 million for a project in Linden.

Approval of these seven grants brings the total number of flood control projects receiving 1978 bond monies to 25 and the amount committed to more than $15 million.

CONFERENCE CALL

The 10th Annual New Jersey Environmental Congress will be held on Saturday, October 22 at the Princeton Ramada Inn, Route 1, Princeton. The theme of the all-day conference is "Not in My Backyard!—the siting of solid and hazardous waste facilities." DEP Commissioner Robert E. Hughey and DEP Assistant Commissioner for Natural Resources Helen C. Fenske are scheduled to address the conclave. Also, workshops and seminars will be held on various programs of interest to environmental commissions and organizations, and concerned public citizens. The registration fee of $25 includes lunch. For further information, contact the Association of New Jersey Environmental Commissions (ANJEC), Box 157, Mendham 07945. Phone: 201-539-7547.

Green Acres

your investment. . .

Green Acres your investment. . .

replaced by more than 25,000 trees since the original gift, Branch Brook's cherry blossom display now attracts a quarter of a million people a year from all over the world.

Today Branch Brook Park is described by the Park Commission as an "all-encompassing park." It is on both the New Jersey and Federal Register of Historic Places. Its 485 acres wind through Newark and Belleville along a seven-mile stretch of Branch Brook and its feeder streams. It cuts across economic and social barriers, through residential, shopping, business, industrial and public service areas of the city. It offers most of the facilities of large urban parks, and its facilities and spaces are heavily used.

In 1978 the Park Commission undertook a massive restoration. Half of the $5 million earmarked for this purpose came from the state's Green Acres Program, 40 percent from federal sources and 10 percent from the county. High on the list of anticipated changes is the conversion of an indoor ice skating rink into the state's only indoor bicycle racing track.

The restoration budget is augmented by Friends of the Park for Branch Brook Park, a group of private citizens who work with the Park Commission on maintenance and community involvement, and by the Essex County Parks Fund which elicits donations for each of the county's 21 park facilities.

Branch Brook Park is open to the public from dawn to dusk every day. Cherry trees are in bloom for a three-week period in April. Information about the park, and a quarterly calendar of events, are available by calling 201-482-6400.

Veterans Park

Early morning jogging keeps John K. Rafferty, mayor of Hamilton Township, fit and relaxed. It also helps him keep an eye on the township's Veterans Park, a 333-acre municipal showcase that is his pride and joy.

Accompanied by his wife and a handful of friends, Rafferty passes through the park's entrance with its formal gardens, flags and fountain in honor of local military veterans, and continues by meadows, woodlands and a stream with a lake for fishing. The group's route takes them past a Senior Citizens area with quoits, bocce and checkers, active recreation facilities featuring soccer, baseball and 34 tennis courts, and a playground that blends into a wooded setting.

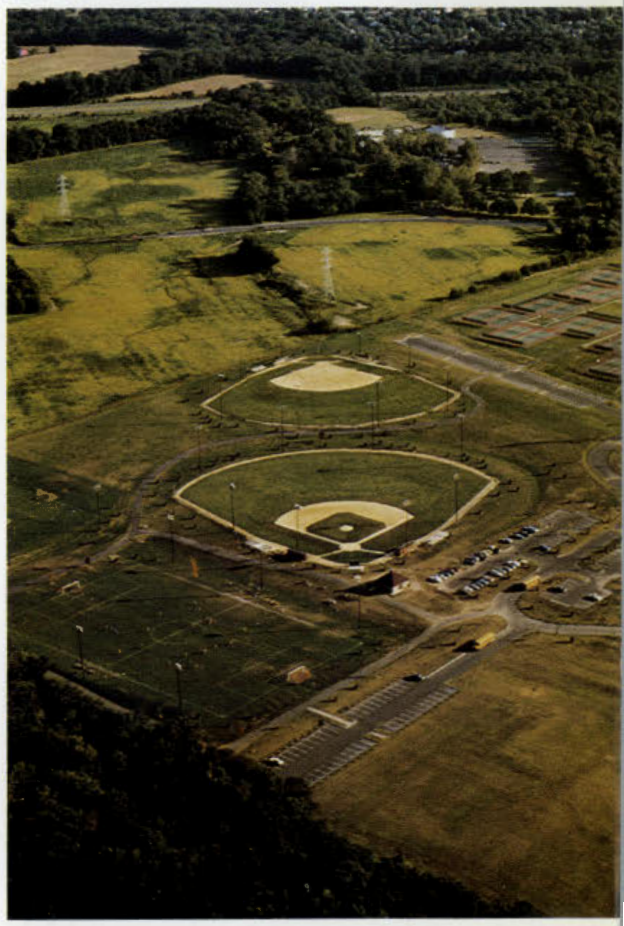
"This is a park for all seasons and all people," says Rafferty. "We've got a historic house built in 1730 that sheltered the N.J. state treasury from the British during the Revolution, a museum of Indian artifacts, and two municipal greenhouses in which we grow the flowers you see all over the township."

In 1966, when Hamilton applied for Green Acres funding, the present-day park site was vacant fields and woodland. Green Acres development money in 1977 supported construction of athletic facilities, roads, parking lots and a maintenance building. The tennis complex, which is the largest in New Jersey, has been described by the U.S. Tennis Association as one of the finest municipal facilities in the United States. Total purchase and construction costs to date are $2,437,040, sixty percent of which was provided through Green Acres.

In addition to its recreation and aesthetic functions, Veterans Park serves significant local natural resource, employment and economic functions. The fishing lake is part of an extensive flood control network. Park patrol provides summer employment for school crossing guards. Rafferty says, "It helps the guards, and we reduced our maintenance budget by $63,000 when we substituted special policemen and guards for the previous four-man regular police patrol."

Veterans Park is the focal point of a residential and townhouse zone in the township's Master Plan, to which the park adds greater salability and higher real estate values. "Fifty years from now this park will be even more beautiful than it is now," says Rafferty. "Our children and grandchildren will reap its benefits. We are looking to the future by preserving our open space now."

Veterans Park is located east of the southern end of Interstate 295, between Kuser and Klockner Roads. It is open from dawn to dusk every day of the year.



Veterans Park

Higbee Beach

Recognized as one of the nation's ten best birdwatching spots, Higbee Beach Wildlife Management Area in Lower Township sits on the eastern shore of Delaware Bay, just over a mile north of Cape May Point State Park. Over 600 acres—200 of them leased from the Army Corps of Engineers—contain habitats for many different kinds of animals. Heavily used during the spring and fall migrations by hawks, bald eagles and perching birds, Higbee Beach is also home for breeding populations of endangered tiger salamanders and green tree

◄Branch Brook

Higbee Beach

Birdwatchers also see many songbirds, great blue herons, green herons and snowy egrets.

Swimmers, sunbathers and picnickers frequent the management area's mile and a half of beaches and dunes. Oak-holly woods, five fields in differing stages of succesion and wetlands lie behind the dunes.

The first deed of record in the Higbee Beach area was in 1741. For two centuries or more, much of the land was farmed. Until the early 20th century an inn provided a popular resting place for ferry passengers on there way from Philadelphia to Cape May.

In more recent times sand was mined from the pit that eventually became Davy's Lake. Farmers raised corn, soybeans and gladioli. During World War I ammunition tests were run in the present-day management area.

In 1974 N.J. initiated the process of acquiring Higbee Beach. Combining the resources of the U.S. Fish and Wildlife Service's short-lived aid to endangered species program, and the States own Green Acres program, over $1 million was raised to purchase 416 acres. The area was assigned to the Division of Fish, Game and Wildlife for management. The state income tax checkoff for Endangered and Nongame Species provides operating money for the area today.

Birdwatching is especially good during spring and fall, woodcock hunting in November and December, and swimming, hiking and sunbathing in the summer.

Higbee Beach is accessible from New England Road on the North and Sunset Blvd. on South, and is approximately 4½ miles from the southern end of the Garden State Parkway.

And yet . . .

The return on your investment has been impressive. Green Acres has existed solely because the citizens of the state have cared enough about their environment to pass four bond issues. The ultimate goal is in sight, but not yet achieved. Rather than place a strain on the state's excellent bond rating, the legislature is currently considering an innovative referendum which would create a Green Trust, a self-perpetuating program designed to maintain acquisition and development capability.

Under this fifth bond issue $155 million would be allocated as such: 62 million for the state acquisition and development program (to be spent over a five-year period), and 93 million (plus 25 million from the 1978 bond), would be placed into the Green Trust. Funds would be lent to the local governments at a 2% interest rate in three categories. In the first category, 100% of the money for a specific project would be loaned, with a 20-year payback period. The second category would be available for projects that achieve a well-defined environmental objective as well as a recreational purpose. Seventy-five percent of the total price would be lent with the remaining 25% an outright grant. In cases where 50% of the total projected "price" is provided by a donation of private property, the remaining 50% would be funded from a third category in which half is a loan and half is a grant.

It is anticipated that at the end of the 20-year loan period, the initial money allotted for local projects will have generated a total of $323 million in projects as well as a stable revolving fund for future acquisition.

Because the legislature is still considering this innovative proposal, only one thing is certain, in this, the Garden State, Nature's done her best. We cannot do less.

New Jersey Department of Environmental Protection Green Acres Program

Introduction

The Green Acres Program is a New Jersey success story. Virtually every citizen of the state lives within a few miles of a state park, a recreation development program or one of the hundreds of local projects funded by Green Acres. Towns, cities, counties and the state have all purchased land. They have matched or augmented Green Acres dollars with money from federal programs or municipal budgets, donations of land, private gifts and just plain ingenuity. They have built baseball fields, protected trout streams, revitalized waterfronts, enhanced neighborhoods with "vest pocket parks," and established hiking trails. Fishermen, soccer players, bocce addicts, sunbathers and sandlot baseball players are today's beneficiaries of the program.

Twenty-five years ago, when New Jersey assessed its parks and open spaces, publicly-owned land for recreation, resource protection and other "outdoor" uses was in woefully short supply. Although the state had some very large reserves, such as the Wharton Tract and High Point State Park, and some of the country's oldest local parks (Branch Brook Park in Newark, for example), the growth of the state's population and the rate of conversion of vacant land into housing, office space, major roads, industry and shopping malls gave clear indications that the preservation of open space was timely, if not urgent.

In 1961 the state placed its first Green Acres bond issue question on the ballot. The public voted enthusiastically in its favor, and an innovative program was born. Public support was reiterated with new bond issues in 1971, 1974 and 1978.

Since the first bond issue 220,000 acres of land have been acquired in more than 600 projects all over the state. Four hundred and fifty development projects have also been funded. To date $540 million of state money has been matched with $356 million in federal and local funds for a total "buying power" of $896 million.

As an investment Green Acres funds have already paid off. County and municipal land acquisitions have increased in market value since the time of purchase by a whopping 308%. State-purchased lands, which are generally in remoter areas, have increased 134%.

Nevertheless, New Jersey is still approximately 400,000 acres short of its objective of one million acres of publicly-owned land. In comparsion to neighboring states, this state has 82.5 acres of open space for every 1000 people, while New York has 97 acres, Delaware has 146 and Pennsylvania 371.

"It's better to preserve good parkland sooner than later," says Green Acres Administrator Hermia Lechner. "Nature isn't making any more land. We're saving those places which make New Jersey unique, which give it character. We are ensuring the quality of life for future generations."

Mrs. Lechner describes Green Acres as a people's project. "New Jersey is a good place to live and work. Its future economic health requires a healthy resource base and healthy people. That's what Green Acres is all about."

Wawayanda State Park

"Without the Green Acres Program we would not have Wawayanda State Park." Thus Frank Guidotti, Assistant Director of New Jersey's State Park Service summarizes the significance of the state acquisition fund for this 11,000-acre wilderness area that straddles the border between Passaic and Sussex Counties at its junction with the New York state line.

In mountainous terrain, laced with lakes and streams, Wawayanda is for hikers, fishermen, swimmers, group campers and winter sportsmen. Yet its rugged scenery and untouched woodlands are within easy reach of large segments of New Jersey's urban population.

The present-day park includes the site of a former zinc mine, a smelting furnace and a cheese box manufacturer. A cedar swamp and a natural pond on a glaciated mountain top are both within the 3000-acre Natural Area in the park, as defined and protected by state legislation. For many years Wawayanda Lake, which many claim as the best fishing lake in the state, held the record for the largest northern pike caught in New Jersey.

Since 1974 the Green Acres Program has allotted $2,178,000 towards land purchases at Wawayanda, augmented by funds from the federal Department of the Interior. However, visions of family camping, improved bathing facilities, an expanded trails network, and a visitors center are still just a gleam in Frank Guidotti's eyes. "Right now it's a good rustic area for the hardy recreationist," he says.

Wawayanda is open every day of the year. Day use hours vary between 8:00-8:00 (summer) and 8:00-4:30 (winter). For information call 201-853-4462.

Branch Brook Park

In 1895 Branch Brook Park in Newark became the first acquisition in the first county park system in the United States. The land was acquired by the Essex County Park Commission through purchases and through donations from some of the city's well-established families. It included a former Civil War army training ground and an area surrounded by tenements called "Old Blue Jay Swamp," which was used simultaneously as a public water supply and for sewage disposal.

At the turn of the century, the firm headed by the country's most famous park designer, Frederick Law Olmstead, took over the task of planning for the park. Utilizing naturalistic lines and curving roadways, the firm installed formal gardens, a concert area, baseball diamonds, cricket pitches, skating, boating, 37 lawn tennis courts, greenhouses and the world's largest fountain. (Using 400,000 gallons per day, the fountain overtaxed the supply of water and was soon abandoned.) The offices of the Essex County Park Commission were moved from the second floor of a saloon to a new building adjacent to the park, where they are still located.

A golf course was added to the park in the 1920's, and in the 30's men in a Works Progress Administration (WPA) program extended the park's facilities north of Newark's borders into Belleville.

In 1928 a member of the Bamberger family donated 2,000 flowering cherry trees. Added to and

Wawayanda

APPLY NOW FOR 1984 PRESERVATION GRANTS

DEP's Office of New Jersey Heritage reminds county and municipal governments that applications for fiscal year 1984 Historic Preservation Grants must be filed by December 1, 1983. The federal grant program, funded by the U.S. Department of the Interior and administered for New Jersey by DEP, provides up to 50 percent of the costs of conducting cultural resource surveys and preservation planning projects.

The 1983 grants, awarded in May, totaled $168,000 for 14 state and local projects as follows: **Bergen County,** Phase V completion of the Bergen County Cultural Resources Survey (CRS), $25,000; **Burlington County Cultural and Heritage Commission,** CRS in Chesterfield, Mansfield and Springfield townships, $10,500; **City of Elizabeth** (Union County), City CRS, $15,000; **Monmouth County Parks System,** Phase IV of the Monmouth County CRS, $4,300; **Morris County Historical Society,** Preparation of the Morristown Multiple Resource National Register Nomination, $4,000; **New Jersey Pinelands Commission,** Phase III of Pinelands Preservation Plan, $18,000; **North Ward Center, Inc. Newark** (Essex County), CRS of the Forest Mills Neighborhood, $8,500; **Parsippany-Troy Hills** (Morris County), Townshipwide CRS, $12,500; **City of Passaic** (Passaic County), Phase II of City CRS, $15,000; **Pemberton Borough** (Burlington County), Borough CRS and National Register nomination, $8,000; **City of Plainfield** (Union County), City CRS, $10,000; **Preservation New Jersey,** Statewide Public Information Program and publication of *Preservation Perspectives,* $16,000; **Salem County Cultural Heritage Commission,** Phase I, commencement of countywide CRS, $14,700; and **City of Woodbury,** City CRS, $7,200.

PLANNING UNDERWAY FOR 'COASTWEEK'

DEP's Division of Coastal Resources (DCR) has designated October 9-16 as "Coastweek." Tentatively planned events include a Hudson River Festival and walk along the waterfront, a Raritan River revitalization walk, a commemoration of the 10th anniversary of CAFRA (Coastal Area Facility Review Act of 1973), and a forum on shore protection. Environmental and community groups are welcome to participate or sponsor an event. For more information, contact Karen Kominsky, DCR, CN 401, Trenton 08625; Phone—609-292-9762.

COASTAL STUDY SEEKS WAYS TO LESSEN IMPACT OF STORMS AT SHORE

The first phase of an in-depth study to better prepare shore communities to withstand and respond to major coastal storms has been underway since January. The study is being funded by a $200,000 grant from the Federal Emergency Management Agency under provisions of the U.S. Disaster Relief Act of 1974.

To be conducted jointly by the state department of Law and Public Safety and DEP's Divisions of Coastal Resources and Water Resources, the study represents the first time the collective/complementary skills and authorities of three state offices have been assembled—in the absence of a major storm—to undertake a comprehensive study of storm hazard mitigation and response.

The objectives of the study are to define and identify hazard areas and the degree of hazard (principally from wave action and flooding) to which they will be exposed, and to postulate the level of damages to people and structures. This vulnerability analysis will then be used to critique existing emergency response plans as well as to develop general strategies and site-specific recommendations for reducing the vulnerability of the state's shore communities to storm damage. These strategies could include land acquisition, land use management, restrictions or conditions on use of disaster recovery funds, and the imposition of more stringent construction standards in hazard prone areas.

Initially, the study will be conducted for Brigantine Island, Absecon Island (Atlantic City, Ventnor, Margate and Longport) and Pecks Beach (Ocean City). Other areas will be studied subsequently if funds permit.

For additional information, contact David Stern, project manager, Division of Coastal Resources at 609-292-9762.

Receive the *Nongame News,* the free quarterly publication of the Division of Fish, Game and Wildlife's Endangered and Nongame Species Programs. To get on the mailing list, send your name and address to Endangered and Nongame Species Program, CN 400, Trenton, N.J. 08625.

Name _____

Address _____

_____ Zip _____

WELCOME TO NEW JERSEY! Warren Kell, biologist with the state's Endangered and Nongame Species program, watches over one of two Bald Eagle chicks flown to New Jersey from the Canadian province of Manitoba on July 15. The seven-week-old eaglets were taken to a two-story-high "hack tower" in Dividing Creek (Cumberland County) to join four eagle chicks earlier brought from Nova Scotia. The hacking process is a method of releasing young birds into a new area without their parents to help. This technique is being used successfully in other states. The Nova Scotia eagles are expected to be released in early August and the Manitoba birds in early September. The entire Bald Eagle Restoration Project is made possible through donations that New Jersey taxpayers have made through the tax-checkoff on the state income tax forms to the Endangered Species Conservation Fund. DEP's Division of Fish, Game and Wildlife administers the program.

TIDELANDS UPDATE

Between May 27, 1982 and June 8, 1983, the state Tidelands Resource Council adopted a total of 1,013 maps delineating coastal area lands flowed or formerly flowed by mean high tide waters.

BAD NEWS FOR POACHERS . . . 'OPERATION GAME THIEF'

In a cooperative effort to crack down on illegal hunting, wildlife and trapping activities, the New Jersey Federation of Sportsmen's Clubs (Federation) and DEP's Division of Fish, Game and Wildlife (FGW) have launched a program code-named "Operation Game Thief." The program encourages informants to anonymously tell game officials about illegal activities they witness; the informant will remain anonymous and will receive a monetary reward if the violation is confirmed and a citation issued.

The program covers deer, bear, bobcat, turkey, certain endangered species and the 220 and 330 conibear types traps. Minimum rewards have been set at $200 for every category, except the trapping violations for which there is a $100 minimum.

"Anonymous volunteerism is the key to making this program work," said James Merrill, Federation Chairman of "Operation Game Thief." He said he expects hunters and other outdoor recreationists will cooperate because they realize poachers "cheat all of us by stealing our wildlife resource and by robbing us of tax, license and business dollars." This problem is widespread. Merrill noted that similar programs are being conducted in several states.

Here's how "Operation Game Thief" works:

- Informant calls a toll-free number—**1-800-222-0456**—at FGW. The caller will NOT be asked his/her name. Instead, a special identification number will be verbally given the caller who will then describe the poaching or other illegal incident witnessed. Calls can be placed Monday-Friday, 8:30 a.m.-4:30 p.m., except holidays.
- Game officials will follow up on the tip and if the violation is confirmed and a citation issued, the informant will receive the reward. The informant will be asked during the initial contact to call back at a prescribed time to learn if a reward will be paid.

The "Operation Game Thief" reward fund is currently being supported by private contributions, mostly from sportsmen's groups. Also, Merrill said that anyone wishing to help may do so by making a check or money order payable to Operation Game Thief and sending it to him at P.O. Box 229, Port Republic 08241.

continued from page 16C

HUDSON RIVERFRONT

16 stories as a result of intensive public input. The lower buildings will preserve the existing vista of the Hudson River and the New York Skyline as seen from the top of the Palisades. The project is consistent with the evolving Hudson River Walkway plan being completed by the division.

NEW JERSEY . . . COLOR IT BEAUTIFUL

Thousands of people are drawn to New Jersey's woodlands each October to glory in the beauty of leaves turning yellow, gold, red, orange and purple. Far to the north in the High Point-Stokes Forest area (above), as the days grow shorter and the nights grow colder, the trees change quickly, with gold, red and orange leaves usually approaching maximum intensity early in the month. Farther south the color change—the yellow of the ash trees, the reddish purple of the sumac, the bright red of the swamp maple—usually peaks in mid-October.

A word of caution to foliage followers: Because location and weather conditions play an important role in nature's leaf-turning timetable, DEP's state park and forest rangers recommend that a phone call be placed to a nature area in the vicinity of choice before taking to the road with family and camera. Given below are four such beauty spots representative of their regions.

NORTHWEST REGION: Stokes State Forest, Phone: 201-948-3820

NORTHEAST REGION: Ringwood State Park, Phone: 201-962-7031

CENTRAL REGION: Washington Crossing State Park, Phone: 609-737-0623

SOUTHERN REGION: Wharton State Forest, Phone: 609-561-0024

NEW NAME, NEW OFFICE FOR PRESERVATION UNIT

The New Jersey Office of Historic Preservation has been renamed the **Office of New Jersey Heritage** to better reflect the broadened scope of its work. The new office will incorporate restoration and interpretation of state owned historic sites in addition to its reponsibilities regarding survey, planning, state and regional registers, environmental review and Tax Act certification. In conjunction with a recent reorganization which placed the office in DEP's Division of Parks and Forestry, its physical quarters were moved to Room 707, Labor and Industry Building, John Fitch Plaza, Trenton from its former West State Street location. The new mailing address: CN 402, Trenton 08625. The phone number, 609-292-2023, remains the same.

TIDELANDS COUNCIL ACTION

At its June 30 meeting, the state Tidelands Resource Council passed a resolution which stated that New Jersey will make no tidelands claims on land outside of the areas currently under investigation. The council declared "there is no reasonable possibility or even a remote chance" that any area not already subject to investigation could be demonstrably tidal now or in the past. This position is supported by a recently completed study showing the heads of tides in all state waters.

The resolution was sparked by recurring questions from residents from the 70 percent of the state not being mapped, reflecting their uncertainty about possible state claims.

Areas being mapped are delineated in an "index" which is available for examination at the offices of county clerks or registrars of deeds in all 21 New Jersey counties. The 11" x 14" blue paper-covered book is titled, ***Index—Lands Subject to Investigation for Areas Now or Formerly Below Mean High Water,*** and is dated April 1982.

Areas not included in the investigation are all of Morris, Warren, Hunterdon and Sussex counties and much of the interiors of all other counties, with the exception of Hudson. Hudson County is subject to complete investigation of tideland claims.

HEADED FOR THE OUTDOORS? . . . TAKE A 'TOPO' MAP

The action has been brisk at the map and publications counter of DEP's Bureau of Collections and Licensing, as campers, hunters, hikers, anglers and other outdoor enthusiasts prepare for fall outings by buying U.S. Geological Survey (USGS) maps to use as "silent guides." The multicolor maps show the shape and elevations of the landscape, identify roads, trails and streams, and delineate a wide range of other natural and manmade features. The map and publication sales unit is located on the 4th floor of the Wallach Building, 88 E. State Street, Trenton. Phone: 609-292-2506.

continued from page 16A

SPILL FUND TAX

In reviewing New Jersey's Spill Compensation Fund, the court stated that if a state chooses to take either the lead of the entire financial responsibility of cleaning up a specific spill problem, as New Jersey has done repeatedly, "it should be free to use an industry supported fund to do so."

More on Green Acres Connection

Compiled by Greg Johnson

Did you know that . . .

The four Green Acres bond issues have generated an additional $355,400,000 from federal and local sources for acquisition of critical areas and development of recreation facilities throughout New Jersey.

When the most recent (1978) bond money is exhausted, the State will have acquired 220,000 acres. As of February 1, 1983 local acquisitions alone totaled 46,781 acres in 600 projects.

With the aid of Green Acres, New Jersey became the first state to place its segment of the Appalachian Trail entirely in public ownership.

Two key Revolutionary War battlefield sites—the expansive plains of Monmouth and the quiet dignity of Princeton—have been preserved.

Twenty-three wildlife management areas, eleven state parks, a state forest, and ten natural areas have been purchased with the help of Green Acres funds.

In a rare reversal, a parking lot has become a park. Cianci Park serves as an entrance to Paterson's Great Falls Historic District. Cianci's Victorian flavor is reflected in the new restaurants that have opened in the area.

Green Acres acquisitions help preserve the fragile, expansive Pinelands. The largest undeveloped land mass between Boston and Washington, the Pinelands is one of the state's most valuable natural, cultural, and recreational resources.

Green Acres funds are spinning magic in Jersey City. Eleven hundred acres of derelict waterfront are undergoing a striking metamorphosis. Liberty State Park offers history, easy access, and a breathtaking view of the New York City skyline that isn't soon forgotten.

Morris County's Patriots Path connects the urban with the rural and the modern with the historic. Green Acres funds helped weave this path through 6 communities. Over the course of its 27 miles along the Whippany River, one may enjoy walking, jogging, bicycling, horseback riding, and cross-country skiing.

Patriot's Path PHOTO BY JOAN HUBER

The Green Acres Program was born in 1961 as the second of its kind in the nation. While other bond issue backed programs across the country have fallen by the wayside, the steadfast support of New Jersey's voters has ensured the continued success of Green Acres.

Green Acres' projects depend on the combined and coordinated efforts of individuals, interest groups, state and local government, and federal programs. An excellent example is Waterfront Park where Camden County, Camden City, Green Acres and the National Park Service are pooling their resources.

Green Acres has recently acquired a 211 acre tract of land in West Milford. Formerly owned by the dedicated naturalists Fred and Hedwig Ferber, the acquisition assures that their lifetime legacy of protecting wildlife will continue.

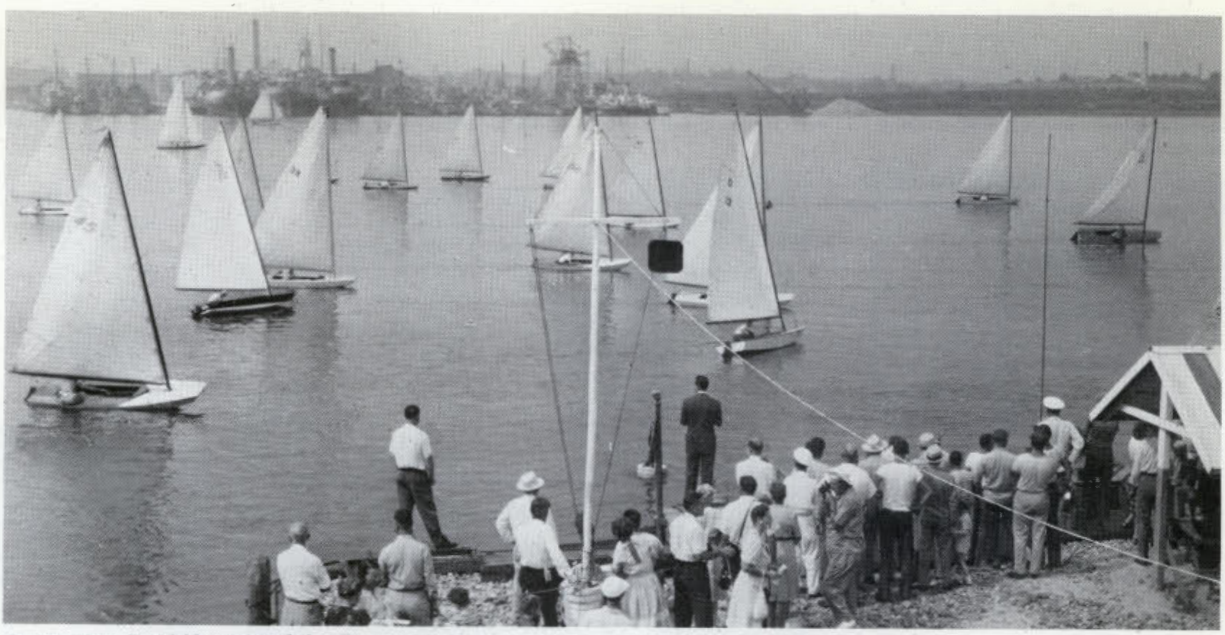
The acquisition of the land surrounding the Twin Lights Lighthouse guarantees an unobstructed view of the Atlantic Ocean, Long Island, Sandy Hook, Staten Island, and the Raritan Bay.

The protection of Higbee Beach preserves a unique ecological complex while supporting seventeen species of wildlife (considered endangered or threatened in New Jersey) that use the area during the breeding season or on migration. These include the bald eagle and peregrine falcon.

FLY TYING SCHOOL

The Atlantic Salmon Fly will be taught by the famous fly tyer and noted author of "The Handbook for the Margaree," James T. Grey, Jr. Mr. Grey, who is very well known among Atlantic Salmon Fishermen, especially those who visit Nova Scotia's Margaree River, will teach the Atlantic Salmon Fly pattern the Blue Charm.

The course will begin on Tuesday, Oct. 4, 1983, from 7:30 to 9:30 p.m. at Fisher Jr. High School, Lower Ferry Road, Ewing, New Jersey. Registration information may be obtained from the Ewing Adult School, 609-771-1300, EXT. 290. Maximum enrollment—15 students. Further information may be obtained by calling Bob Atticks, 609-882-9087.



September 7, 1946, start of the first race.

DUSTER a New Jersey Original

By Eileen Van Kirk

Among the many boats to be seen on the lakes and rivers of New Jersey is a small, clean lined sailboat that skims across the water to the slightest breeze. It is known as the Duster, named for that slight breeze, and designed specifically for the unpredictable winds and waters of New Jersey.

Owen P. Merrill, a young naval architect, designed the Duster during the early 1930s. This was the depth of the depression, and he wanted a boat that would be fun to sail, but simple and inexpensive to build. He came up with a flat bottom, hard chine boat, 13-feet 9½ inches overall, its widest dimension scaled so that it can pass through the average doorway. Merrill's father, Ed Merrill, built the first boat in the third floor attic of his home in Riverton, and so gave birth to what jokingly became known as the "Saw and Hatchet Class".

Soon the sound of hammering and sawing began echoing through the town as the boat building fever took hold. Ted Hunn, who is still sailing Dusters, fondly recalls his experiences.

"Ed Merrill got a group of us teenagers together and we decided to build a batch of boats in my mother's basement." He laughed at the memory, "Somehow we spread out onto the front porch, the side porch, the back yard, and even the living room, and it began to look more like a boatyard than a house. But my mother was a good sport about it. With Ed doling out material, and teaching us as we went along, we managed to build five boats and had a great time doing it."

This was in 1934, and Hunn reckoned that all material, including spars and sail, came to about $60.

"We used New Jersey white cedar planking over a white oak frame," recalled Hunn, "And the cross planks on the bottom were grooved and fitted with a brass spline, so there was no need for calking."

Owen P. Merrill, "O.P." as he's known to his friends, is today owner of Merrill's Sails, and is still making sails for the Duster. When asked what prompted him to design this boat, he said.

"It was my father's idea, really. He saw that small boat sailing was at a low ebb because of the economy, but he also saw a lot of young people with nothing to do. I came up with the design, and soon we all had plenty to do."

It wasn't long before the design spread to other waters in Southern New Jersey, including Barnegat Bay and Long Beach Island, which once had the largest fleet of Dusters in the area. Since it was small enough to be cartopped, and easy to trailer, the little boat began traveling to neighboring regattas. It distinguished itself over and over in the "Under fifteen-foot Free-for-All" contest held on Chesapeake Bay.

After the war, as young men returned home eager to renew their peace time activities, there was a great upsurge of enthusiasm for sailing, and in 1946 the Duster Class Yacht Racing Association was formed with Ted Hunn as President, and Owen P. Merrill as Chief Measurer. Plans were immediately made for a National Championship regatta to be held at the Riverton Yacht Club.

By now this spunky little boat, with its equally spunky sailors, was gaining a lot of attention. It had always had a close association with the Navy, ever since O.P. Merrill's original design, and in 1946 the Association had the great good fortune to obtain a trophy sponsored by

New Jersey's own naval hero, Admiral William F. "Bull" Halsey. This trophy, to be given for "the balance of skill and fair play" to the first place skipper in a series of races, became the focal point of the regatta. In addition, E.M. "Butts" Carhart provided a trophy for the best place by a competitor 19 years of age or under; and these two trophies are still eagerly sought by Duster sailors today.

The first National Duster Regatta was held at Riverton in September, 1946. A large crowd gathered on the banks of the Delaware where light winds and strong tides presented a challenge to the 29 boats competing. The Dusters gracefully dipped and swayed as their tall masts and large billowing sails reached for every puff of air. After three races John Knight of Riverton, a four year navy veteran, claimed the coveted Admiral Halsey trophy, which was presented to him by Rear Admiral Ralph S. Riggs, Commandant of Philadelphia Naval District. Sixteen year old Bob Thompson won the Butts trophy.

From then on the Duster was on its way, and when the Nationals were held the following year the event was covered by press and radio from New Jersey and Pennsylvania, and even received mention from the nationally famous Lowell Thomas.

Perhaps the highlight of those post-war years came in 1949 when the Naval Academy sponsored the Nationals and 44 Dusters traveled to Annapolis to sail on the Severn. (Marty Carhart of Riverton brought the Halsey trophy home with him.) The Navy proved to be a gracious host and the sailors had a wonderful time. The midshipmen too enjoyed the event, especially the presence of several pretty girls, some actually wearing shorts!

It should be noted that while the Duster may have been designed as a father/son project, daughters were just as active as sons, and wives sailed alongside their husbands. Long before the days of womens' lib, women were competing on an equal footing with men in the races, and winning many of the prizes. Barbara Lippincott (now Mrs. John Martin) has a string of first place wins to her credit. In fact it was while racing her Duster at Chester, Maryland, that Barbara's boat, along with one sailed by Joe Cherubini, was struck by lightening. Both sailors were slightly stunned, but both went on to finish the race.

By the 1950s the Duster had leapfrogged across the Delaware to Pennsylvania where it became popular in the Poconos. From there it traveled back to New Jersey, this time to the northern part of the state. J.D. "Bill" Persons of Lake Naomi, Pa., remembers introducing it to Pines Lake.

"I thought I might sell them some boats," he said with a chuckle. "But, shucks, next thing I knew they were all building their own."

By now marine plywood had replaced the old cross planking, and a metal centerboard was permitted. The Cherubini Brothers and the Lippincotts were also selling Dusters, but it was still basically a do-it-yourself project.

Duster fever probably reached its peak in the fifties when Bob Lundstedt was President of the Association. Lundstedt, who still has his Duster built at that time, recalled them as exciting years. But as the decade drew to a close interest in the design started to decline as a wider range of small boats became available. People seemed to have less time to spend building and caring for wooden boats, and by the sixties it looked as if the Duster might be dying out. But in the early 1970s the class was given a new lease on life with the introduction of a fiberglass model by Finback Marine.

Finback, however, ran into problems staying with the required hull weight of 165 lbs., so Herb "Jeep" Califano of Calsail took over the project. By changing to an open cockpit he solved the weight problem, and Calsail made about 40 fiberglass models before it too discontinued production. But that was not to be the end of the Duster.

A couple of small groups, one of which included Tom Bryant, President of Duster Class Yacht Racing Association, got together to build their own fiberglass Dusters. With the use of Calsail's mold, and Califano's expertise, they produced about a dozen sleek, shiny, colorful boats.

"It was a lot of fun," recalled one member of the team, "But, oh, that smell." Building a fiberglass boat is definitely not a project for the cellar as the fumes are powerful and long lasting. A well ventilated shed or barn away from the house is recommended.

PHOTO BY CHRIS VAN KIRK

One of the most important features of the present day model, according to Califano, is the flexible mast.

"My recommendation is the Needlespar from England," he said. "It allows the sail to twist and rotate, spilling some of the wind. This really makes a difference in heavy weather."

He was certainly proved right in 1981 when the National Championship was won by a fiberglass model for the first time. Duster No. 1029, built by Califano and sailed by Jim Walter, maintained perfect control in winds of 25 mph and gusting higher. Walter, who has won the trophy ten times, had nothing but praise for the

continued on page 25

MORE ON SALT WATER FISH

By Bill Figley

BIOLOGY

Scientific name: *Makaira nigricans*

Range and Habitat: Blue marlin are pelagic migrants that inhabit the tropical and temperate Atlantic and Pacific Oceans. They prefer waters 68 degrees to 88 degrees. On the East Coast, they migrate in the Gulf Stream, moving north in summer and south in winter. They are most abundant off New Jersey during July-September in waters deeper than 30 fathoms.

Size: The blue marlin is one of the largest fishes in the world, reaching 2,000 lbs. in weight. Along New Jersey, blue marlin average 200-400 lbs., rarely reaching 700 lbs. The males are much smaller than the females and seldom exceed 300 lbs.

Food: Squid, mackerel, tuna, dolphin and other pelagic fishes.

Spawning: Spawning of blue marlin occurs from late spring through late fall in the North Atlantic and in late winter in the South Atlantic.

BIOLOGY

Scientific name: *Tetrapturus albidus*

Range and Habitat: The white marlin is found throughout the Atlantic Ocean in deep tropical and temperate waters. They prefer water temperatures of 70 degrees to 85 degrees. White marlin are found along New Jersey between June and October. They migrate in the warm Gulf Stream, spending the summer in northern waters and the winter in the Caribbean and off the coast of Venezuela. Although they are more abundant in waters deeper than 30 fathoms, they do follow warm water eddies in closer to shore to depths of 15 fathoms or less.

Size: In New Jersey, white marlin average 40-70 lbs., occasionally exceeding 100 lbs.

Food: Squid, anchovies, herring and other pelagic fishes. Marlin and swordfish use their bills to slash and club the baitfish they are pursuing.

Spawning: Spawning of white marlin is restricted to the tropical and subtropical waters of the Atlantic Ocean and takes place in late spring and early summer.

Usually, the tremendous difference in size between white and blue marlin overrides the need to use other distinguishing characteristics for identification. Very small blue marlin can be identified by the pointed ends on their dorsal, pectoral and anal fins. These same fins on white marlin are broadly rounded.

Recreational and Commercial Importance

There is no commercial fishery for marlin in New Jersey.

However, the white and blue marlin are prized gamefishes and the target of a dozen or more fishing tournaments each year. During the summer of 1981, New Jersey anglers caught 2,564 white and 82 blue marlin. Although some marlin are smoked and eaten, the majority are either mounted or released to fight another day.

Sportfishing Facts and Techniques

Along the New Jersey coast, the season for white and blue marlin extends from July to September. Although the primary fishing grounds are located beyond the 30 fathom depth contour, usually near the edge of the continental shelf, marlin can be taken as close as 10 to 20 miles from shore.

The type of tackle needed is entirely dependent upon the species of marlin sought. While 3/0 to 5/0 conventional reels and 20 to 50 lb. test line are adequate for whites, blues require 5/0 to 9/0 reels and 50 to 80 lb. test line. This disparity in tackle causes problems in setting up trolling gear. An angler fishing with relatively light gear for white marlin, has more than he can handle when a big blue grabs one of his baits or lures.

The primary method for marlin fishing is trolling. While traditional marlin fishing involves trolling with natural baits, such as whole or cut squid, mackeral, bonito, dolphin, mullet, balao or eel, the recent trend has been toward the use of rubber-skirted high speed lures. While green is a popular color for tuna, marlin show a preference for black and white and red and white lures. The artificials are durable and can be trolled at high speeds. The best bet is to have and try both natural baits and artificials. However, don't mix natural bait and lures in the same trolling pattern. High speed trolling will tear the baits. Fish all lures or all baits.

Another difference between baits and lures is the method used to hook the fish. A marlin usually comes up behind a bait and hits it with its bill. At this time, a natural bait should be "dropped back" by putting the reel in free spool. The fish will then grab the bait and try to swallow it. Count to 10 and set the hook. With artificials the lure should not be dropped back, the marlin must hook itself. If the fish continues to bill the lure without grabbing it, try to entice a firm strike by either quickly cranking the lure in a few yards or by speeding up the boat.

ACKNOWLEDGMENTS

Anthony Hillman (art), Migdalski and Fichter (1976) McClane (1978), IGFA (1979), Pete Barrett.

Broadbill Swordfish

BIOLOGY

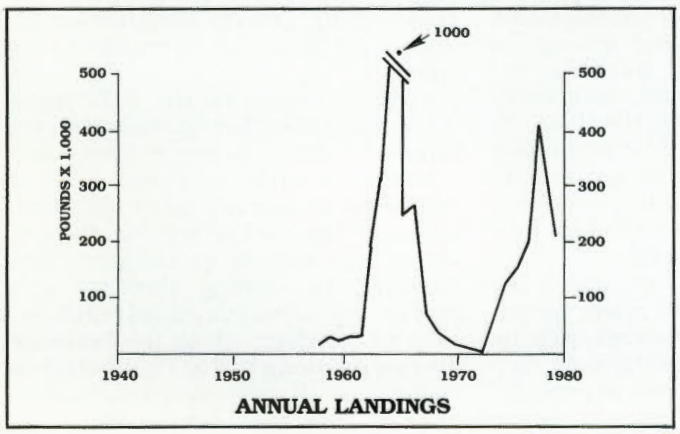
Scientific name: *Xiphias gladius*

Range and Habitat: Swordfish are found in temperature and tropical waters. On the East Coast, they extend from the Caribbean to Newfoundland. They occur in New Jersey waters almost year-round, but are most abundant from July to October. Swordfish are pelagic, occuring in the open ocean in depths of over 300 fathoms. They prefer waters 55 degrees-65 degrees. During the summer, they concentrate along the edge of the continental shelf, but move further offshore to the warm Gulf Stream during the winter. Although swordfish are often seen bashing on the surface, they spend most of their time deep in the water column.

Size: Off New Jersey, swordfish average 100-200 lbs., although they may exceed 1,200 lbs. The males are much smaller then the females and seldom exceed 200 lbs.

Food: Squid, mackerel, hake, deep sea fishes.

Spawning: In winter, swordfish migrate to the tropical waters of the Caribbean to spawn. Females are very prolific, carrying up to 16 million eggs. Young swordfish have teeth and scales, but these are lost by the time the fish reach 10 lbs. in weight.



Recreational and Commercial Importance

In New Jersey, commercial fishing for swordfish began in the 1960s. Longlines are the primary gear used to harvest swordfish, although harpoons are also used on occasion. The catch quickly rose to a peak of one million pounds in 1965, before dropping precipitously due to national hysteria over high levels of mercury found in swordfish flesh. Restrictions on inter-state sale of swordfish were imposed by the Food and Drug Administration. Eventually the ban was relaxed and the commercial fishery resumed.

Although very few swordfish are caught by sportfishermen in New Jersey, they are considered one of the ultimate gamefishes. During 1981, anglers caught 86 swordfish in about 600 fishing trips.

Sportfishing Fact and Techniques

Anglers catch swordfish in two ways, either by the traditional method of trolling around fish spotted finning on the surface or by the recently devised technique of drifting rigged baits at night. Overall, night drifting appears more productive.

The swordfishing grounds along the New Jersey coast lie off the edge of the continental shelf in depths of 300 to 1,200 fathoms. The mouths of the canyons are particularly productive. Most night drifting for swordfish is combined with daylight trolling for tuna and marlin. Toward dusk, anglers position their boats so that prevailing winds will push them along a particular fathom contour or predetermined route for the night's fishing.

Heavy duty, high quality equipment is the rule (5/0 to 9/0 reels, matching rods, 50 to 80 lbs. test line, ball bearing swivels, 8/0 to 12/0 hooks). Whole or cut baits of squid, mackerel, bonito or skipjack are rigged on 12 foot leaders of 200 to 300 lb. test mono. A chemical light stick is either attached directly to the snap swivel or with light, break-away line. The glow of the light stick attracts swordfish to the bait. Usually three baits are set out at various depths, between 20 and 150 feet from the surface. A trolling weight can be used to hold the baits down on a fast drift.

Swordfish often pick up bait very slowly, mouthing it for a long time before swallowing it and finally moving off. Anglers must be patient and wait for the fish to run off at a hard pace before setting the hook.

ACKNOWLEDGMENTS

Anthony Hillman (art), Migdalski and Fichter (1976) McClane (1978), IGFA (1979), Pete Barrett.

Protecting New Jersey's Coast

by Karen Kominsky with Sally Dudley

PHOTO BY KAREN KOMINSKY

▲ *Fishing from the Shark River Bulkhead, Belmar*

▲ *Rebuilding a Stone Groin, Strathmere*

The Jersey Shore—from Sandy Hook to Cape May and into Delaware Bay. Varied, beautiful, but above all used in this our nation's most densely populated state. Over the past 100 years New Jersey's coast has been intensely developed with houses, stores, hotels, roads, and utility lines for the millions of people who live, work and vacation there. Ocean waves still come in every day taking sand from one place to another, making the beaches smaller in some places, bigger in others.

For decades New Jersey has provided financial assistance to help shorefront communities cope with erosion along the Atlantic coastline, in the bays, the inlets and the major tidal rivers. Most projects have been cooperative ventures with costs shared among the state, federal and local governments.

Recently, as more and more buildings have gone up along the shore the cumulative effect of major and minor storms has been increasingly obvious. In some spots the ocean has reached so far inland that homes and roads have been seriously threatened.

In the 1970's, the legislature's annual appropriations for shore protection measures became increasingly inadequate to meet a growing need. As a result, in 1977 the voters approved a $20 million bond issue for beach protection, restoration, and for bulkheading projects designed to increase public use of rivers, bays and inlets.

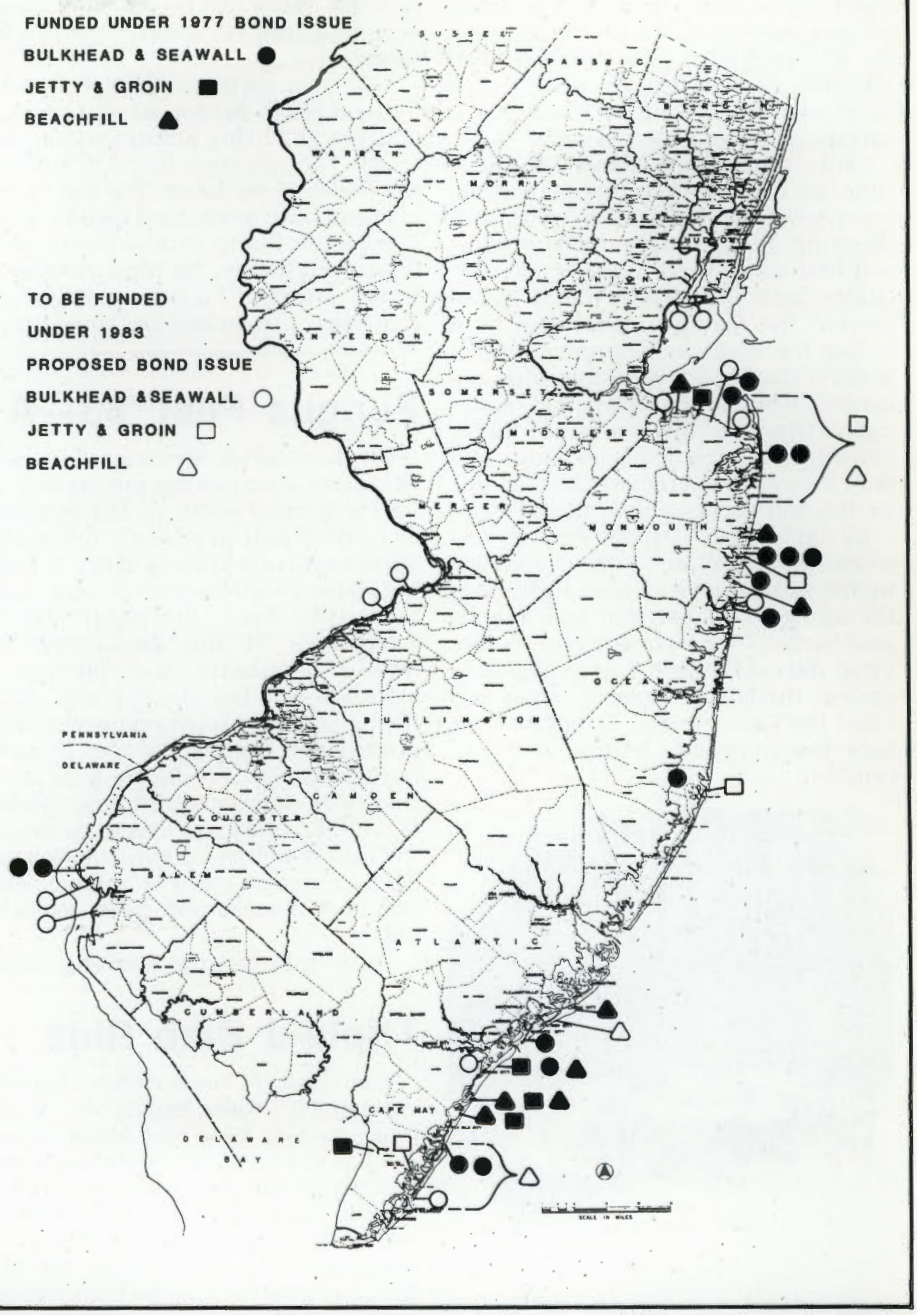
Projects funded by the 1977 bond issue range from dune grass and storm fences in Avalon to one million cubic yards of beachfill in Ocean City, to bulkheads in Belmar, timber and stone groins in Sea Isle City and Strathmere, a concrete seawall in Longport that protects the eroding shoreline and homes, and allows continued public access to the water. Along the Delaware River a retaining wall at Pennsville has halted erosion and ensured safe public use of Riverview Beach Park. On

Raritan Bay a three-phase project has restored Cliffwood Beach in Aberdeen Township for swimmers, boaters and fishermen. Beachfill was placed in front of the existing seawall. Sand dunes were constructed to create a natural barrier. Finally an eroding 50-foot high cliff overlooking Raritan Bay was filled and stabilized.

More work needs to be done to preserve our state's shoreline. Millions live and work there. Millions more spend their vacations there—supporting the state's second largest industry. The Department of Enviromnental Protection and many shorefront and riverfront communities have proposed a number of projects to rehabilitate and maintain deteriorating shore protection structures along the ocean, inlets, rivers and bays. The 1983 Shore Protection Bond Issue planned for the November 8th ballot will provide funds for many of these projects: maintenance and rehabilitation of jetties, bulkheads and other structures from Avalon to Stone Harbor, Atlantic City to Longport, in the Shark River Inlet and Middle Township, in Point Pleasant Beach, Burlington, Keyport, Ocean City and Atlantic Highlands. New construction or improvements are proposed for Hereford Inlet, Middletown Township, Elisinboro and Barnegat Inlet. In Elizabeth, Bayonne, Florence and Salem, shore protection projects will be combined with municipal and state park developments.

In its natural state, the coast is free to be reshaped by the ocean's powerful forces. The New Jersey shore, intensively developed over the last century, needs an on-going shore protection program. Severe winter storms still wash away large sections of beach. Without beachfill, dune stabilization, jetties and groins, erosion would claim even larger beach areas every year. Funds from the 1983 Shore Protection Bond Issue will provide the means to protect and enhance New Jersey's beaches, bayfronts and riverfronts for millions of residents and visitors.

SHORE PROTECTION PROJECTS



GLADSTONE DRIVING EVENT

WHAT: The Gladstone Driving Event is a three day horse and carriage driving competition, designed to test the versatility of horse and driver.

WHEN: Friday, September 16, 1983—The Dressage and Presentation sections of the event will take place. **Saturday, September 17, 1873**—The Marathon section of the event is run over a 17-mile course. The last few miles, contain 8 "hazards" or obstacles which must be negotiated as quickly as possible.

Sunday, September 18, 1983—The Obstacle section of the event is run over a course of 20 pairs of cones designed to test the accuracy of the driver and the suppleness and obedience of the horse after the rigors of the marathon.

WHERE: The Gladstone Driving Event is being held at the United States Equestrian Team (USET) Headquarters in Gladstone, New Jersey.

WHY: The Event is being run for the benefit of the USET. There will be a fee of $5/car/day or a $10 charge/car/the entire event.

For any further information call:
Tricia Haertlein
Home Phone: (201) 754-3612
Work Phone: (201) 276-3900 Ext. 304

Winter Gardening

continued from page 3

carrots, adding rock phosphate and wood ashes. When I am out of wood ashes, I used hydrated lime to sweeten the soil quickly. In the raised bed, I can seed the carrots two or three inches apart each way, giving me hundreds of carrots in a four-by-eight area.

Beets are started about the same time as carrots and spaced approximately three to four inches apart after thinning. Beets will also need a sweet soil and a balanced fertilizer that includes some nitrogen. A trick I use to prevent the drying summer sun from killing the fragile emerging sprouts is to cover the beets and carrots with discarded bamboo curtains and water right through the curtains. Every morning I check for sprouting, and once they appear. I remove the curtains so they will not become weak and leggy.

By mid-August I plant several varieties of lettuce in a raised bed six inches apart each way; later I will cover the lettuce with portable knock-down cold frames I have constructed. Before I had the cold frames, I used plastic to protect the lettuce from the frost and I had the same results. Either way, we have been enjoying lettuce until December.

Leeks out in the winter garden easily bearing up during a December snowstorm.

In September spinach gets my attention. Spinach is a finicky vegetable. The seeds lose their vitality fast, refuse to germinate in the summer heat and the plants are fussy about sweet soil. So ... I wait until September, use fresh seeds every year, use a balanced fertilizer and sweeten the soil with wood ashes just prior to seeding. The spinach plants are thinned to three inches apart in the row, and only occasional watering and manure will be needed. Spinach is remarkably cold-hardy so I leave it, as is, in the garden all winter. It will resume growth next spring and will get a jump on those nasty leaf miners which have been plaguing our area for the last few years.

With just garlic to plant in October for next year's garden, all that remains is to pot and bring indoors parsley and celery. The tide then turns to enjoying the fruits of my labor. The list of vegetables I have mentioned could include many more, but space and family tastes limit the choices. Turnips, rutabagas, Swiss chard, Chinese cabbage and jerusalem artichokes are some others you might consider.

When the frost descends around our Delaware Vally home, our family can look forward to a continuous supply of fresh-picked-from-the-garden vegetables. Nestled near our wood burning stove, we cannot imagine a nutritionist's vitamin chart as compelling an incentive to a winter garden as one whiff of homemade soup coming from our kitchen.

I heartily suggest that you join us and try a few of your favorite hardy vegetables and stretch your own season. Winter will be more fun and you will be one step closer toward self-sufficiency.

Fungus Fest '83—A Wild Mushroom Fair

The New Jersey Mycological Association presents an all day mushroom fair for the general public at The Somerset County Environmental Education Center on Lord Stirling Road in Basking Ridge, New Jersey on Sunday, October 2, 1983, from 11:00 AM to 5:00 PM.

Members of the association will answer questions and present illustrated lectures about Fungi. Local, freshly gathered mushrooms will be on display, and experts will identify those brought in by the public. Experience that taste differences from one variety to another, and learn new ways to cook the wild as well as the supermarket varieties. There will also be a large selection of cookbooks and guide books for sale.

Those interested in learning to find mushrooms will be able to foray with experienced collectors along trails bordering the Environmental Center at the edge of The Great Swamp.

For philatelists, The U.S. Postal Service will open a one day "Fungus Fest Station" featuring a mushroom pictorial cancellation on an official cachet envelope. Mushrooms pictured on stamps from around the world will also be displayed.

Mushrooms are some of nature's beauties and mysteries as you will see at our "Fungus Fest '83." For any additional information, call either The Center at 766-2489, or The New Jersey Mycological Association at 439-3614.

Triple-J Bike Ride

The Triple-J (Jacksonville-Jobstown-Juliustown) Ride begins in Mount Holly, County Seat and a community steeped in history of the Revolutionary Era. Begin your ride at the County Welfare Building, Route 38 & Fayrestown Road. Head north across Route 38, towards Smithville, via Shreve Street. It was here that the famous high-wheeled bicycle, "The Star" was manufactured by the H. B. Smith Machine Company, back in the 1890's, and where the innovative bicycle railway was established.

Bert Nixdorf, in conjunction with The South Jersey Spoke Folks, of Cherry Hill, will personally lead this ride on Saturday, October 1. Bring beverage and lunch or purchase the latter en route. Meet no later than 10 a.m. at the Acme parking lot, corner of High & Ridgley Sts., Mt. Holly. Participation will be limited. For information, call 609/267/7052.

Old Time
Barnegat Bay Decoy
& Gunning Show

date: Sat. Oct. 8th, 9am-5pm
where: Tip Seaman Park, Lakeside Dr. & Rt. 9, Tuckerton, N.J. (exit 58 GS Parkway)
admission: Free

Rain Location: Pinelands High School
Nugentown Rd.
Tuckerton

HIGHLIGHTING
Carvers & Collectors • Movies • Sneakboxes • Retriever Contest • Working Decoy Contest • Exhibits • & Much More

sponsored by Ocean County
Dept. of Parks
& Recreation
For further information & contest applications call 609-296-5606

BACKPACKING

continued from page 5

miles through Worthington and Stokes State Forests, Delaware Water Gap National Recreation Area, and High Point and Waywayanda State Parks. This trail follows the highest ridges in the state and affords the hiker with many great vistas. In the southern part of New Jersey, the Batona Trail treads 37.8 miles through the famed Pine Barrens region in Lebanon and Wharton State Forests. Along this trail the hiker will find quiet woodlands, cedar bogs and gentle topography. In addition to these longer trails, the packer can also explore the 9 miles of trail around Round Valley Reservoir. Walk-in campsites are available at certain points along the trail. Before you plan a trip on any of these trails, write to or call one of the above areas for information and regulations about the trail.

Once you find an area that interests you and you've acquired the needed equipment, plan an easy one or two night "there and back" trip. Four or five miles is a good distance to try to cover in your first day on the trail. With time you may find that you enjoy covering upward of 15 miles per day, but that's entirely for you to decide, later on.

ON THE TRAIL

Enjoy your walk. Walk at whatever pace you choose: stop and listen to the sounds of the woods whenever you please. You have no need to hurry home now, for home is on your back. A handy lunch very popular on the trail is called GORP (Good Old Raisins and Peanuts). GORP makes a nutritious and easily edible lunch, and with the addition of other tidbits such as chocolate chips, soy nuts and sunflower seeds, it will never get boring.

If you are a good judge of the quality of your water source, you can probably get away with drinking from that clear mountain stream. On the other hand, you are taking a chance of being introduced to Giardiasis, a very memorable case of backcountry diarrhea. Giardia cysts find their way into the water from the feces of any mammals that may be infected. Fortunately you can destroy the cysts by boiling the water vigorously for one minute.

When you reach your campsite, pitch your tent on a very slight slope; comfortable for sleeping, yet good enough for rainwater to drain away. Do not carve trenches around your tent. Trenches leave unnecessary scars on the land and the waterproof floors in today's tents eliminate the need for this practice.

During your whole trip remember that it is very important that you leave the trails and campsites as good as or better than before you arrived. If you packed it in, then pack it out; litter can ruin everyone's experience.

Finally, but most importantly, look at backpacking with the right state of mind. Don't use it as a means to get into shape—you will hate it. Don't use it as a means to conquer nature—you'll run out of trails someday. And don't use it as a means of seeing more birds—you'll see a greater number of species on day trips.

Hoist that pack simply because you want to experience nature first hand: to be there night and day through all weather. Walk because it's a very enjoyable type of freedom—and you'll never be disappointed.

**Be nice to salespeople and tents. If properly cared for that delicate looking nylon tent can last you 20 years and hundreds of enjoyable trips.*

DUSTER

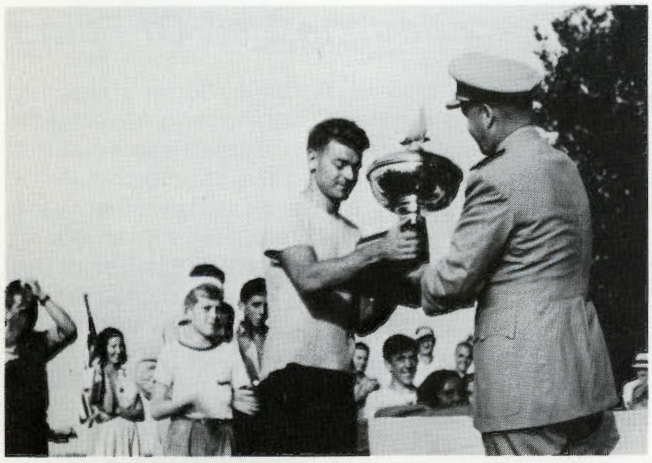
continued from page 19

way No. 1029 handled.

Last year Califano himself won the Admiral Halsey trophy while sailing one of his own fiberglass models, Duster No. 1038, at Union Lake. And so from the "Saw and Hatchet" class in the 1930s to the "Paint and Fiberglass" class in the 1970s and 80s, the Duster is still basically a do-it-yourself project.

When asked how he felt about the fiberglass Duster, designer O.P. Merrill voiced his approval.

"I admit my heart still leans towards the wooden boat," he said, "But there's no reason why she shouldn't be available in fiberglass also."



John Knight being awarded the Admiral Halsey Trophy as first prize to the champion skipper.

The Duster Class Yacht Racing Association sponsors eight open regattas during the year to which all Dusters are invited. Then those qualifying can compete in the Nationals, scheduled to be held this year at Lake Hopatcong, September 16 to 18. The association also issues a monthly publication entitled, "Windward", which details Duster activities, and also lists boats for sale.

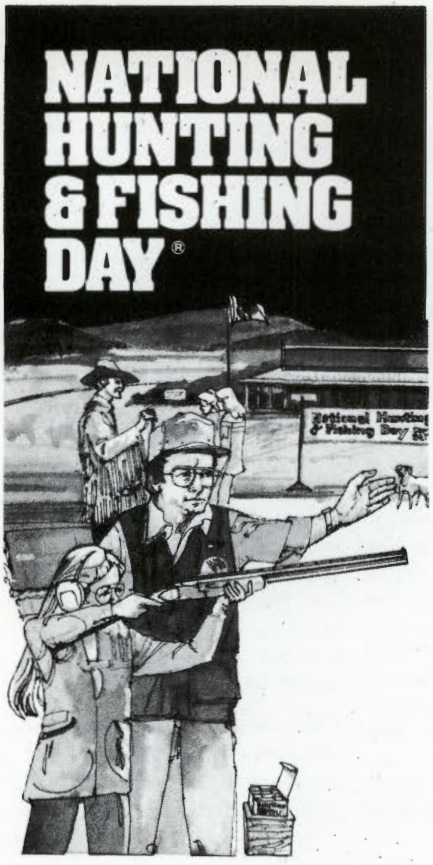
According the Tom Bryant, DCYRA President, members would like to see the Duster class increase.

"It's a unique design," he said, "The Duster has 117 square feet of sail, more than the Sunfish, Laser or even the Jet, and that makes it the most versatile of small sailboats. You can sail it alone, or take on a one man crew, either way you'll have a great sail."

Unquestionably the Duster is a beautiful little craft. Her tall mast reaches up to catch the breeze as it flows over the treetops that ring so many of our New Jersey lakes. A fleet of Dusters, with their large white sails etched against a blue summer sky is a sight to cheer the hearts of even the most die hard landlubber. But anyone who thrills to the idea of a "windy day, with the white clouds flying," and rejoices in the tug of the sheet and the billow of sail, will find the Duster a dream. She's a native New Jersey treasure that proud Duster sailors would like to see regain its rightful place in the boating annals of the State.

Anyone interested in more information on the Duster, including plans, can write to:

Duster Class Association
c/o Claudia Krauth, Secretary
12 Stonybrook Trail
Kinnelon, New Jersey 07405



A Day For A Lifetime

At a National Hunting and Fishing Day program, you can help a youngster score a bullseye, cast a lure and meet the great outdoor tradition you enjoy.

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Sept. 24, 1983

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☐ I want to do my part; please rush ____ "One-on-One" kits @ $2.00

☐ I represent a club; please rush ____ "Complete Organization Packets" @ $5.00

Enclosed is a check or money order for $ _____

Name: _____

Organization: _____

Address: _____

State: _____ Zip _____

Pine Belt Sportsman's Club Hosts N.J. State Shoot For The Tenth Year

The New Jersey State Shoot was held June 2, 3, 4, 5, 1983 at the Pine Belt Sportsman's Club, Indian Mills, NJ. The State Shoot always attracts shooters from other states. This year shooters from New York, Pennsylvania, Delaware, Maryland, Virginia, Connecticut, Ohio, Missouri, and Kentucky participated in the events.

Once again Kay Ohye was the winner of the 16-yard championship after a shoot-off with Larry Russo. Each had an initial 200 x 200; a shoot-off continued the following day and Ohye ran another 50 to Russo's 49.

In the doubles race the same two contestants again tied, 96 x 100. In the shoot-off for the championship, Russo was the winner with 20 x 20 to 19 x 20.

The N.J. Handicap was won by Bill Harper—a newly registered shooter in 1982. Bill has come a good ways in this short time breaking 98 x 100, shooting from the 23-yard line. Also breaking 98 x 100 was George Curtin of Pennsylvania, shooting from the 22-yard line. This score gave George the open handicap trophy. Runner-up for the New Jersey trophy was Jack Williams with 97 x 100 from 19.5 yards.

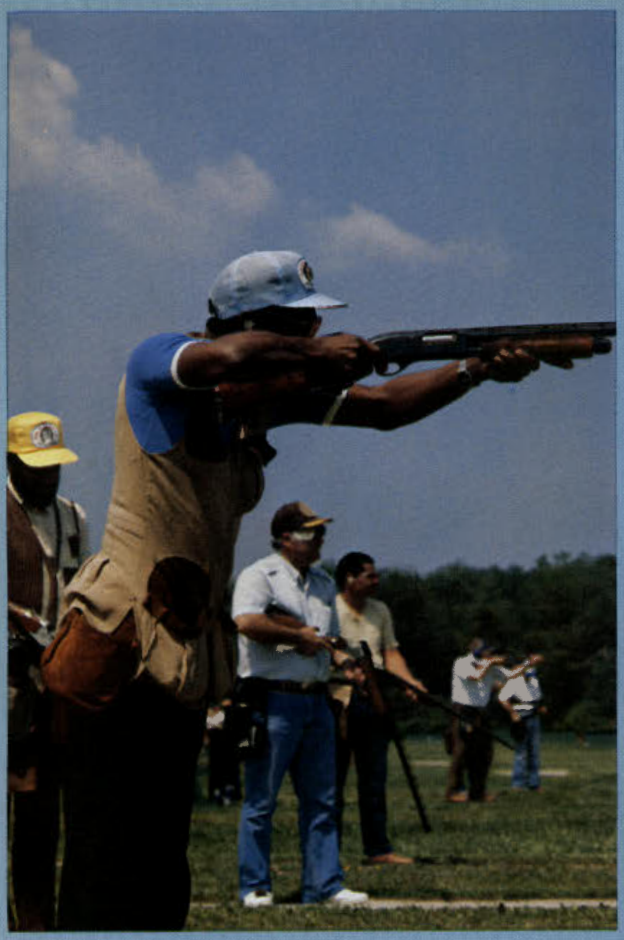
Lou Etta Hoover once again annexed the ladies championship for N.J. by breaking 191 followed by Ruth Keim with 188.

The New Jersey Veteran honors were won by Wes Stillwagon with 192. The N.J. Junior Championship to Dan Ballentine, 187; Sub-Junior Championship to A. Ferraro Jr., 166.

On Saturday and Sunday about 400 shooters participated in each event. In the four day meet about 600 shooters competed.

Local Resident Inducted Into The Trapshooting Hall Of Fame

Mrs. Charles Tindall of Robbinsville was recently inducted into the Amateur Trapshooting Association of America Hall of Fame. Mrs. Tindall was an active shooter in past years holding the championship for women in New Jersey for seven consecutive years as well as other open championships in adjoining states. At present she is Secretary-Treasurer of the N.J. State Trapshooting Association and cashiers for several trapshooting clubs in New Jersey and Pennsylvania. In her work with these clubs and the State Association she has had the opportunity to work with young people participating in this sport.



Competitor Rudy Torlini.

The Russo Brothers.

Origin of Great Egg Harbor River.

Exploring The Great Egg Harbor River By Canoe

By Warren E. Fox

In the northernmost corner of the Camden County Park in Berlin Boro, where once there was a wet meadow, there is now a tiny stream formed by the intermittent flow from three surface drains.

This is the origin of the Great Egg Harbor River and is locally known as the "Long-a-Coming" Branch since it paralels the Indian trail that led from Camden to Somers Point.

It quickly widens into a broad, boggy stream with as much vegetation as water and wanders through the Albion Airport. Along its course to New Brooklyn Lake, which is also a Camden County Park, additional water is added by nine other streams such as Tinkers Branch, Keys Branch, Sharps Branch, Prossers Pond, Murrell Branch and Wildcat Branch. Though such names stir one's imagination, they add little to the flow of the fledging river.

Below New Brooklyn, the river is joined by Four Mile Branch, the two streams marking the boundary between Camden and Gloucester counties. Passing through the Winslow Fish and Wildlife Management Area, the Big Bridge Branch joins in, and as it crosses into Atlantic County the river receives Squankum Branch. It then flows through Folsom Boro to Penny Pot where the Penny Pot Stream enters from the north, downstream from Eighth Street, and from the south the Hospitality Branch, which drains the Collings Lakes community of ponds, contributes a major flow of water, probably greater than the river itself.

Atlantic County is negotiating the acquisition of a parcel of land fronting on Eighth Street in Folsom, and straddling the river, to provide parking space and a launching site. Here begins the first portion of a canoe route where the streamside forest leaves enough space for waterborn passage, although rugged wilderness it may be for the novice canoeist.

In about 1917 the Hospitality Branch was impounded where it crosses the Black Horse Pike (Rt. 322) to form a reservoir supplying nearby cranberry bogs with water. The dam was built of teakwood salvaged from old ships and lasted until 1981, when it was replaced. Canoes can be easily launched from the west bank below this dam but there is no parking along the Black Horse Pike and arrangements would have to be made with a nearby motel or with Don Zalusky of the Angler's Pro Shop across the Pike.

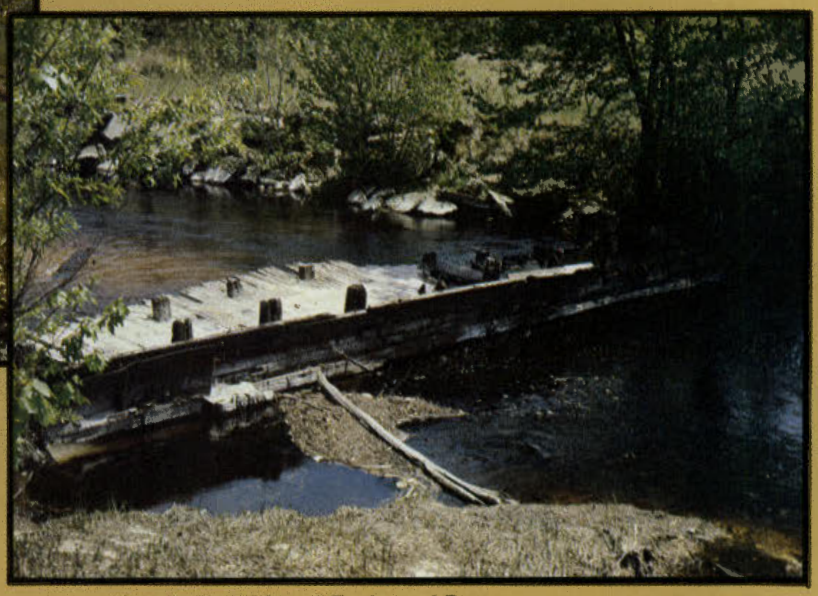
Quietly drifting along this 4½ hour section of the canoe route, one passes many floodplains, swamps and bogs, and beaver lodges with freshly chewed alders, birches and maples. Painted, Spotted, Mud, and Snapping Turtles, sunning themselves on emergent stumps and logs, are disturbed as each bend is rounded. Startled deer bound out of many marshy, cedarwater meadows, startling the canoeist as well.

Midway to Weymouth Park, the stream passes the Indian Branch area with its Cherry Lane development of permanent and vacation homes. Here development has considered the environment and has not had a serious impact upon the river as yet.

Nearing Weymouth a colony of summer cottages nestles among the pines, with a beaver lodge on the edge of

PHOTOS BY AUTHOR

Artesian well flowing over 150 years.



Hospitality bridge at Teakwood Dam.

a floodplain. On the south side of the Stephen R. Colwell (1850) estate boasts many unusual species of shrubs and trees planted by the family.

Passing under the DaCosta Road bridge, which originally was the dam for the Weymouth Forge Pond (1802-1920), the canoeist is suddenly in Weymouth Park, an Atlantic County historic site providing picnic tables, barbecue grills, swimming beach, portable toilets, parking, and a launching site. Weymouth Forge was built in 1802. It supplied cast-iron products, made from bog iron, to the eastern cities until 1860, when it was converted to paper production, and operated until 1887. Many of the mill's ruins are still present although vandalism takes a heavy toll.

An artesian well which served the mill still flows, providing visitors with cool spring-water. Naturally it is called "Indian Spring," and many nearby residents come to fill their jugs with its sulfur-flavored water.

For those with an interest in Colonial history, this was the center of an industrial settlement with a population of 600 people who were employed in a sawmill and gristmill, and pursued charcoal burning, lumbering, iron mining, and farming. There was workers' housing and in 1808 they built their church nearby, which still serves their descendants, together with its cemetery.

The second portion of the downriver trip is best attempted another day as it takes about seven hours or more.

Leaving the Park's launch site is easy going and passing under the Black Horse Pike bridge one will see its host of nesting swallows, which explains the lack of a mosquito problem in the area. Now begins a river passage as rugged as any found in New Jersey.

Streamside trees, felled by ice storms and heavy snows because their root-masses have been undercut by storm currents, lie across the river, sometimes just awash, sometimes barely wet, sometimes forming arches with branches ready to snatch your scalp-lock, or a jumble resembling Paul Bunyan's log jam.

Always there are hidden stumps betrayed by surface ripples, to be avoided, or fast-water shutes to be enjoyed. It is passable, but a challenge to one's skill and endurance.

After several miles of this, the docks and launch pad of the Winding River Campground appear around a bend. Here, if a rest stop is needed, refreshments and facilities are available.

From here to Lake Lenape the river flow is more leisurely and the pickerel fisherman will find it rewarding. The river is more open, somewhat deeper and with fewer stumps. The northeastern shore is one swamp or cul-de-sac after another, affording interesting fishing holes for the fisherman and never-ending surprises for the naturalist, from Pine Barrens Tree Frogs to wild orchids.

As Lake Lenape is approached, broken cedar swamps confuse the mainstream, often causing some concern as to which opening to use. Watch the water flow as a guide to the right way. Suddenly there is a great expanse of shallow water, filled with stumps, grass hummocks, and waterlily beds. This was once a cedar forest, lumbered more than a century ago, and on a windy day the canoeist should seek the lee shore and expect to encounter a few stumps.

The long lake is shaped vaguely like an hour glass, with a lighthouse tower prominent in the narrows, suitable as a guide marker. In the narrows area is deeper water used for water-skiing and outboard racing.

Residences line the eastern shore and an amusement park is located near the lighthouse tower. Atlantic County is negotiating acquisition of a launch site on the southwest corner of the lake adjacent to the Harding Highway (Rt. 40), where a concrete pad is in place.

Since the dam is off-center along the southern edge of the lake, the canoeist should follow the western shore to the launch site, avoiding the dangerous currents near the dam and the wash of high-speed, ski-towing outboards.

Try it, you'll remember it for a long time! NJ

PHOTO BY THOMAS ALTAVILLA

South Jersey Surf Fishing

by Brion Babbitt

New Jersey's coastline offers some of the finest surf fishing to be found anywhere on the East Coast. From the steeply sloping beaches of Sandy Hook to the gently tilted sands of Cape May Point, a wide array of saltwater gamefish such as striped bass, bluefish, weakfish, fluke (summer flounder) and kingfish can be caught—all from the surf.

But having lived and fished in southern New Jersey for more years than I care to think about, it's the beaches from Brigantine to Cape May that I'm most familiar with here in the Garden State.

Although there are ways other than surf fishing for tackling salty gamefish—New Jersey based party boats and charters often produce fantastic catches —no other means can allow for such a close communion between angler and ocean. Land a slammer bluefish or tiderunner weakfish from the rumbling waves while tasting salt air in the quiet solitude of early morning light and you'll probably be hooked for life.

A big part of the battle in successful surf fishing is knowing *when* to fish and *how* to fish for optimum results. All of the south Jersey beaches can be good fish producers so no one area holds a whopping advantage over another. However, for the best fishing the key is to stay abreast of rapidly changing fish reports. This can be done by consulting your local newspaper's sports column, any of several weekly fishing periodicals available or by calling ahead to a tackle shop located in the region you wish to fish. Tackle shops are the best place to obtain the latest informaton since they are a focal point for fishing activities—fish are weighed in and fishermen swap stories at these locations.

After you've determined (or at least reasonably so) that fish are present in a given area and obliging, find out how most of the fish are being caught. Again a local tackle store can be of immense help in giving you a head start. They know what baits are in season and which artificial lures are in most demand by patrons "in the know". Gathering preliminary information *before* a surf fishing outing can make a world of difference simply because there are so many variations in bait, lure or presentation. Excessive experimentation can shoot the whole day if you have absolutely *no* idea what is yielding fish.

The seasons of spring and fall produce the hottest, most consistent action. In the spring weakfish and bluefish enter south Jersey waters in quantity. Coming up from more southerly waters after a long, lean winter, these gamesters are eager to attack a properly presented lure or bait. When autumn approaches, surf fish fuel up for their migrations out of local waters to distant wintering grounds. At this time their ravenous appetites again return to drive them onto a waiting fisherman's hook.

The summer months usually see somewhat

diminished surf activity. This is because fish are not moving great distances en masse and higher water temperatures make most species more lethargic. In this condition, fish use less energy and require less food intake. However, balmy skies and warm air temperatures make summer surf fishing an enticing proposition anyway, at least during the morning and evening hours.

Good surf fishing in south Jersey begins in early May and tapers off somewhat in July only to surge once more around Labor Day. Fast fall action can and often does last well into November. In the fall of 1982 hordes of bluefish were being taken in south Jersey waters on *December first!* This isn't uncommon when air temperatures remain mild and water degrees drop only stubbornly. It's important to remember that the air temperature per se is relatively insignificant. When the water temperature hovers within its "angling range"—considered to be from roughly 68 to 56°F—fish will be caught regardless of air temperature. As long as water temperatures remain high in the fall, action will continue unabated unless a major storm sends fish scurrying on their way. Therefore, excellent surf fishing can be had when the air is crisp or even downright cold. Frequently some darn outstanding catches are made by anglers brave enough to work chilly fall beaches. I've found myself fishing with gloves and several layers of clothes but still enjoying fine late season success.

Probably the last beach angling of the year occurs along the Cape May beaches for large striped bass. Despite the fact that this species has hit upon hard times recently, there are still enough heavyweights around to offer a possible late autumn fling. Big bass upwards of fifty pounds are taken each year on live eels in the area known as the Cape May Rips. It is plausible that some of these lurkers might be sneaking along the sands and jetties of Cape May. Striped bass fishermen are traditionally a closed mouthed lot so many catches go unreported.

Last fall anglers around the world heard the news of the landing of a giant striped bass at Atlantic City. By fishing a nighttime surf during a northeast storm, Albert McReynolds managed to hook and land a world record seventy-eight pound, eight ounce striper. Certainly catches of this type are indeed rare, but it does go to show the high potential of south Jersey surf fishing.

Bluefish, in stark contrast to the striper, are enjoying a period of peak abundance. Blues—ranging anywhere from one half pound "snappers" to 20 pound "slammers"—are the mainstay of the surf fishing catches. Catching them is easily accomplished by "dunking" bait chunks or by tossing metal lures when the blues choose to ravage the surf on one of their "blitzes". During a blitz a school of voracious blues, which have often been likened to animated chopping machines, attack smaller baitfish which they've trapped along shore. When this event happens it's no secret. Gaggles of gulls, excited by the chances of an easy meal, dive for scraps as fierce, well-dentured bluefish slice

Bluefish such as this specimen are available in the south Jersey surf. *PHOTO BY AUTHOR*

through breaking baitfish frantically trying to evade the surging jaws. Fishermen spotting the commotion rush to the scene and enjoy a veritable onslaught. All surf days should be as easy!

At slower times, though, surf fishing success can be enhanced by following the old surf angler's adage of "two hours before the top and two hours after". The "top" refers to high tide. It's not unusual for incoming water to bring fish and surf fishermen together at beachside. Small baitfish such as spot, bunker (menhaden) and mullet are more susceptible to the rhythmic, periodic movements of the lunar tideclock, thus high tide brings in a smorgasbord with strong swimming predators in hot pursuit.

But as far as I know, there are no rules carved in stone regarding surf fishing. Exciting action can show at almost any time. All that is needed is a little luck in being at the right place at the right time.

Basically there are two ways to surf fish; you can toss out a bait and play a waiting game or you can "work" at it by casting artificials, steadily moving down the beach covering the enitre area. In one technique the fish finds you by detecting the baited offering and in the other you travel to the fish's hiding place. Both methods work, with a popularity edge going to the still bait fishing technique. There is no denying that patience and diligence are part of the surf fisherman's doctrine. In a sense this may even be part of the fun.

As far as fishing with lures is concerned, a diverse selection should be carried to cover all possible situations. Bring along some metal lures such as Hopkins or Kastmaster, some swimming and surface plugs, lead-headed bucktails for bottom bouncing and a few rigs for fishing bait.

Surf fishing can be a lot of fun but remember to plan ahead. *Know* where you're going to fish, *what* species is present, *what* they're hitting and check up on the necessary bait and tackle. A little homework and forethought can make that surf fishing day a whole lot more memorable. NJ

Wildlife in New Jersey:

THE MOCKINGBIRD

By Mimi Dunne

An account of the mockingbird in New Jersey written at the turn of the century might have read like the story of an endangered species. In 1908, the mocker was described as a very rare summer visitor in New Jersey. Before the passage of the Migratory Bird Treaty Act in 1917, it was fashionable to keep mockingbirds as cage birds; their songs were so well-liked. So many nests were robbed to satisfy the demand in the Philadelphia region that the population became stressed. In 1983 it seems incredible that a bird as familiar to us as the robin could have ever been considered rare.

The mockingbird is a good example of a species whose range has increased dramatically within the past 30 years. Once as southern as cornbread and grits, the mockingbird now ranges into Yankee turf. Though we have not been landscaping to intentionally produce more mockingbirds, that is in effect exactly what we have been doing. A mocker's diet consists mainly of fruit. The berries of holly, greenbriar, sumac, poison ivy, red cedar, virginia creeper, privet, and Japanese honeysuckle are eaten as readily as the fruits of blueberry, strawberry, mulberry, elderberry, and raspberry plants. Houses, shopping malls and office buildings landscaped with ornamentals that bear many palatable fruits provide a convenient food source for a bird that prefers to live near people anyway. One researcher has correlated the expansion of the mockingbird's range with the introduction and spread of multiflora rose in the northeast. It seems likely that the increase in winter food in the form of rose hips as well as the planting of a wide variety of ornamentals has contributed to the northward expansion of the mockingbird.

In New Jersey the mockingbird occurs throughout the year in all parts of the state in a variety of habitats. Preferring landscaped suburban lots, the birds will also occupy thickets, hedgerows and roadsides. Up to five blue-blotched eggs are laid from March through August with two and three clutches not uncommon. In the summer, mockers switch from fruit to insects as a staple food source. Ants, bees, wasps, grasshoppers, caterpillars, spiders, sowbugs, snails and other garden insects are consumed by the growing young and adults alike.

If you happen to live near nesting mockingbirds, you will agree that *Mimus polyglottos*, Latin for "many-tongued mimic," is as accurate a scientific name as can be found. If you enjoy birdsongs, you'll hear all your local favorites, in all combinations, at all hours of the day and especially on moonlit nights. People have recorded 39 different bird songs and calls from individual mockingbirds. Some birds mimic frogs, crickets, barking dogs and postman's whistles. The mocker's ability to "remember" songs of species not present in the area is also well-documented. The ecological advantage of singing many songs is obscure; perhaps by imitating many different male birds, the mockingbird avoids some competition for food and nesting space. Whatever benefit this behavior has, no other new world songster can compare to the mockingbird in versatility of song.

Those that consider themselves cursed with nesting mockers for neighbors usually share a common complaint. Throughout the early spring and into the summer, mockers zealously and aggressively defend their nests and territory, sometimes to the point of frightening people. Many a complaint call has been logged at Division of Fish, Game and Wildlife offices from people who want the "dive-bombing" mockingbird removed from their yard; some people have no sense of adventure. Dogs and cats are also common targets for the defensive mockingbird. Our rather tolerant Brittany Spaniel relinquished quite a few favorite sunning spots due to the persistent advances of the pair nesting in our holly. Even chipmunks are not immune from the mocker's advances.

While I personally never considered the nest mockers a nuisance, they had a particular habit which I never enjoyed. The first time I heard the steady tapping on the first-floor window, I was home alone. I was relieved when I discovered the cause of my concern was a mockingbird chasing an intruder (his reflection) from his territory. however, the tapping still managed to surprise me when I least expected it.

The antics of the mocker certainly set it apart from other members of the thrasher family. The gray catbird though similar in appearance lacks the flashy white underparts of the mocker's wings. The catbird wouldn't be observed in wing "flashing" or "fanning," a habit performed, it is thought, by the mockers to flush insects from the grass. Male mockers routinely perform a challenge dance when border disputes over territory arise. Tape recordings and great horned owl decoys can be used to elicit mobbing displays near mocker nests. The behavior of the mockingbird, like it or not, make it one of our most fascinating residents, well adapted to life with people.

FRONT COVER

Lisa in a Vernon Field—Photographed by David A. Bast

INSIDE BACK COVER

Mockingbird—Illustration by Carol Decker

BACK COVER

Hiker on Appalachian Trail—Photographed by Ken Oravsky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