

# New Jersey OUTDOORS

May/June 1983





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NEW JERSEY OUTDOORS CREDO

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

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

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

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SNAP-OUT INSERT

Fishing Guidelines for New Jersey Waters  
(How to reduce exposure to PCB  
contaminated fish.)



# From The Editor

The first day of Spring has fled, the days are lengthening, and the warming sun has greened our hemisphere. And what do we think about when this time of year comes by again? Some of us think about vacations . . . what to do with our leisure time. Then we think about our unequalled beaches, our streams and lakes, our 280,000 acres of parks and forests—a variety of recreational resources available to all.

For information, check the list below:

- Vacation Guide
- Get to Know New Jersey
- Marinas and Boat Basin Guide
- Beach Guide
- Campsite Guide
- New Jersey Facts
- Mini Tours Guide. All the above guides are available from:
  - New Jersey Division of Travel and Tourism  
CN 384—Trenton, NJ 08625—(609) 292-2470
- What's Happening—A schedule of special events held at State Parks and Forests this summer
- A year-around guide, "New Jersey Invites You To Enjoy its State Forests, Parks, Natural Areas, Marinas, Historic Sites, Wildlife Management Areas" from:
  - Division of Parks and Forestry  
State Park Services  
CN 404—Trenton, NJ 08625—(609) 292-2797

- A publication called, "Canoeing the Pinelands Rivers" is available from:

Green Acres Program  
Bureau of Recreation and Heritage Planning  
CN 404—Trenton, NJ 08625—(609) 292-2455

- For the more adventurous, a set of 10 recreation maps (plus canoe safety information) of the Delaware River is available for a fee of \$4.00 (plus postage: \$1.22 1st class; 95¢ 3rd class) from:

Delaware River Basin Commission  
P.O. Box 7360—West Trenton, NJ 08628

- Looking for recreation on the wild side, send for the:
  - Wildlife Management Area Guide  
Division of Fish, Game and Wildlife  
CN 400—Trenton, NJ 08625—(609) 292-9450

This is a 124-page guide of New Jersey's wildlife management areas—over 160,000 acres of diversified habitat (forests, meadows, salt marshes, lakes and mountains) scattered throughout the state. The guide contains maps, roads, and directions. It sells for \$4.00. If you wish the guide sent first class, send an additional \$1.50 postage.

We said it before but we'll repeat it. The best source for all outdoors activities in the Garden State is *New Jersey Outdoors*. If you haven't renewed your subscription as yet, send in the attached card so you won't miss a summer issue. Last year you heeded our advice and our accountants are smiling again.

## In this issue

The front cover introduces a fish tale that doesn't have to be exaggerated in order to capture your attention. This fish tale is titled, *A World Record Striped Bass in N.J.* by Pete Barrett, Editor of *The New Jersey Fisherman* magazine and a frequent contributor to NJO. Pete also provided the cover photograph of Albert McReynolds and his \$250,000 prizewinning striped bass.

For a dramatic change of pace, our *New Jersey in Focus* article is titled, *Twilight Time in New Jersey* by Charles and Denise Mueller of Brookside, New Jersey. The Muellers have lectured on the techniques of night photography and have provided print exhibits in various galleries and libraries in New Jersey.

In 1981, their color slides were shown at the University of Delaware, The Memorial Art Gallery in Rochester, the University of Texas in San Antonio, the Pasadena Public Library, and the Municipal Museum in Rosario, Argentina.

Although both Charles and Denise are award-winning photographers, Charles wins awards despite being legally blind. He lost one eye at the age of nine months because of birth injury. His good eye became impaired in 1977 but his vision was stabilized to 20-200 with treatment.

This is the forest fire season, so read,

*The Lonely Vigil—New Jersey Fire Observers* by John C. Chitester. Author Chitester, new to our publication, writes about Fire Observer Ed Kasprzak and the duties, dedication, and dangers that come with the job.

Another new author, Dan Collinson tells how to *Start Catching Bass and Pickerel* in our New Jersey waters. According to the author, if you follow his directions and use the rig he describes, you almost can't miss taking your share of fish. Except, he cautions: "Don't fish this rig while sitting on an overturned bucket. It's bad luck."

*Morristown National Historical Park* celebrates its 50th Anniversary in July 1 to 4 of this year. According to author Helen Brunet, it was the first historic site to be designated by Congress as a national historic park. Author Brunet, from Mendham, has been published in *Yankee* magazine, the *Newark Star Ledger*, and other regional publications.

This four-day festival will feature jazz, folk, Dixieland, and classical concerts, a giant parade, an outdoor art show, plays, fireworks, sports contests and tours of more than one dozen historic homes.

In the article titled, *A Plan for All Seasons* author Cathie Cush discusses *The New Jersey Shore Master Plan* and the

Beaches and Harbors bond issue which provided funds for beach protection, beach restoration and nourishment projects. Author Cush of Beach Haven is Managing Editor of the *SandPaper*, a weekly newsmagazine published on Long Beach Island. The author has also labored as a ghostwriter—writing sonnets, love letters, wedding vows, or practical letters on assignment from customers.

*More Turkey Talk* by Jan McDowell is about the Grand National Wild Turkey Calling Championship held at the National Wild Turkey Convention in New Jersey. As far as we know Jan is the first and only woman in New Jersey to bag a wild turkey. In fact, Jan shot her first turkey in 1981 during the first wild turkey season in New Jersey. To prove this was no fluke, she bagged her second turkey in 1982. The illustrations are the work of Doreen Curtin, her first effort for our magazine. Doreen was employed by the Smithsonian Institution Press in Washington D.C. as a natural history illustrator. She also free lanced wildlife

(continued on page 19)

*Steve Perrine*

**New Jersey State Library**



# A World! Record Striped Bass

by Pete Barrett

PHOTO SUPPLIED BY N.J. FISH & GAME



A 9 lb.-11 oz. lake trout caught in Round Valley reservoir by Dr. Thomas J. Pluhar.

PHOTO SUPPLIED BY JOE DALY



Bob Eisele of Leesburg, N.J. holding his state record largemouth bass.

Albert McReynolds is a happy and proud fisherman. He has accomplished what every striped bass fisherman hopes to catch—a new world and state record striper. When I saw him the morning after he caught the fish he was tired—very tired. And who wouldn't be? He had spent the entire night chasing his favorite game fish and had done battle with one fish in particular that could only be described as enormous as it hung from the scales for all the world to see and admire. (See front cover.)

Al's remarkable achievement actually started more than 20 years ago when he first began fishing for striped bass in earnest. Since that time when he was in his teens, he has fished for bass at every opportunity, often fishing five, six, or seven nights a week. Over the years he has scored some good catches, even winning the Atlantic City Striped Bass Derby a few years back, but no fish came close to this record bass. His previous heavyweight was a striped bass of 39 lbs.

According to Al, last season had been one of his better years and while many bass anglers bemoaned the lack of fish, Al simply kept up his usual pace and limited out more than once during the year.

His fishing territory stretches from Brigantine Beach through Ventnor, Margate, Longport, and down to Absecon Island. He fishes from both the local jetties and the surf. He's a plug fisherman and among his arsenal of favorite lures are the Rebel, Creek Chub, Polaris and Hopkins, but he fishes with a wide selection of other lures to suit the fishing occasion and changing conditions. When it comes to live bait his preference goes to live eels, bunker and mullet.

His record night began while jetty jumping with his fishing buddy, Pat Erdman, a fellow member of the Wet Ghost Striper Club and almost constant fishing companion. At first it was Pat's night. He scored on four bass that night before seeing the big fish. Al had dropped one fish and was getting the feeling of "What am I doing?" as his buddy's rod bent under the strain of another fish. While Pat was hooked up he saw the tail of a truly large fish and called out to Albert, "There he is—a



# Caught in New Jersey

big tail. It's a big fish!"

Moments later Albert saw his plug get eaten by the big fish and the long battle began. The hook-up occurred at about 10 PM and Al went toe-to-toe with the stubborn, hard fighting bass for nearly two hours before finally landing it at 11:43 PM.

Tired, but not ready to leave good fishing, Al and Pat stayed the night and continued to fish. The northeast wind was building swells up to eight feet and there were lots of mullet pushed against the rocks at the Vermont Avenue jetty—conditions were just what Al liked. Before the next morning arrived, he had caught three more bass and one weakfish.

"Some of the swells were so big they were up to our knees, but everything was just right, we knew there were bass there and we had to stay," said Al and the proof as he said that was on the scales and could not be denied.

The next morning, weary, but pleased, Al weighed his fish at Campbell's Marine Bait & Tackle. The fish was obviously a heavy-weight, but he was pleasantly surprised as the scales steadied at 78 lbs. 8 oz.—a possible world record catch!

That very same morning he filled out the application for an IGFA record and the vital information was shipped off to the International Game Fish Association.

His application was recently approved and to top it off, this record bass entitled him to a prize of \$250,000 offered by ABU-Garcia Fishing Tackle to the first angler to break the IGFA record for this species.

At 53 inches in length the striped bass was not unusually long, but with a girth of 34 inches and a head that looked immense, the deep belly made the difference in the overall weight.

Al's tackle consisted of a Penn 710 spinning reel, a Shimano 10-foot surf rod, 20 lb. Ande line and a Rebel swimming plug.

It was the bass of a lifetime and one that Albert McReynolds will surely be proud of. It is also a fish that every other bassman will be aiming at as the quest continues for a new record fish. Al's bass should be a tough one to beat, though. **N**

## NEW JERSEY STATE RECORD SALTWATER SPORT FISH

Species	Angler	Year	Lb.	Oz.	Where Caught
Albacore	Jack W. Moody	1981	74	15	Spencer Canyon
Amberjack, greater	Russell M. Smith	1979	39	0	Off Wildwood
Bass, black sea	Gregory Ivancich	1982	6	5	Off Beach Haven
Bass, striped	Albert R. McReynolds	1982	78	8	Vermont Ave. Jetty-A.C.
Bluefish	William Di Santo	1971	23	14	Off Cape May
Bonito, Atlantic	Frank G. Lykes, Jr.	1945	13	8	Off Sandy Hook
Cobia	Eli P. Hitchner	1972	45	2	Delaware Bay
Cod	Joseph Chesla	1967	81	0	Off Brielle
Croaker, Atlantic	Frederick C. Brown	1981	5	8	Delaware Bay
Dolphin	W. Scott Smith, Jr.	1974	63	3	Baltimore Canyon
Drum, black	John R. Tumbelty	1980	102	12	Delaware Bay
Drum, red	Bud K. Whitley	1978	51	9	Delaware Bay
Fluke	Walter B. Lubin	1953	19	12	Off Cape May
Flounder, winter	Anna Kelleman	1981	3	4	Barnegat Bay
Mackerel, Atlantic	Robert C. Hlavaty	1982	3	10	Manasquan Ridge
Marlin, blue	Francis Janusz	1982	935	0	Hudson Canyon
Marlin, white	Michael Marchell	1980	137	8	Hudson Canyon
Pollock	Philip Barlow	1964	43	0	Off Brielle
Porgy	Victor F. Rone	1976	5	14	Delaware Bay
Sailfin	John S. Denworth	1982	34	12	Wilmington Canyon
Seatrout, spotted	Bert Harper	1974	11	2	Holgate, surf
Shad, American	Rodger G. West	1967	7	0	Great Bay
Shark, blue	Bill Tybor	1978	241	0	Off Brielle
Shark, dusky	David B. Arbeitman	1981	513	0	Off Toms River
Shark, hammerhead	Raymond Ball	1982	228	0	Mud Hole
Shark, sandbar	Karen Brethauer	1981	32	6	Off Barnegat Inlet
Shark, shortfin mako	F.F. Glockner	1979	483	0	Off Point Pleasant
Shark, thresher	Michael S. Tevis, Jr.	1980	583	0	Mud Hole
Shark, tiger	Joseph Begnaud*	1982	812	0	Off Barneget Light
	Malcolm D. Brown*				
Shark, white	Dr. Joseph J. Rabb	1980	345	0	Off Point Pleasant
Spearfish, longbill	Arthur W. Ponzio, Jr.	1980	16	0	Spencer Canyon
Stargazer, northern	Carmine R. Freda	1982	2	8	Surf, Beach Haven
Swordfish	Edmund Levitt	1964	530	0	Wilmington Canyon
Tarpon	James J. Klaczekiewicz	1982	53	0	Off Sea Bright
Tautog	R.N. Shearer	1954	21	6	Off Cape May
Tuna, bigeye	Frank W. Janiec	1978	350	0	Hudson Canyon
Tuna, bluefin	Royal I. Parsons	1981	1030	6	Off Point Pleasant
Tuna, skipjack	William C. Temple	1981	7	8	Off Beach Haven
Tuna, yellowfin	Wayne Brinkerhoff	1980	290	0	Hudson Canyon
Tunny, little	Mark A. Niemczyk	1977	24	15	Off Sea Bright
Wahoo	Charles Dooner	1976	114	0	Off Atlantic City
Weakfish	A. Weisbecker, Jr.	1952	17	8	Mullica River

\*Co-holders

## NEW JERSEY STATE RECORD FRESHWATER SPORT FISH

Species	Angler	Year	Lb.	Oz.	Where Caught
Bass, largemouth	Robert A. Eisele	1980	10	14	Menantico Pond
Bass, rock	Eric Avogardo	1982	1	5	Saddle River
Bass, smallmouth	Earl H. Trumpore	1957	6	4	Delaware River
Bass, striped	Elwood W. Bernat	1978	27	12	Union Lake
Bluegill	Michael P. Inzetta	1982	2	3 1/2	Lake Illiff
Bowfin	Ronald A. Smith	1982	5	9	Little Mantua Creek
Bullhead, brown	Robert Dorf	1966	22	15	Spring Lake
Carp	John A. Pisa	1971	41	2	Delaware River
Catfish, channel	Howard Hudson	1978	33	3	Lake Hopatcong
Catfish, white	Lewis Lomerson	1976	10	5	Raritan River
Crappie, black	James A. Blackburn	1980	3	8	Farm pond, Hunterdon
Crappie, white	Todd Meekins	1982	1	12	Farm pond, Toms River
Muskellunge	Albert Conti	1982	37	8	Delaware River
Muskie, tiger	William T. Sedenger	1982	15	6	Spruce Run Reservoir
Perch, white	Robert Huber	1950	2	8	Lake Hopatcong
Perch, yellow	Charles C. Abbott	1865	4	4	Crosswicks Creek
Pickereel, chain	Frank McGovern	1957	9	3	Lower Aetna Lake
Pickereel, redbfin	Gerald A. Humphrey	1982	1	13	Lake Assunpink
Pike, northern	Herb Hepler	1977	30	2	Spruce Run Reservoir
Salmon, Atlantic	John A. Mount	1951	8	0	New Wawayanda Lake
Shad, American	J. Edward Whitman*	1978	9	4	Delaware River
	Michael P. Shope*	1982	9	4	Delaware River
Sunfish, pumpkinseed	Eric Avogardo	1982		6	Sally's Pond
Trout, brook	George J. Hornung	1956	6	8	Lake Hopatcong
Trout, brown	Howard Devore	1964	16	11	Greenwood Lake
Trout, lake	Dr. Thomas J. Pluhar	1982	9	11	Round Valley Reservoir
Trout, rainbow	Joel Rosenstein	1979	8	13	Round Valley Reservoir
Walleye	Stanley Norman	1934	12	13	Delaware River

\*co-holders

New Jersey Division of Fish, Game and Wildlife  
CN 400  
Trenton, New Jersey 08625

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N.J. in Focus:

# Twilight Time in New Jersey

by Charles and  
Denise Mueller

Manhattan View from Weehawken.

PHOTOS PROVIDED BY AUTHORS

*For many who simply pass through our country's most densely populated state, New Jersey is the rail link between Philadelphia and New York . . . or the Turnpike from New York to Wilmington and points South . . . endless factories, warehouses, refineries. But those who stray from the well-beaten path of the Turnpike can discover a Garden State of amazing diversity.*

Much of that diversity may be seen at its most impressive as the sun sinks below the horizon and dusk spreads its magic mantle. Our many years of night photography have not diminished its attraction for us. We recall the flashing beam of a lighthouse flickering through a frame of scrub pine, the twilight glow of a roadside farmhouse, the dazzling lights of a lively seaside resort, the sheen of snowclad hillsides by moonlight, carnivals, festivals, county fairs, seaports, refineries, rail terminals. Vantage points along bordering rivers provide spectacular views of New York City and Philadelphia.

If you are a "dawn-to-dusk" photographer, why not try some "dusk-to-dawn" photography and add variety to those memorable moments you preserve on film? We often take comparison pictures: favorite subjects pictured first by day, then at night. An appealing daytime subject may be even more intriguing after sunset. You might spend an after-

noon at one of your favorite spots—taking some daytime pictures while previewing a potential night subject, selecting vantage points, and determining which lenses to use. You might consult a newspaper or weather report for the exact time of sunset. Arrive early at your chosen site so your equipment will be set up and ready to take advantage of that fairly brief period of twilight time when the best photographic results may be obtained.

## EQUIPMENT AND ACCESSORIES

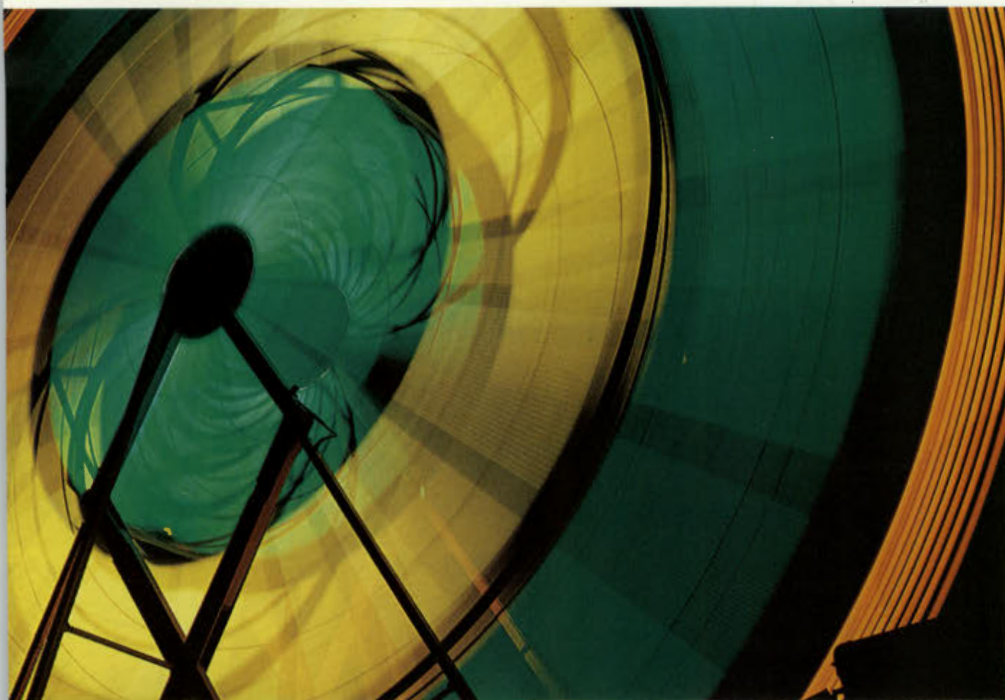
A tripod-mounted camera with a cable release is the minimum equipment for good night photography. Any camera with provision for bulb (B) or time shutter setting is suitable. We use a 35mm single-lens reflex with shutter speeds ranging up to one second and B. Different focal length lenses are helpful but not essential. Zoom lenses are most convenient for obtaining a variety of pictures from a single subject. A tripod

is indispensable to support the camera for the necessary time exposures. A 12- or 18-inch cable release will operate shutters with a minimum of vibration. Optional equipment could include a lens shade to protect from overhead or sidelight flare, an exposure meter with a low-light booster baffle for twilight and floodlit subjects, a watch with a sweep second hand for accurate time exposures, a notebook and pencil for recording pertinent data for later reference, a penlight for making camera adjustments, conversion filters, some waterproof material to protect equipment in bad weather, and some flash equipment. We use a battery-operated thyristor electronic flash and carry an extra supply of batteries.

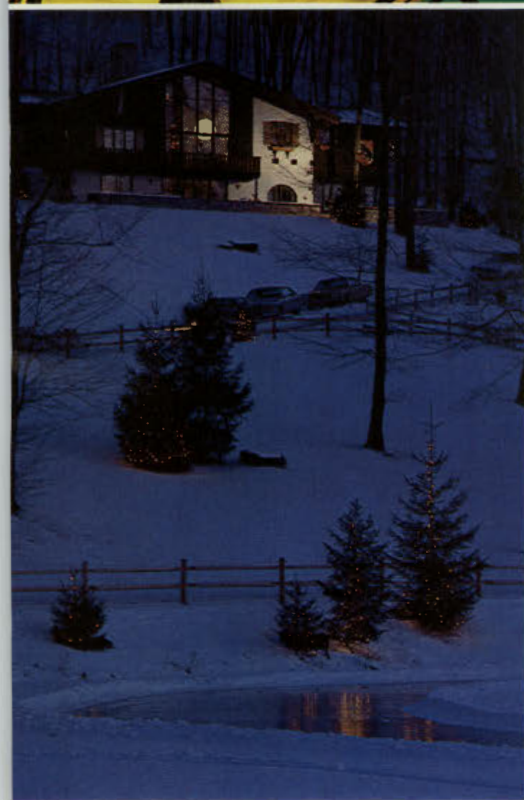
## FILM

We suggest a supply of daylight and tungsten Kodachrome and High Speed Ektachrome. We prefer the daylight Kodachromes (ASA 25 and 64) for twilight pictures because of their extra sharpness and more spectacular results. Other daylight films may produce strange color casts when used for twilight and night lighting. When we plan on taking pictures from sunset well into the night, we use a tungsten film, Kodachrome ASA 40, film #5070,





**Above—Carnival Wheel, Morristown.  
Left—Holiday Lights, Mendham.**



type A. A tungsten film can be converted for twilight use with a #85 conversion filter at a minimum loss of film speed. When daylight is completely gone, simply remove the filter. We frequently use the tungsten film at twilight without a filter. It produces a cold blue hue that will compliment pictures with water themes. The High Speed Ektachrome films,

ASA 160T and ASA 400 Daylight, are ideal as "action stoppers" in brightly lighted places to capture flashing signs, reflections, and sporting events. They also give mobility under adverse weather conditions.

#### **EXPOSURE TECHNIQUE**

Night pictures permit greater exposure latitude than daylight pictures. Very few subjects will require extremely critical exposures. Because of subject and lighting variations, there is no "easy way" to good night photography. Exposure techniques can vary depending on your specific equipment, personal preference, and lighting conditions. The most important difference is use of the time exposure.

One basic technique will ensure accurate exposures in almost every instance—*bracketing*. This simply means varying time exposures at a predetermined lens aperture. Under low-light conditions, it is easier to vary time exposures than to make constant lens aperture changes. When lighting is low and beyond a meter's recording ability, predetermine your lens aperture. Make your exposures in sequence, starting with the shortest, and doubling the exposure each time (for exam-

ple, 2-4-8 seconds). If possible, make notes of subjects when a meter cannot be used. Record the type of film, frame number, exposure, weather conditions, location, etc. Should you want to return for a "retake," those notes will be a useful reference.

Metering is suggested for all subjects outlined against a twilight sky, for floodlit subjects, and for window displays. A basic exposure may be obtained with a meter such as the Gossen Luna-Pro or with a regular meter equipped with a low-light booster baffle. The middle range of low readings on these meters will give the most satisfactory results. Follow the same bracketing procedure. Bracketing exposures also overcomes the film reciprocity factor, an increasing disparity between indicated exposure time and actual image density after two seconds of exposure.

New Jersey has excellent subjects for twilight-night pictures. Among them are the waterfront, airports, and rail terminals. The vantage point from which we take our pictures can often be as important as how we take them. There may be special restrictions or safety considerations. A location near a refinery, an aged pier, the edge of a cliff, a rail siding, a pile of debris, or a clump of poison ivy could be hazardous to your health.

At the waterfront, most larger ships are securely berthed, and long exposures (10 to 60 seconds) can be made. However, the passage of small craft in adjacent waters could cause the larger ships to roll and ruin a picture. Normal and wide-angle lenses are most useful at dockside. Make sure your tripod does not obstruct vehicular or pedestrian traffic. Rain, snow, and fog can enhance a picture and usually require no exposure compensation.

City skylines are at their most dramatic in the winter months, when dusk comes early. If your preference is to preserve architectural outlines, any time of year will do. An afterglow or twilight sky adds impact to any subject outlined against it. For the best results, these themes should be pictured during the *Transitional* time, between sunset and total darkness; otherwise, the result will be blobs of light against a blank





**Clockwise—Fireworks in the evening Mendham sky. Newark skyline at Christmas time. Cherry blossoms in Belleville. Waiting at the train station in Morristown.**

background, with outlines hopelessly lost.

We always select *one view* from *one vantage point*. Our accessory and zoom lenses will permit a variety of views without changing tripod positions. The perfect lighting will last about 10 minutes. During that time, an exposure-meter reading of the sky above our subject will determine basic exposure. Remember that the middle range of low readings on our meter indicates the best possible exposure. Bracketing three exposures is usually sufficient.





## HOLIDAY THEMES, FOUNTAINS, CITY STREETS

Unless a twilight sky is a backdrop, we prefer to use a tungsten film. However, if you prefer warm colors, the daylight Kodachromes may be used in the city with dramatic results. Treat yourself to an adventure in light at a special festival, on the boardwalk or a city street. Kodachrome exposures will range from  $\frac{1}{2}$  to 2 seconds at small lens apertures. Rain, snow, and wet streets offer additional subjects for the enthusiast who braves the elements. Slightly longer exposures, 2 to 4 seconds, will be required to capture reflected light on wet pavements. Try to eliminate as much white light as possible. Whites seem to wash out when other colors are perfectly exposed.

Capture the flowing colors of a floodlit fountain with a short time exposure. Any type of film will give satisfactory results. Choose a vantage point where windblown spray will not strike the camera. Consider your long or zoom lenses for this. Figures silhouetted against the spray of the fountain will add perspective and dimension. A piece of household screen (16 squares to the inch) used like a filter in front of the lenses will enhance background lights around the fountain. The intervals at which most fountains change colors are more than adequate to record each color on film. Exposures on Kodachrome will range from 3 to 8 seconds with a lens aperture of F5.6. The brightest colors require the shortest exposures.

The magic of night photography need not be restricted to time exposures. For those who prefer not to be encumbered with tripods, the answer is the high-speed films, ranging from ASA 160 to 640. The shutter speeds for hand-held exposures could range from  $\frac{1}{30}$  of a second upward. It will be determined by the lowest shutter speed at which your hand is steady enough to produce a sharp image. It will also depend upon film speed, lighting conditions, and the lens aperture required for depth of field. Your exposure meter can be a guide, but bracketing is still recommended.

When traveling "light at night," our

equipment is a camera with normal 50mm lens, a 24mm wide-angle lens, and an exposure meter. With the high-speed films, we can stop animation, capture a variety of lighting effects, reflected colors on rainswept streets, and human interest.

## FIREWORKS

Fireworks patterns are unpredictable, but their exposure technique is quite simple. We prefer a slow film to record the trails of the bursting rockets as they fall. Set up your tripod at a vantage point free of the crowd. Focus on infinity and aim your lens at a sky area where the rocket bursts are most likely. Lens aperture should be F5.6 or F8 for the slower films (ASA 25 and 64), with adjustments for faster films. Use a cable release to open the shutter, set at B, just before the burst. Keep your shutter open for three to five small bursts or two large ones—sometimes they come together—close the shutter, and advance to the next frame.

Long lenses or zoom lenses will bring in the center portions of the large bursts. Two center portions can make a spectacular picture. Prism lenses will create many images from a single burst.

## CARNIVALS


The moving wheels at carnivals and amusement parks offer a kaleidoscope of color patterns. Stationary objects photographed with a slow tungsten film will require exposures between  $\frac{1}{2}$  and 3 seconds at lens apertures of F5.6 or F8. When in motion, the wheels and rides will be a challenge in constantly changing patterns. The lights will retrace their images on the film and require very short exposures at small lenses apertures even with the slow films such as Kodachrome 25 (F11 at 3 seconds). For a more realistic presentation, you might prefer to try hand-held exposures with high-speed films.

## MOONLIGHT SNOWSCAPES

A full moon shining on snow-covered ground reflects sufficient light for excellent pictures. Pathways and

trails make useful "leading lines," and snow-encrusted streets and brush will add depth and dimension. For moonlit snowscapes, the ideal results will be obtained the night *before* and the scheduled night of the full moon at a time when the moon is 45 degrees, or higher, above the horizon. Remember, these are pictures *by* moonlight, not *of* the moon. The moon itself requires much shorter exposures, such as F5.6 at  $\frac{1}{50}$  on Kodachrome 25.

We have used both daylight and tungsten film successfully, but prefer the cold blue hue of the tungsten. Under the conditions already mentioned, these films have a very wide exposure latitude. On Kodachrome 25, exposures were from 5 to 6 minutes at lens aperture of F5.6. On Kodachrome 40 film 5070, type A, exposures ranged from 90 seconds to three minutes at F4; on Ektachrome 160 tungsten, one to two minutes at F5.6.

Don't let your camera retire at sunset. Take it out on some night photography expeditions. We're sure you'll find it fascinating and rewarding. 

## THE SAVICH FARM SYMPOSIUM

The Archaeological Society of New Jersey is presenting an important educational program for the people of New Jersey. The Savich Farm Symposium will be held May 22, 1983, at the Cherokee High School in Marlton, New Jersey 2 to 4 pm. The free program will be cosponsored by the Evesham Historical Society.

The Savich Farm is a late archaic village site dating back to 2300-1970BC. This rare site has the earliest cemetery of prehistoric people known in all of the Midlantic region. The site was continually occupied by Native Americans until deeded by the last Indian King to white settlers. The Farm is now on the National and State registry.



# The Lonely Vigil—New

By John Chitester

PHOTOS BY AUTHOR

The tower swayed from the sudden gust of wind. Part of the blast blew in one window, and out another. Several flying ants and a wasp, deposited by the breeze, investigated their new surroundings. One ant landed on a page of the Bible that the occupant was reading.

The reader looked up. His eyes fixed on a point in the distance. Slowly he revolved, his eyes scanning an ocean of bristle-topped pine trees.

"No Smoke."

His new neighbors were then cordially welcomed.

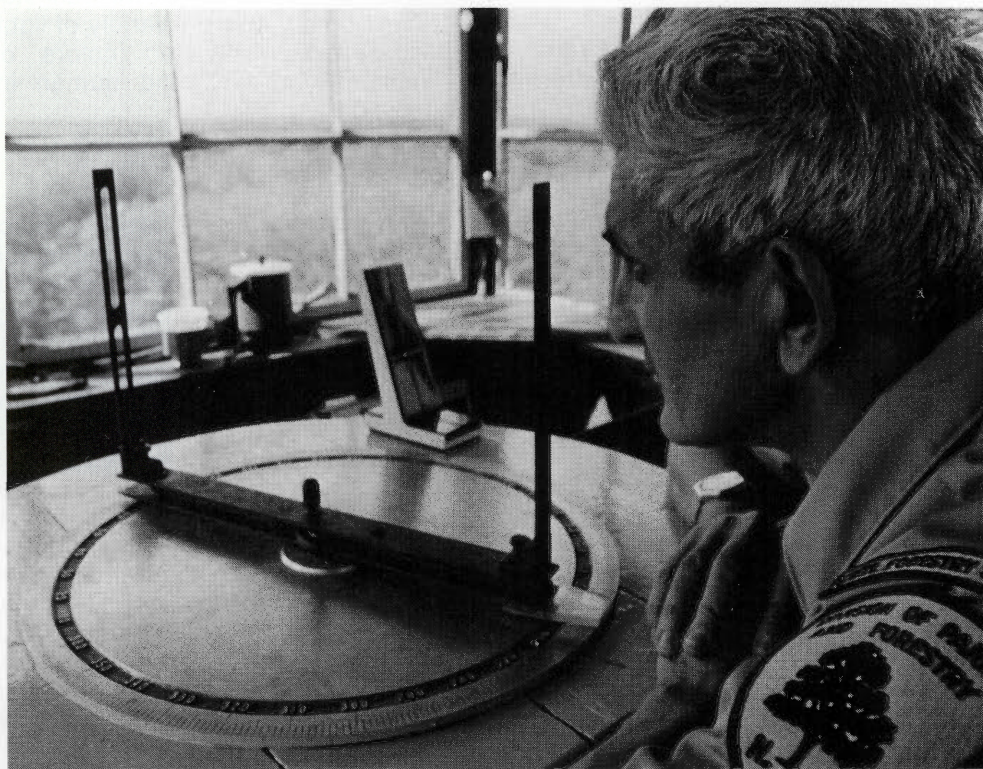
Forty-six year old Ed Kasprzak commands a view of approximately 400,000 acres of the New Jersey Pine Barrens. His office is a seven and a half foot box 97 feet above Lebanon State Forest. It is one of the 21 fire towers manned by the State Bureau of Forest Fire Management which is responsible for protecting 2.7 million acres statewide.

For the past eight years, the retired army sargeant has been an observer at Lebanon. Everyday he climbs the 108 steps which brings his view to 234 feet above sea level. The panorama is breathtaking. On a clear day the observer can glance in a westerly direction for 30 plus miles and spot William Penn riding ramrod on downtown Philly.

This is a far cry from 1910, when the township firewardens would scramble up rungs on a tripod of pine trees to scan the horizon for plumes of woods smoke.

Kasprzak normally uses only his eyes for observation. However, when there is a haze or if there is doubt, he relies upon a pair of U.S. Navy binoculars that are standard issue to all Fire Observers.

When a fire is sighted, the Fire Observer aims his alidade in the direction of the smoke. An alidade is a rotating sighting device mounted on an aluminum azimuth circle in the center



Kasprzak sights through his alidade to detect the exact bearing of the smoke. He then refers to his reference map.

of the cabin. The circle is marked off in 360 degrees with zero and 360 degrees placed at true north. A vertical strand of wire at the opposite end of the alidade is lined up with the object being viewed to pinpoint its exact location and bearing from the tower. Smoke due west of the tower would be reported as 270 degrees.

Next, he refers to a topographical map of the region. Fire Observers are issued U.S. Geological Survey Maps of their surrounding area. Ed, however, likes to use an old army map because he is familiar with it and he feels it is more accurate and detailed because it uses the metric system.

The map has an azimuth circle, centered at the site of the tower, which coincides with the alidade's bearings. A string is connected to the center of the circle. The Observer stretches the string across the map until it reaches the correct bearing. He estimates the distance to the fire to determine its approximate location and notifies the Section Firewarden in the section the fire is located in by VHF radio.

Fire Observers in nearby towers also monitor the call. They go through the same procedure of determining the location of the fire from their towers. When two or more towers report their bearings, the readings can be "crossed" on a map, and the exact location of a fire can be pinpointed by the intersection of two or more lines. This procedure is known as triangulation.

Accuracy is a must in pinpointing the fire. If a bearing is off by one degree, it could mean up to a one mile mistake in distance, ten miles from the tower. Sighting is particularly difficult at the corners of the tower. However, the alidade has a special pin which can move it to one side or the other of a corner post so that a more accurate bearing can be taken. A one mile difference may not seem like much, but it will delay the initial attack upon the fire. Minutes may be critical especially in a fuel type as hazardous as the New Jersey Pine Barrens.

Kasprzak maintains radio contact with the Fire Warden. He will dispatch additional units or request it through



# Jersey Fire Observers

the Division Office if the Warden feels the need for backup equipment, aerial assistance, or other necessities in suppressing the fire.

Lightning is responsible for about one percent of the fires in the Pine Barrens. The majority are accidentally or intentionally set by humans. Most fires occur around developments.

Ed performs a secondary duty which is nearly as important as observing and reporting fires. Daily, at 1400 hours, he takes weather observations, including wind direction and speed, cloud cover, maximum and minimum temperature, wet and dry bulb humidity, fuel stick weight, and numerous other readings. He transmits these to the Division Of-

are banned during periods of high fire danger.

Lebanon Tower is one of two designated fire weather stations in Division B. The other is located at Lakehurst Naval Air Station.

Kasprzak picked up a lot of "old timer's" information from the late Charles "Eddie" Parker, who spent 31 years in the Forest Service as a lookout. Parker's wife, Marie, explained that he was the first Fire Observer stationed at Apple Pie Hill, and served there until he retired in 1974. He originally began at the Big Hill Tower situated near what is today called the Big Hill Landfill.

In 1950, the Fire Service moved the 60-foot tower, without dismantling it altogether, to its current location on Apple Pie Hill near Chatsworth. Apple Pie Hill, at 209 feet above sea level, is one of the highest hills in South Jersey.

Marie Parker related how "Eddie" was earning seventy-five dollars a month back in 1943. He was one of the first to spot the disastrous fire that started near Sheep Pen Hill Road in 1963.

The spring of 1963 was one of the driest on record, and on the weekend of April 20th and 21st, a series of fires destroyed 183,000 acres of woodland in the South Jersey area. The fires destroyed 186 homes, 197 outbuildings, claimed seven lives, and caused damages to improved property of 8.5 million dollars. The fire that started near Sheep Pen Hill was the largest, burning 76,000 acres before being brought under control. It burned a distance of 22 miles before being stopped at the Garden State Parkway.

During the 1954 Chatsworth fire which burned 20,000 acres, Eddie Parker remained at his station atop Apple Pie Hill until the fire cut out his communications. That's when he decided to "cut out."

Kasprzak remembers several years ago, during a dry period, that he remained aloft in 60 m.p.h. winds until it began to rain. The storm was an oncoming hurricane.

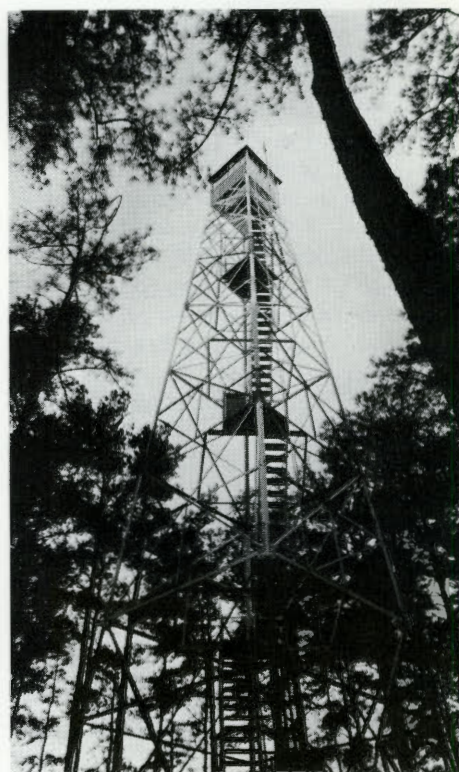
As far as lightning goes, Kasprzak doesn't want to talk too much about that subject. Even though the towers are grounded, a bolt once destroyed his radio communications.



Kasprzak pauses during his daily trek up 108 steps to his "office."

fice at Lanoka Harbor where fire danger indexes are computed and transmitted back to the Field where they are used to set *class day* and *manning class*. These indicate the potential fire day and determine fire restrictions for the general public and the level of readiness of firefighting personnel.

The Rangers at Lebanon State Forest depend on Ed's readings to determine whether campfires should be allowed. The fire danger scale ranges from 1 (low) to 5 (extreme). Campfires



The Lebanon Tower is located near headquarters at the Lebanon State Forest on Route 72.

Insects are another problem facing Fire Observers. Flying ants, deer flies, hornets, wasps, and yellow jackets are just a few of the visitors that an observer must contend with. However, Kasprzak feels a little relieved because other lookouts sometimes contend with bats.

Other forms of visitors are welcomed though. Everyday, from 8 a.m. to 5 p.m., the towers are open to the public. And, for you backpackers out there, Lebanon, Apple Pie Hill, and Batsto Lookout Towers are within a pine cone's throw of the Batona Trail.

It is a lonely and isolated job. Day in and day out, scanning the horizon for that first puff of telltale smoke. What adds up to seconds of excitement spotting and coordinating fires must be balanced against hours of solitude.

Besides reading the Bible, Kasprzak spends time playing an old C-note harmonica that accompanied him to 'Nam or rounding up maverick pennies for his collection. But Ed doesn't care. He knows that he is going to heaven. He's 234 feet closer to it already. **NJ**





# START CATCHING

Someone said recently that his favorite fish was the one on the end of his line. I guess that's true for just about all of us, regardless of age or expertise. And it's also true that if you scale down your tackle to match the size of the fish you're after, any fish will be both more challenging and more fun. But is there anyone whose pulse doesn't quicken when he has a bigger fish on? What's that you just said? You don't have to worry about that because there aren't that many fish, let alone big fish, here in Jersey? Well, lucky for you, you're wrong. There are plenty of fish, including a respectable number of large bass and pickerel, in just about every "fished-out" lake and pond in this state, and contrary to what you might think, they are not that difficult to catch. In fact, if you use the rig and methods I am about to describe, you can start off with a better shot at largemouth bass and pickerel than three-fourths of the fishermen wetting a line on any given day.

The secret? In general terms, we could say, "natural presentation," which in fishing jargon means making your bait or lure appear as if it is something natural to the fish's environment. But we can be even more specific. For our purposes, let's say that natural presentation means making the bait look and act as if it is something common to the fish's experience right up until the moment the fish is hooked.

That makes sense, doesn't it? Yet too many fishermen fail to translate this idea into concrete terms. Think of how many fishermen, for example, always clamp a heavy sinker or at least a few big split-shot onto their lines. This really doesn't make sense when you stop to think about it. Suppose you're hungry and you stroll over to a plate of cookies. If you pick one up and it's as heavy as lead, you'll probably drop it out of sheer surprise. It's no different with fish. They know, at least as well as you do, how heavy a worm feels when

they pick it up off the bottom. After all, how many times have you been underwater and picked a worm up off the bottom? That's what I thought. So keep this idea of natural presentation in mind as we discuss methods and as we list the materials you'll need to make the rig.

To start, you'll need the following: premium-quality line in eight-pound test; some size-four beak, Aberdeen, or bait-holder hooks (made by Mustad or Eagle Claw) in a bronze finish; some one-quarter-ounce egg-shaped or bullet-shaped slip sinkers (the kind with the hole through them); a pair of pliers; and some split shot (or American-made black barrel swivels) large enough so that they cannot pass through the hole in the slip sinker.

Now to tie the rig: First, slip the end of your line through the slip sinker and move the sinker up the line about three feet. It may be easier at this point if you place the sinker on the floor or ground, so that the sinker doesn't keep sliding on the line. Second, tie a hook to the end of the line. (If you don't know any reliable knots, you should know that some line manufacturers include directions right in the package. The shop owner or salesman will be glad to point these out to you.) Third, use the pliers to pinch on a split shot about two feet above the hook. In pinching on the split shot, be careful not to "bruise" the line. One or two good squeezes should do it. If you can tie a good knot, you can skip the split shot altogether and replace it with a barrel swivel. In order to do this, you will have to cut the line first. Be sure to leave more than two feet of line attached to the hook, so that after you've tied on the barrel swivel,

you'll still have two feet of line between the barrel swivel and the hook.

The rig just described accomplishes a number of things. First, the rig puts the bait near the bottom, which is where most of the fish are most of the time. Second, when a fish hits the bait (which we'll get to in a minute), he feels no resistance because he doesn't have to drag around a big weight or bobber. And third, because you are using lighter line and smaller hooks, the bait appears natural to the fish.

At this point, someone may be raising his eyebrows and saying, "I can go along with everything but the last part. From what I've read, that line may be all right for pickerel, but it's just too light for bass." Well, I simply don't agree. Most fishermen, especially novices, fish with line that is much too heavy. I'm not talking about what is or isn't sporting here; I'm talking results. There's no doubt in my mind that you'll get more hits (and therefore, more fish) on lighter line—especially on hard-fished waters. Again, natural presentation is the key.

And that is also the reason I strongly recommend using live shiners for bait. Yes, worms are okay, but bass, and especially pickerel, prefer shiners. A 2½-inch shiner is about right for most bass and pickerel. Hook them through the lips (from bottom to top) or through both eyes. And when you cast, just lob the bait out gently. You want the bait to remain alive (and on the hook, I might add!).

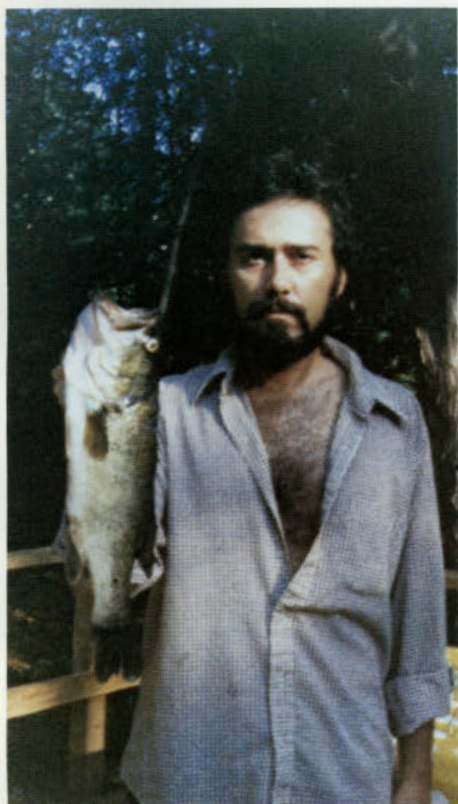
Once you've made your cast, you fish this rig with your reel in free spool (bail open). To prevent any more line from coming off your reel, you either gently press the line against the rod just above the reel seat, or you hold the line in place with your finger on the spool. When a fish strikes your bait, you take your finger off the line. (You can also buy a rather inexpensive device, called a Strike-Guard, which will hold your

By Dan Collinson

PHOTO PROVIDED BY AUTHOR



# BASS AND PICKEREL



Author after taking a "limit catch" of bass. All other fish were released.

line in place until the strike.)

How do you know when you have a strike? Well, besides the obvious pull or tap, if you watch your line at the point where it enters the water, often you'll see the line start to move to one side. When any of these things happen, simply lower rod-tip, take your finger off the line, and gradually give the fish some slack line, being careful to avoid the line's tangling with itself or with the reel. It may sound tricky, but it's really very simple. From the time of the strike, give the fish a slow count of ten, so that he has plenty of time to mouth the bait. Then, engage your reel (close the bail), aim your rod directly at the fish, and an instant before the line goes tight, set the hook.

Always set the hook with a powerful upward sweep. Your rod should be at the twelve o'clock position,

arms extended, elbows bent. Don't set the hook timidly; more fish are lost because of faulty hook-setting technique than for any other reason. And don't worry about breaking the line—that's what your reel has a drag for. That drag should be set so that someone can pull line off the reel while simultaneously putting a good bend in the rod.

Once you've set the hook (if in doubt, set the hook a second time), you are ready to "play" the fish. To do this, you simply lower your rod to the eleven o'clock position, forcing the fish to fight against the rod, rather than against the line and reel. Try to resist the temptation of reeling in immediately. Never try to reel in a fish that is fighting or taking line; this only twists your line, thereby weakening it. You only move a fish toward you when the fish is resting. To do this, you gently lift the rod and then lower it slightly, while at the same time reeling in. In other words, you only gain line on a fish by reeling in line at the same time that you lower your rod. Remember to keep your rod relatively high and the line tight at all times.

Now if the fish that hit your bait was a bass or a pickerel, fantastic, you've got him! True, bass and pickerel do hit a shiner somewhat differently (the sleek pickerel taking considerably longer to swallow the bait), but the time you waited before setting the hook is what makes the difference here. You can land a bass simply by placing your thumb in the fish's mouth and your index finger underneath his lower jaw and pressing your fingers together. This paralyzes the fish and you can lift him right out of the water. Shun this practice with the barrel-bodied pickerel, however; he has a maw full of sharp teeth. You can net him, or if he's not too big, just swing him gently onto the bank.

But let's say you've set the hook and come up empty. Not to worry. You have just completed a very successful experiment. Conclusion:

These are smaller fish, probably yellow perch or calico bass (crappies). For these fish, drop down to a size-eight hook and a one-and-a-half-inch shiner. You don't have to open your bail when these fish hit. When you feel a tap, just lower your rod-tip and extend your arms. This will give the fish all the slack line he needs. Then, an instant before the line goes taut, set the hook—hard.

Don't underestimate these smaller fish; they can give a good account of themselves and can be an awful lot of fun. And because they are school fish, when you find one, you'll usually find many others. In fact, you may want to fish for them right from the beginning. Just remember to scale down the rig accordingly.

When do you fish this versatile rig? Anytime, really. Because it presents a natural bait in a natural way, it is always effective. If you can, try to fish it near deep water—from a point of land or on the edge of a weedbed. This becomes important as we approach the very hot days of summer, but is not quite as crucial in the spring and autumn when fish make more frequent forays into the shallows.

There's one other thing you should know about this rig, and I mention it last because it's worth remembering. Don't think you're ever done fishing it when you're reeling it in. Some fish, particularly pickerel, have a nasty habit of savagely pouncing on a shiner when it's three feet away from you or as you're lifting it out of the water! In fact, you may try fishing the rig this way. That's why you want the shiner hooked in the front, so that it will swim through the water naturally. You can vary your retrieve from a slow crawl to a moderately-fast retrieve with occasional pauses. Just be ready!

Oh, one more thing. Don't fish this rig while sitting on an overturned bucket. It's bad luck. The best rig in the world won't help you if you've got bad luck.

Good Fishing!





# A Walk Through History

## Morristown National Historical Park

By Helen Brunet

Ford Mansion in the spring

PHOTOGRAPHS PROVIDED BY NATIONAL PARK SERVICE

Morristown National Historical Park celebrates its 50th Anniversary in July of this year. It was the first historic site in the country to be designated by Congress as a national historic park. It has since been joined in the exalted status by 25 other locations of historic importance throughout the country, including the relative latecomer Valley Forge; all are administered by the National Park Service, United States Department of the Interior.

During the three day long celebration, July 2-4, local residents and visitors will be reminded of Morristown's importance during the American Revolution and how the historic sites were preserved.

Although no battles were fought at Morristown during the eight years of the Revolution, and no British soldier entered the area except as a prisoner or a spy, Morristown served as winter quarters for General George Washington and the main body of the Continental Army during two crucial periods, the winters of 1777-78 and 1779-80.

Washington chose Morristown for strategic reasons. The small community of about 250 people was centrally located at the intersection of main roads leading into Pennsylvania and

the West, North to New York State and New England and to points south as well. Surrounded by hills and protected on the East by the Watchung Mountains and the Great Swamp, the area was easily defensible. In addition, there were good supplies of food and water as well as iron forges and a nearby powder mill for the manufacture of munitions.

During Washington's first visit during the winter of 1777-1778 he made his headquarters in the Jacob Arnold Tavern (no longer standing) located on the Morristown Green. His 5,000 troops were billeted around the town of 250 inhabitants.

In the 18th century, major troop movements and battles were planned for spring, summer and fall. Winter was a time for encampment; the rigors of the weather proved enough to con-



Picking currants on Wick Farm





**Cannon demonstration at Jockey Hollow**

tend with without meeting the enemy head on and winter snows made transportation almost impossible. That winter the army was plagued with food and clothing shortages, as well as a smallpox epidemic which filled the two nearby churches with sick. Washington ordered both soldiers and citizens inoculated with the new and still experimental smallpox vaccine.

Two and a half years later, in December of 1779, Washington again wintered in Morristown following the hard winter at Valley Forge the year before. This time Washington and his staff of 18 were headquartered at the home of Mrs. Jacob Ford, Jr., in Morristown. The elegant and spacious white Georgian mansion was the scene for Washington's meetings with members of the Continental Congress as well as foreign dignitaries. Alexander Hamilton, in his early twenties, was Washington's secretary; during this time Hamilton met the daughter of General Schuyler whom he later married. Benedict Arnold was a regular visitor before his defection. Surely one of the most welcome guests to the Ford Mansion was the 23 year old Marquis de Lafayette in May of 1780 who brought news from King Louis XVI of France that reinforcements of ships and men were on the way.

The main drama of that winter of 1779-80 took place at the Jockey Hollow Encampment where 10,000 troops were fighting the bitter cold in stone and log huts. This was the winter

of which legends are made: the hardest winter recorded in the 18th century. Twenty-eight snowstorms made food shortages acute. Fodder for the animals was in short supply and clothing was so scarce that many soldiers were unfit for duty because of insufficient clothing. Dysentery gnawed at the hungry men. Troops from Connecticut, Maryland, Massachusetts, New York, Pennsylvania, Rhode Island and New Jersey lived twelve men to a hut. Henry Wick's farmhouse became the headquarters for General Arthur St. Clair, Commander of the Pennsylvania Line. Wick's prosperous 1400 acres of woodland were decimated by winter's end, the trees used for hut building and fire wood.

When the American Revolutionary War ended at Yorktown, Virginia in October of 1781, Morristown returned to its small town life, oblivious to its soon to be priceless historic landmarks.

By 1933 when the Morristown National Historical Park was founded, the population of Morristown had grown to 16,000. How had it been possible over the years to save Washington's Headquarters and the land around it, the Wick House and many acres of the original farm and the entire Jockey Hollow encampment from the encroachments of an expanding population? One landmark which did not survive was the Arnold Tavern. It was moved from the Green in 1886 to make way for an office building and re-

located on Mt. Kemble Avenue where it later burned and had to be torn down.

Washington's Headquarters, or the Ford Mansion, almost met the same fate. The Ford family heirs thought it old fashioned and too hard to keep up; on June 25, 1873 it was put up for sale at public auction but saved by four men who bought it for \$25,000 to save it from destruction or subdivision. Miraculously, the four buyers, Theodore Randolph, William Lidgerwood, George Halsey and Nathaniel Halsted each came to the auction each with the intention of saving the house if possible, but the group purchase was a bargain struck during the bidding. At the time they decided to hold the property until the Federal Government would buy it from them at the same price. But in fact, they ended up forming the Washington Association of 500 interested members who bought stock to provide for maintenance costs and the Headquarters was run by them as a museum, open to the public without charge, until 1933.

Two other individuals were prime movers in the creation of the National Park at Morristown. Lloyd W. Smith, a later member of the Washington Association, had during the 1920's been buying up land which had formed the Jockey Hollow Encampment as it became available, to save it from development. Clyde Potts, the mayor of Morristown at that time, was greatly in favor of the federal government taking this area and Washington's Headquarters over, both to preserve them historically and because the Jockey Hollow Encampment formed part of the town's watershed.

When the United States government agreed to create an historical park, and Herbert Hoover signed the bill, the Washington Association turned over Washington's Headquarters and Fort Nonsense (once a fortified lookout during the war); Lloyd Smith deeded his lands as did a few other individuals and the 1700-acre Morristown National Historical Park was created.

A tour of the Park should rightfully begin at Washington's Headquarters on Morris Avenue in Morristown. Here a separate building houses the Museum with displays of colonial artifacts, an excellent weapons display, many Ford family possessions and an historical library. A twenty-minute ori-



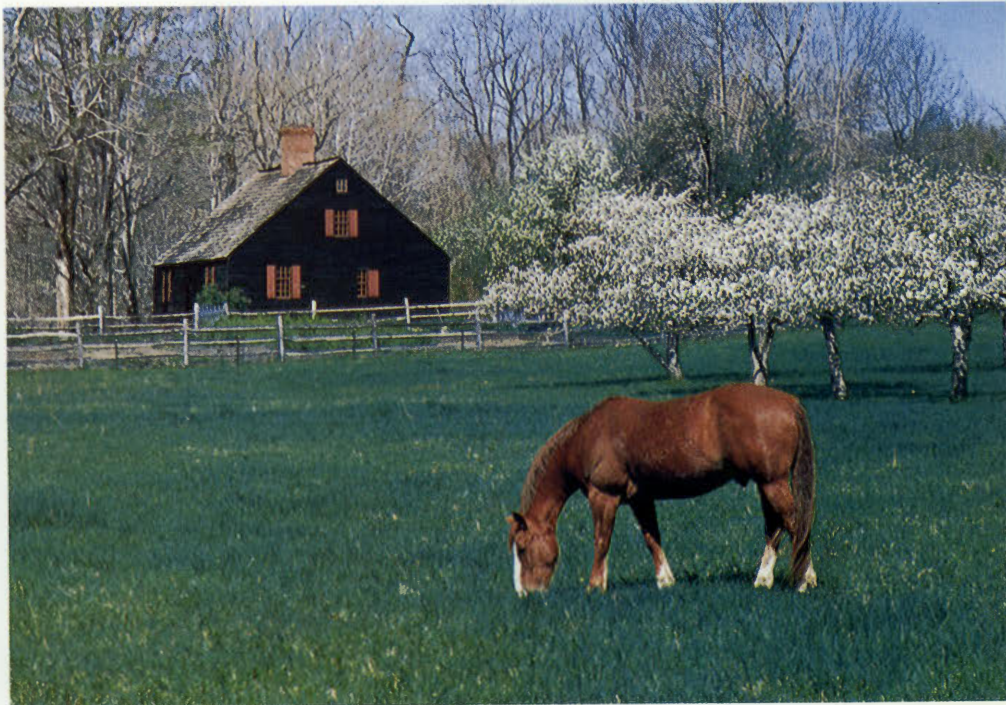
entation movie depicts life in the winter camp of 1779-80, drawing wry comparisons between the life lead by Washington and his officers and that of the soldiers camped in their icy huts.

A short walk leads to the Ford Mansion which is a delight, furnished as it might have been during Washington's stay, with some original pieces. It is a self-guided tour with interpreters available to answer questions.

Enroute to Jockey Hollow, it is worth a stop at Fort Nonsense, located behind the Morristown courthouse, even though it means navigating the traffic of the business district. Today nothing remains of the original fortifications of the lookout point, but it provides an excellent view and gives some idea of how naturally well fortified Morristown was.

The Jockey Hollow Visitors Center helps further to orient the visitor, with a ten minute movie, a full size cut away of a typical soldiers' hut and a large wall map. It is an easy walk from there to the Wick House and Garden. The restored farm house is well furnished in the colonial style. Again, it is a self-tour which allows time for study of the furniture and accessories; but a costumed guide is in attendance to answer questions.

One question which is always asked concerns Tempe Wick's horse is now more famous than George Washington's mount. The horse (named vari-



Wick Farm at Jockey Hollow

ously Beauty, Nutmeg, Bonnie or Colonel) which Tempe (short for Temperance) is supposed to have hidden (in either the well, the closet, under the bed or beneath the floorboards) from soldiers (Hessians, or British, or Tories, or just hungry Patriots), is probably just a legend. The Park Personnel say the story started with an article which appeared in *Harper's Weekly* sixty years after the Revolution and quickly spread. If it is true at all, it took place during a mutiny of the Pennsylvania Line in January 1, 1781, in protest over back pay and tenure of enlistment.

Adjoining the Wick House is the kitchen garden, faithfully reconstructed on the original garden, and maintained by the New Jersey Chapter of the American Herb Society.

The actual soldiers huts were pulled down soon after the War. The Park has reconstructed those of the Pennsylvania Line, near the Grand Parade.

True to its status as an historical park, research continues as new documents become available. Until recent years the reconstruction of a field hospital existed near the soldiers huts, but it was found that the hospital was located in Basking Ridge instead, and the reconstruction was dismantled. Until 1967 the actual location of the New Jersey Brigade was not known. The research of two local historians, Isabel Bartenstein and Fred Bartenstein, Jr.

located the encampment about a mile south of the Wick Farm; the Park Service was able to purchase the land and the historical area was extended.

There are no camping facilities in Jockey Hollow Park. Picnicking is allowed on the trails and tailgate picnics in the parking lot. Lewis Morris County Park, which adjoins the Historical Park does provide picnic areas.

A vast network of trails can keep hikers and cross-country skiers busy all day; maps are provided at the Visitor's Center. The Visitor's Center and the Wick House are accessible by wheelchair as is the Washington Headquarters Museum which has a ramp; the Ford Mansion is not equipped.

Admission to Washington's Headquarters is 50 cents for those aged 16 to 63; Wick House and the encampment area are free. Both buildings are open from 9 a.m. to 5 p.m. daily except Thanksgiving, Christmas and New Year's Day.

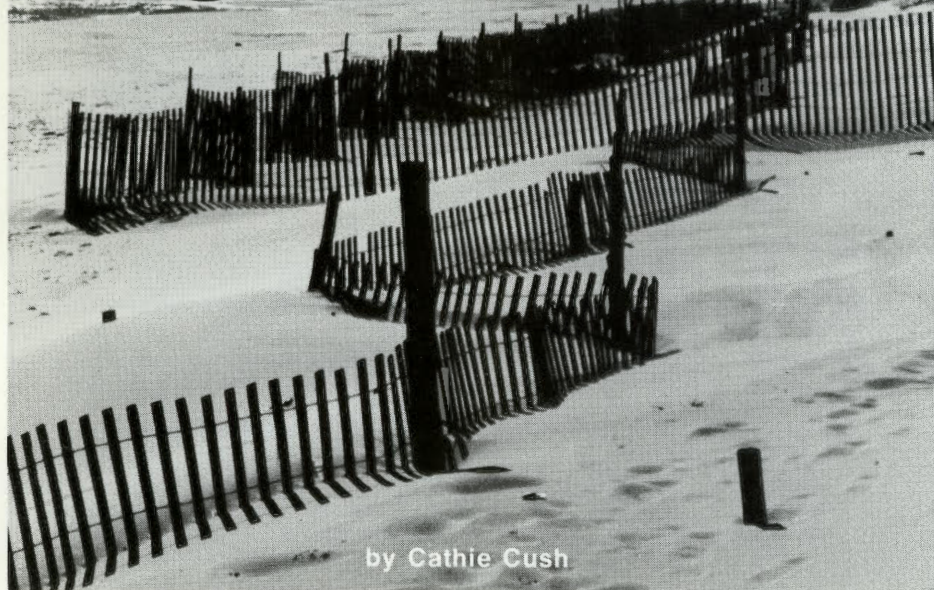
The 50th Anniversary Celebration which takes place July 2-4, 1983 has as its theme "Preserving Our Heritage." It will include art exhibits, musical productions, athletic competitions, bus tours of historical sites and addresses by well known speakers. Check local newspapers for further details, or call the Morristown National Historical Park at 201-221-0311 or 201-539-2016.



Mural



# A Plan For All Seasons



by Cathie Cush

What one coastal planner calls "the anger of the ocean" is hardly uppermost in the minds of sun-bathers basking along New Jersey's coast all summer. Most don't witness the sea in action during the brutal winter storms that hit the shore, and few are aware of the erosion that takes place from day to day, even in the mildest weather.

But state and municipal officials and planners from towns up and down the 127-mile-long coast must concern themselves with the processes that affect the shoreline and the fragile chain of barrier islands that protect areas westward from the ravages of the sea.

The New Jersey Shore Master Plan, adopted in the fall of 1981, provided an objective way to spend funds allowed for by the 1977 Beaches and Harbors bond issue. It recommends specific projects, and is a vehicle for future funding. In addition, it has helped the state De-

partment of Environmental Protection make the public aware of the need for and the scope of long-range shore protection programs.

In the past, shore protection efforts often lacked an overall outlook; New Jersey is the only state to develop a statewide plan that lists projects by priority. In past years, projects like jetties or groins were undertaken without gauging their effects on nearby areas. The state and municipalities shared costs on a 50-50 split, and jobs were done when, and if, funds could be raised by the individual towns. Sometimes, notes one coastal expert in the DEP, that meant whichever area had the loudest voice in the legislature got the work done.

The 1977 Beaches and Harbors bond issue provided \$20 million for beach protection, restoration and nourishment projects; a later bill changed the funding arrangement so municipalities would only have to

bear 25 percent of the costs. The Shore Master Plan allowed for the orderly and objective expenditure of bond funds and set down a list of priorities.

"I think the most important thing is that it spells out a logical, rational, reasonable plan for spending public funds," observes State Planner David Kinsey, former director of DEP's Division of Coastal Resources.

The document was drawn up by Dames and Moore, a world-wide environmental consulting firm with an office in Cranford, after a series of workshops held with DEP coastal engineers, geologists, planners and municipal officials. It divides the coast into a series of thirteen "reaches," or segments, between inlets. It examines each reach and recommends one of five levels of protection based on a cost/benefit analysis.

There are several advantages to the reach approach, which Kinsey calls "an important step forward."

"It sort of forces people to work together," explains Dr. Susan Halsey, a geologist with the state Bureau of Coastal Planning and Development. If three towns in one reach all need work done, for instance dredging or beach fill, the plan recommends that it be done at the same time. "If everybody gets mobilized at the same time, it's cheaper than doing three smaller jobs," Halsey notes.

From an engineering standpoint, the reach concept gains approval. "What we do in one area should not affect another area," says Bernie Moore, chief of the DEP's Toms River Coastal Engineering Bureau. Previously, structures placed to control erosion on one part of the beach trapped sand in one spot and caused a loss somewhere else. The plan attempts to minimize that by combining hard structures like groins with periodic beach nourishment, dune stabilization and other techniques that work within the natural system.

Ocean City provides the first example of the Master Plan at work.

"The city was first on the state's priority list as far as implementation," relates Ocean City Senior Environmental Planner Stephen



Gabriel, "because our cost/benefit ratio came out number one." He notes that although Ocean City has an erosion problem, it is far from the state's worst. The big problems exist further north in parts of Monmouth County like Sea Bright and Monmouth Beach. But those areas will be much more costly to fix.

Of the plan's five levels of protection, ranging from storm protection to maintenance of the status quo, the option that appeared most cost beneficial for Ocean City was an approach combining storm protection efforts with recreational development. In Ocean City's case, Gabriel says, the two alternatives differed little in the amount of beach fill they recommended.

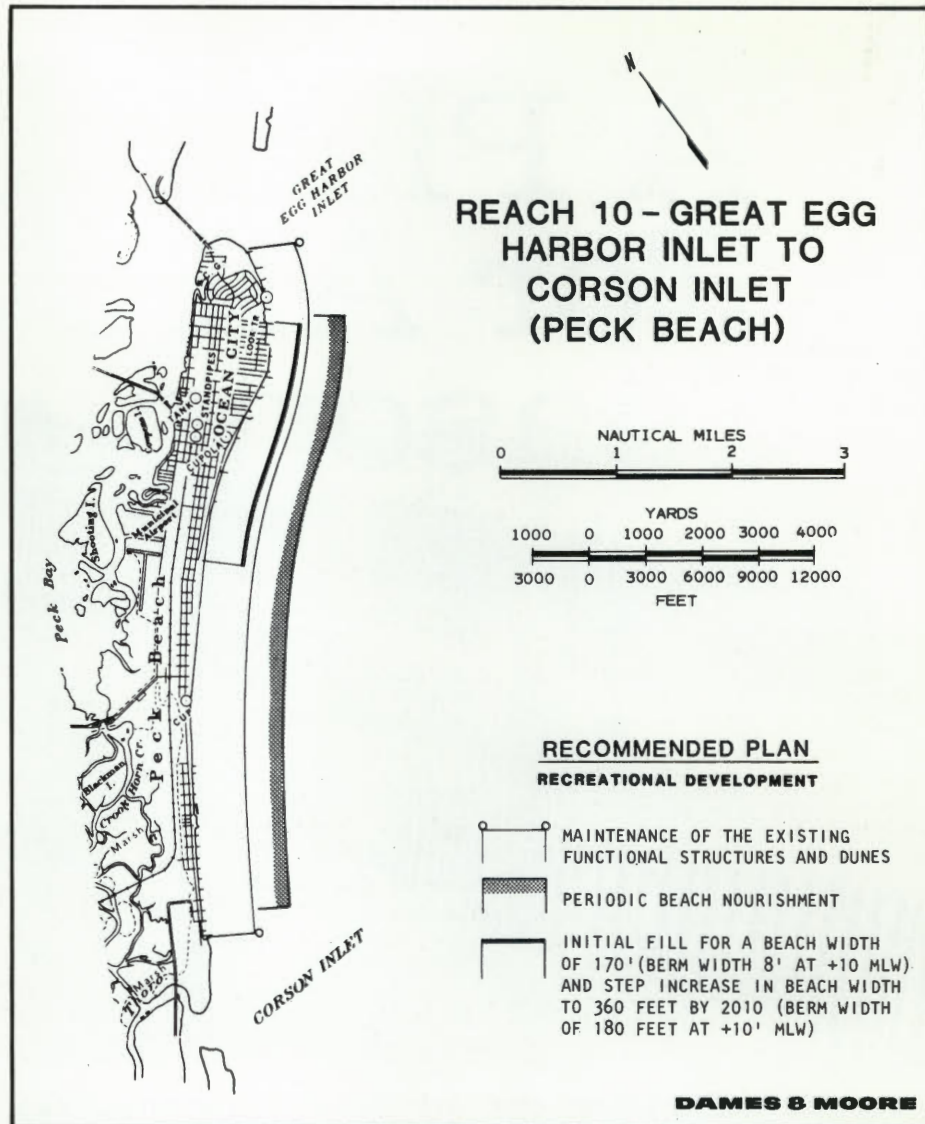
"The real key was trying to figure out how much benefit there would be in terms of people that could be accommodated, how much money they would spend, and how much storm protection would result.

"The benefits are quite high" in Ocean City. "We have 120,000-130,000 people in the summer." Gabriel estimates that for every dollar spent on shore protection, the return is \$1.70. Thus, the \$5.3 million beach fill project undertaken last fall should pay for itself within three years. The benefit is projected to last five years.

Some say the benefits of the major beach fill project from 21st Street to Morningside Road were wiped out soon after the job was accomplished. Two storms in October removed much of the million yards of sand pumped onto the beach, and even some experts within the DEP are disappointed in the project.

"We have lost a lot (of sand) this winter in certain portions," Gabriel admits. "But our beaches are in better shape today than they were in August before the beach fill was started . . . Had we waited to do the beach fill, we would have gone through all these storms without any protection."

Although Gabriel and others had hoped the beach fill would last five years, no one expects any of these projects to last forever. Shore portection is not a "once and done" proposition. A \$70 million bond issue proposed this spring by Assemblyman Anthony Villane (R-Monmouth), if approved by voters,



would provide continued funding for ongoing projects.

"You cannot stop erosion," insists coastal engineer Moore. The beach is widened in order to absorb wave energies, but "yes, it will erode.

"You paint your house, and periodically you have to go back and repaint it." He likens beach protection projects to putting aluminum siding on the house: maintenance is still necessary, although it may be less frequent, "maybe every twenty years . . . What we're trying to do is slow it down a little."

The Master Plan offers a guideline, Moore says, good for the next fifty years, or until the next major storm rewrites it. And, he notes, "I think if you were involved with the shorefront you would not take for granted this lull we've had between storms. Hurricane Belle (1976) gave

us a whack but it wasn't a major threat.

"If the Master Plan made people more aware of where they are and the effects of the ocean, then it has accomplished a lot," Moore observes.

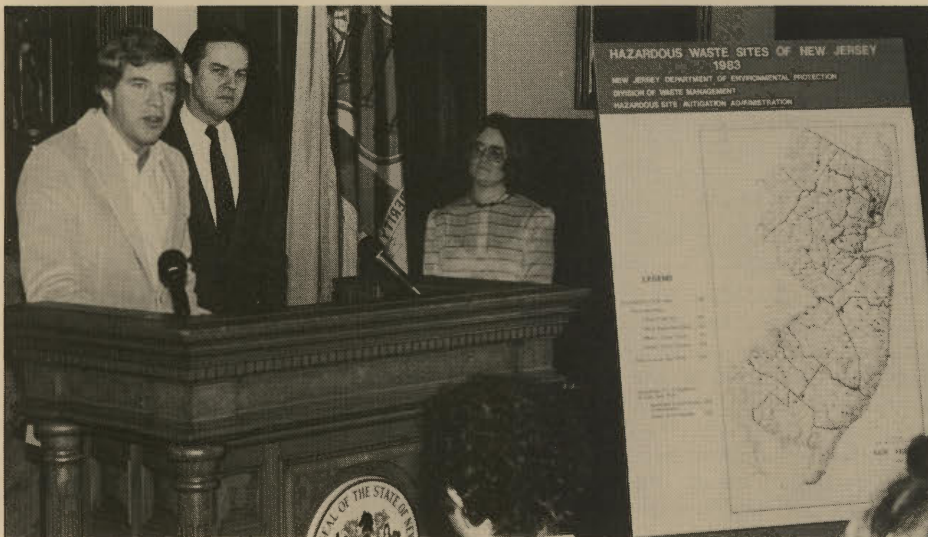
Halsey thinks it has, judging from the number of requests for copies of the plan the department has received. And to drive the point home, the section on coastal processes was placed in a visible spot in the document's first volume so it was sure to be read.

So if some sunbathers put aside the latest steamy bestseller for a blue-bound volume with NJDEP on the spine, a lot of hard-working people will be very happy. So will a lot of sunbathers who might have taken the beach they're lying on for granted.





# Environmental News



**'THE YEAR OF THE CLEANUP.'** On February 10 Governor Kean announced a four-year hazardous waste dump site action program which he said will make 1983 remembered as "the year of the cleanup" in New Jersey. The plan, to be carried out in three phases, will be financed by state Spill Fund and Hazardous Discharge Bond Fund monies, and federal Superfund dollars. Above, the Governor and U.S. Environmental Protection Agency (EPA) Region II Administrator Jacqueline E. Schafer listen intently as DEP Commissioner Hughey answers a reporter's question at the press conference following the announcement.

## 'The Year of the Cleanup'

Terming it a "three-pronged attack on New Jersey's hazardous waste dump sites," the Governor listed its phases as:

**1—DRUM DUMP CLEANUP:** This effort will clean up 33 small drum dump sites (of 40 drums or less) around the state, and involves a total cleanup of approximately 400 drums of hazardous waste. (As NJO goes to press, this project is underway and expected to be completed before summer.)

**2—MAJOR DRUM DUMP SITES:** This effort will address dump sites of 40 or more drums of hazardous waste. It will be integrated with the larger, more complex dump site cleanups addressed in the accompanying four-year plan. Other drum dump sites will be added if and when they are discovered. Phase 1 and 2 cleanups will be financed by the state Spill Fund.

**3—DRAFT FOUR-YEAR PLAN FOR MAJOR HAZARDOUS WASTE SITES:** This will be DEP's draft major long-range effort. It will concentrate on beginning

the cleanups of over 100 of New Jersey's most severe hazardous waste dump sites. Included will be sites on the U.S. EPA federal Superfund list, as well as other sites to be addressed through the state Spill Fund and Hazardous Discharge Bond Fund. The plan indicates that the cleanup projects will be started within the four years, but completion of all sites on the list will be a seven-to-eight year effort.

Governor Kean described the latter strategy as a "systematic approach for initiating remedial action at hazardous waste sites which is expected to cost \$197 million." Noting that the draft plan will require the review and funding approval of EPA, Governor Kean said, "If our efforts are to be successful, we will need the full cooperation and assistance of EPA. We intend to work very closely with its Region II office in New York City and with EPA's Washington headquarters to achieve our common goal of

*Continued on page 16D*

## AGREEMENT SIGNED TO MANAGE THE WATERS OF THE DELAWARE

The governors of New Jersey, New York, Pennsylvania and Delaware and the Mayor of New York City signed an agreement on February 23 which recommends important steps in the long-term management of the waters of the Delaware River Basin. The four states and New York City are parties to a U.S. Supreme Court Decree of 1954 which established each state's (and the City's) right to use the waters of the Delaware basin. Droughts of the 1960's and 1980's subsequently showed that there are still insufficient water resources in the basin to provide for all of the current depletive uses, instream requirements, and water diversions to points outside the basin permitted by the 1954 decree.

This new agreement presents a basis for modification of existing water resources management arrangements in the basin. Governor Kean, speaking as New Jersey's member of the Delaware River Basin Commission (DRBC), noted that "this document represents an historic agreement among the parties, who have been engaged in negotiations on these matters since early in 1979."

The recommendations cover projects to provide flow augmentation; water conservation; a basin-wide water allocation program; interim and long-term salinity standards for the Delaware estuary and a drought operations formula. Failure by the states and the DRBC to act on the recommendations could void the agreement.

## FERRY SERVICE TO 'MISS LIBERTY'

The direct ferry boat service from Liberty State Park to the Statue of Liberty and Ellis Island began operating for the 1983 season on April 30. The service is run by Circle Lines, in cooperation with DEP and the National Park Service. For information regarding sailing schedule and rates, call 201-435-8509. Liberty State Park is reached by car from Exit 14B of the New Jersey Turnpike, or by bus from Journal Square in Jersey City.



## TWO COMPANIES WILL PAY FOR TOXIC SITE CLEANUP

Agreement to clean up one of New Jersey's 65 "Superfund" priority list hazardous waste sites by its past and present owners at their expense was announced by Governor Kean on March 2. Settlement of lead contamination problems at the Pedricktown (Salem County) facility of National Lead (NL) Industries, Inc., by representatives of NL, DEP, and National Smelting of New Jersey, Inc., new owners of the Pedricktown plant, will allow the facility to reopen and lead to the hiring of approximately 100 workers. The Governor said that the state's settlement with both buyer and seller of the site "provides a model on which to base future environmental settlements where a sales transaction of an industrial facility is involved . . . it proves that economic development and maximum protection of the environment are possible when government and industry work together."

## TIDELANDS COUNCIL ACTION

The state Tidelands Resource Council on March 8 proposed guidelines to recognize hardships imposed on property owners as a result of its tidelands mapping program. A resolution containing the suggested guidelines was adopted by the council and forwarded to all members of the Legislature and to the Governor.

David F. Moore, council chairman said, "There is a need for legislated guidelines in determining the value to be paid to the state for a tidelands conveyance or lease. We have recommended that the existing statutory meaning of 'good faith' be clarified."

In its recommendations the council called for nonexclusive guidelines to include, but not be limited to, the payment of taxes, improvements made, length of ownership, existence of a riparian grant or lease, the amount paid for the property, actual knowledge and similar considerations. It recommends that all classes or categories of property, such as vacant, residential, commercial, industrial, park or recreational, should be treated equally. Also, that any law enacted should reaffirm the ultimate responsibility of the Tidelands Resource Council, together with the Bureau of Coastal Project Review of the Department of Environmental Protection and the Governor, to determine on a case-by-case basis when it is in the public interest to approve a tidelands sale or lease, and the amount to be paid to the state. (To obtain a copy of the resolution, write to the Tidelands Resource Council, CN 401, Trenton 08625, or call 609-292-2573.)



**GET THOSE SWIMSUITS READY—IT WON'T BE LONG NOW!** Swimming, splashing, dunking, or building sand castles on the beach—all spell **SUMMER** to water babies of all ages. Swartswood Lake (above) is one of the 15 inland beachpark bathing areas that will open for the 1983 season on May 28—Memorial Day weekend. (The areas will be open "weekends only" until June 25 when the 7-days-a-week schedule will become effective). The oceanfront areas will open two weeks later, June 11, when the water temperature becomes more comfortable. Trained lifeguards are on duty at all 17 swimming areas. The guards had to pass a series of difficult performance tests at the various facilities, and must take part in a summer-long program of physical conditioning, first aid and water safety.

Here's the list, by county, of state-operated facilities with beachfront swim areas: **Inland:** BURLINGTON—Atsion Recreation Area in Wharton State Forest (SF), Bass River SF, Lebanon SF; CAPE MAY—Belleplain SF; HUNTERDON—Round Valley State Park (SP), Spruce Run SP; MIDDLESEX—Cheesequake SP; MONMOUTH—Prosperstown Recreation Area; MORRIS—Hopatcong SP; PASSAIC—Shepherd Lake in Ringwood SP; SALEM—Parvin SP; SUSSEX—Stokes SF, High Point SP, Swartswood SP, and Wawayanda SP. **Ocean Front:** OCEAN—Barnegat Light House SP and Island Beach SP.

**We've said 'good-bye' to winter, 'hello' to spring—it's time to plan 'things to do this summer.'**

**The 'what, where, and how-to' information given below will help you to better enjoy New Jersey's parks, forests and recreation areas.**

**Happy planning! Happy summer!**

### START WITH THE BROCHURES

To help you choose just the right place to find the activities you prefer, send for the DEP brochure, **New Jersey Invites You to Enjoy Its—State Forests, Parks, Natural Areas, Marinas, Historic Sites, Wildlife Management Areas.** The glove-compartment size, foldout, color brochure offers five charts, a map, and descriptive text about recreational opportunities at New Jersey's many state owned facilities. Another brochure—**"WHAT'S HAPPENING"**—gives a schedule of special events to be held this summer at the parks/forests/recreation areas. Both brochures are available from DEP, Division of Parks and Forestry, State Park Service, CN 404, Trenton 08625.

### PLANNING A CAMPING HOLIDAY?

Though general camping information pamphlets are available from the Division of Parks and Forestry at the aforementioned address, **NO CAMPSITE RESERVATIONS ARE HANDLED BY THE TRENTON OFFICE.** All arrangements should be made through the park or forest office in charge of the desired campsite.

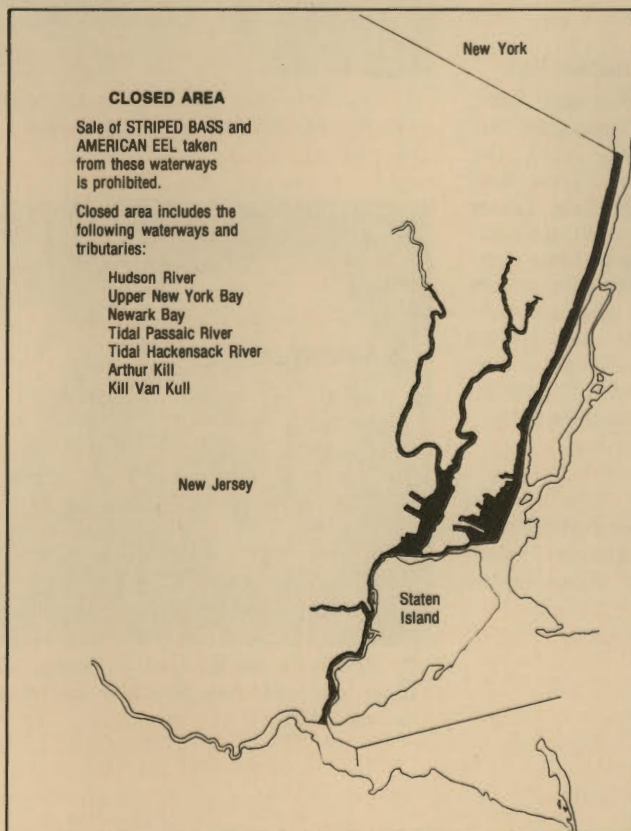
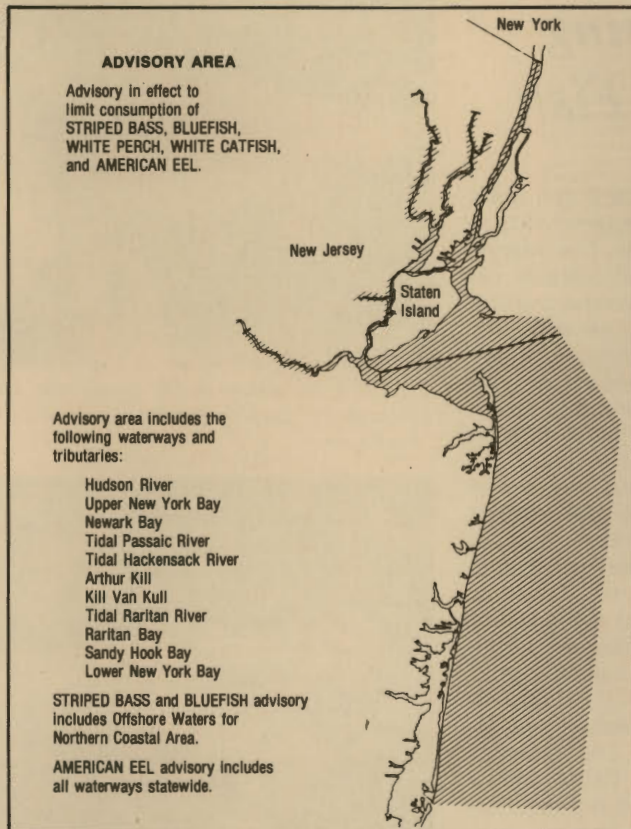
For specific information about cabins, shelters, campsites, lean-tos, group camping, and application forms for reservation at a particular campground, write directly to that park/forest office as follows:

**Northern New Jersey Locations:** Bull's Island section of Delaware and Raritan Canal State Park (SP), R.D. 2, Box 417, Stockton 08559; High Point SP, R.R. 4, Box 287, Sussex 07461; Jenny Jump State Forest (SF), Box 150, Hope 07844; Round Valley SP, R.D. 1, Round Valley Rd., Lebanon 08833; Stephens section of Allamuchy Mountain SP, Hackettstown 07840; Stokes SF, R.R. 2, Box 260, Branchville 07826; Swartswood SP, R.R.



# Fishing Guidelines for New Jersey Waters

By Bruce Ruppel, Office of Science and Research



## *How to Reduce Exposure to PCB Contaminated Fish*

### Introduction

Since the late 1960's there has been an increasing awareness of polychlorinated biphenyls (PCB) compounds impacting upon aquatic life throughout the nation's waterways. The development of sensitive analytical techniques has provided detection of these contaminants in fish tissue at extremely low concentrations. Recently several incidents have illustrated the potential health hazard and economic loss that can be attributed to such contamination. Several states have issued health advisories to limit consumption of certain species and prohibited the sale of others in an effort to reduce human exposure to these contaminants. Protection of human health is a vital part of the state government function and it is through the release of specific information concerning these contaminants that the public can make informed decisions.

### PCBs and their Distribution

Polychlorinated biphenyls (PCBs) are a group of synthetic compounds with worldwide distribution. The commercial production began in 1929 and since that time over a billion tonnes have been manufactured. Their unique characteristics of thermal and chemical stability and dielectric properties make them ideally suited for such industrial applications as heat transfer systems, hydraulic fluids and electrical components.

There have been some 210 different types of PCBs developed under a variety of trade names. In the U.S. 12 different types of PCBs called *Aroclors* have been produced, between 1957 and 1971.

PCBs range in consistency from straw-colored oily liquids to whitish, waxy powders. Their value for industrial application depends upon their chemical inertness, resistance to oxidation, and their insulating properties and low water solubility.

The most common uses of PCBs have been in the manufacture of electrical capacitors and transformers, such as those in television sets, air conditioners, and for public utility companies. But there are many other uses including plasticizers in paints, surface coatings, inks, adhesives, fillers for casting waxes, dye carriers in carbonless copy paper, extenders in pesticides, and dust control agents in road construction.

In 1976 the Toxic Substances Control Act (TSCA) gave EPA broad powers to prohibit the production within the U.S. and regulate the disposal and use of in service PCBs. It is estimated that only 4% of over one billion pounds of PCBs purchased by U.S. industries has been degraded or incinerated leaving a significant quantity in service or in landfills or otherwise uncontrolled within the environment.

Released into the environment through spills, effluent discharges, incineration, or through the disposal of end use products in dumps and landfills, PCBs are considered to be a long term problem. A General Electric transformer manufacturing plant, had until recently discharged tons of PCB contaminated wastes into the Hudson River upstream near Troy, New York. It has been estimated that between 32-54 metric tons of PCB contaminated sediments will be transported into the Hudson River estuary during the next 20 years if no remedial action is taken. It is likely that the ultimate reservoirs of PCBs will remain the sediments of rivers and estuaries, where their impact upon aquatic organisms can be significant.

PCBs are stable in the environment degrading slowly over a period of decades, and once released are readily absorbed by all or-

*Continued on page 2*



ganisms through the food chain. These compounds accumulate in the fat tissues of all organisms, and continue to increase over time, even if exposure levels are low.

#### Health Effects

Several adverse health effects have been identified with PCB contamination including liver damage, reproduction disorders, skin lesions and cancer.

A well documented accidental PCB exposure occurred in Yusho, Japan in 1968. Over 1200 people developed a wide range of health effects after ingestion of rice oil contaminated with PCBs from a leaking heat transfer system. Observed symptoms of what was called "Yusho Disease" were nervous system disorders, reproductive difficulties, chloracne (skin rashes), swollen joints, gum discoloration, eye discharges and lethargy. As a result in 1972 the Japanese government banned the import and production of PCBs.

PCBs are not easily metabolized in the body and have been shown to cross the placental barrier and also may be excreted in breast milk of nursing mothers. They can enter the body by various means, including inhalation, absorption and ingestion. Recently the Food and Drug Administration has determined that the major source of PCB exposure is through food ingestion, with fish being the singly most important dietary contributor. Fish can accumulate PCBs to more than 100,000 times the present level in water. In Japan 80% of the weekly intake of PCBs was from fish. In the U.S. a 1971-1975 survey of all food items showed a decrease in PCB levels except fish. With today's emphasis on utilizing all high protein food sources it is important to protect the consuming public from potential exposure to toxic contaminants.

#### PCB in Fish

Since 1976 the Office of Cancer and Toxic Substances and Division of Fish, Game and Wildlife within the DEP along with the Department of Health have been conducting a comprehensive survey into polychlorinated biphenyl (PCB) contamination of finfish and shellfish throughout the state. Since that time the "PCB Project" has caught and analyzed fish annually. In addition to PCBs, organochlorine pesticides such as Chlordane and DDT are also measured and these results will be released in followup reports.

The project was designed with three main objectives: 1.) to determine the degree to which aquatic organisms are contaminated; 2.) to determine how PCB

*Continued on page 4*

## Departmental Action Concerning PCBs in Fish

In accordance with Federal and State statutes, New Jersey is required to take action based upon this data. The Department of Environmental Protection realizes the importance of commercial and recreational fisheries to the economy and enjoyment of the citizens of the state. Furthermore, the Department understands the broad range public health threat associated with the contamination of fisheries. Human health remains extremely sensitive to aquatic releases of toxic chemicals. Therefore the Department finds that an important peril of serious public health problem exists due to PCB contamination in certain species of finfish in particular areas of the state's waters necessitating the following adopted emergency new rule and concurrent proposal: N.J.A.C. 7:15-18A *Fisheries Closures and Advisories for Striped Bass, American Eel, Bluefish, White Perch and White Catfish taken from the Northeast Region of the State.* (See Maps)

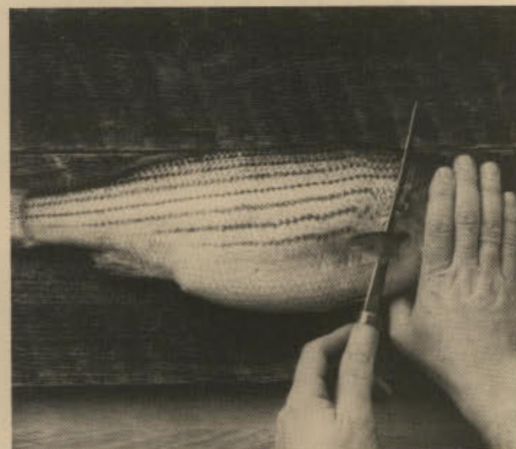
#### STRIPED BASS and AMERICAN EEL

Prohibition of the sale of *Striped Bass*, (*Morone saxatilis*) and *American Eel* (*Anguilla rostrata*) taken from the Hudson River, upper New York Bay, Newark Bay, Lower Passaic River, Lower Hackensack River, Arthur Kill, and Kill Van Kull. Also an advisory to "limit consumption" of *Striped Bass* taken from the "Northeast Region" and offshore state waters in the northern coastal area of the state, and an advisory to limit consumption of *American Eel* statewide, especially from the Northeast Region.

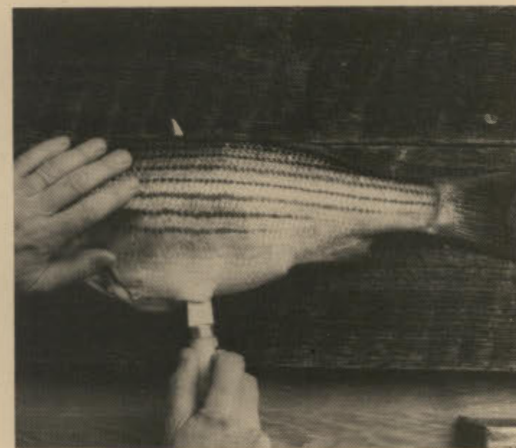
#### BLUEFISH

An advisory to limit consumption of *Bluefish* (*Pomatomus saltatrix*) taken from the Northeast Region, including the

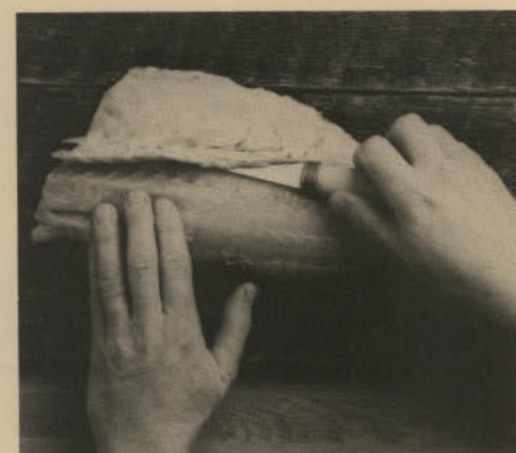
#### How to Fillet and Skin a Fish to Reduce Toxic Contaminants



1. LIFT the pectoral fin. Angle the knife towards the back of the head and cut to the backbone.



2. TURN the blade parallel to the backbone. Cut towards tail with a sawing motion. Cut fillet off.

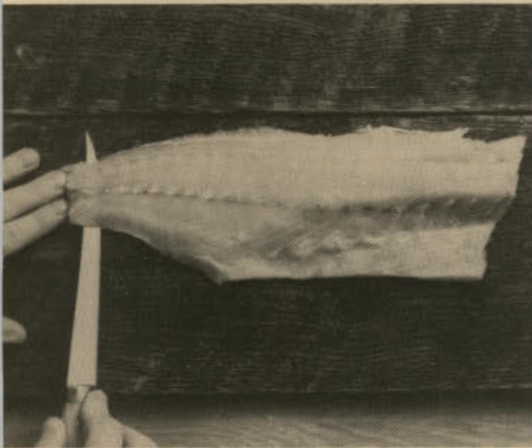


3. REMOVE the rib bones by sliding blade along the ribs. Turn fish over and remove second fillet.

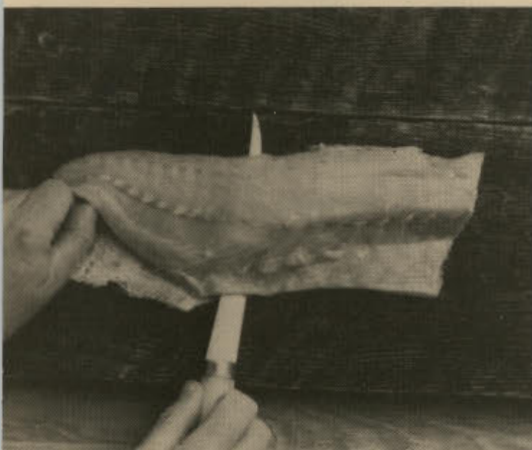




4. CUT off the strip of fatty belly fish. Discard guts and belly.



5. SKIN the fillet by cutting into the tail flesh to the skin. Turn the blade parallel to the skin.



6. PULL the skin firmly while moving the knife in a sawing action between the skin and the flesh. Remove dark meat (lateral line) section prior to cooking.

offshore state water, in northern coastal area of the state. The advisory has primary relevance to Bluefish exceeding 24 inches in length or six pounds in weight.

#### WHITE PERCH and WHITE CATFISH

An advisory to limit consumption of *White Perch* (*Morone american*) and *White Catfish* (*Ictalurus catus*) taken from the Northeast Region.

#### Precautions

Limited consumption for purposes of this emergency rule means that in order to reduce exposure to and accumulation of PCBs, persons of *high risk* such as pregnant women, nursing mothers, women of child bearing age and young children, should not eat *any fish* taken from the regions designated and all others should consume not *more than one meal per week* of such fish. The term "Northeast Region" has been defined for the purpose of this emergency rule as that region encompassing the New Jersey portion of Sandy Hook and Raritan Bays; the tidal portion of the Raritan River upstream to the Route 1 Bridge in

New Brunswick; the Arthur Kill and Newark Bay; the Passaic River up to Dundee Dam; the Hackensack River up to Oradell Dam; the Kill Van Kull and Upper New York Bay; and the Hudson River up to the New Jersey-New York border; approximately four miles above Alpine, New Jersey.

Due to the limited amount of data available especially on the larger, legal-sized Atlantic Sturgeon no advisory or fishing closure has been developed. Continued sampling of this species will provide a more comprehensive data base and better management tool for the future.

By this action the Department recognizes certain impacts both social and economic. It is felt that by compliance with this rule the bioaccumulation of PCBs in the fish consuming public of the State will be substantially decreased, thereby reducing the risk of cancer and other serious health problems, and that the negative economic impact (upon commercial and recreational fishing) will be offset by the overall public health benefit.

#### Fish Preparation and Cooking to Reduce PCBs

By following the outlined advisories concerning species and their geographic locations it is possible to avoid exposure to PCB contaminated fish. To reduce PCB levels in fish from questionable water quality that you wish to eat follow these suggestions.

#### Cleaning Method (Refer to Filletting Technique photographs.)

- Remove only fillet sections for eating.
- Trim away the belly flap, back strap, skin and lateral line. These areas have the highest fat content and highest contaminant levels.
- For Bluefish consume only smaller fish under 6 pounds or 24 inches in length.

#### Cooking Method

- Methods that allow the removal of fats from the fish sample generally will remove contaminants as well. These include broiling on an elevated rack, boiling in water, and canning fish without skins. In all cases do not use the liquid that contains the oils and fats as a food item. In addition coatings which hold in oil or fats should also be avoided.

#### References

For more information on environmental contaminants contact:

New Jersey Department of  
Environmental Protection  
Office of Science and Research  
Information Resource Center  
190 West State Street  
CN-402  
Trenton, New Jersey 08625  
609-984-2249  
Tuesday-Friday  
9:30 am-4:00 pm

#### PUBLIC ACCESS BROCHURE

The NJO July/August issue will feature a full-color center spread snapout titled, *Public Access to the New Jersey Shore 1983*.

Everything you wanted to know about our Jersey shore resorts including transportation, directions, parking, facilities, costs, activities, telephone numbers, beach fees, and a map. Don't miss it!



Continued from page 2

levels in fish vary with geography; and finally, 3.) to assess the suitability of the fish for human consumption.

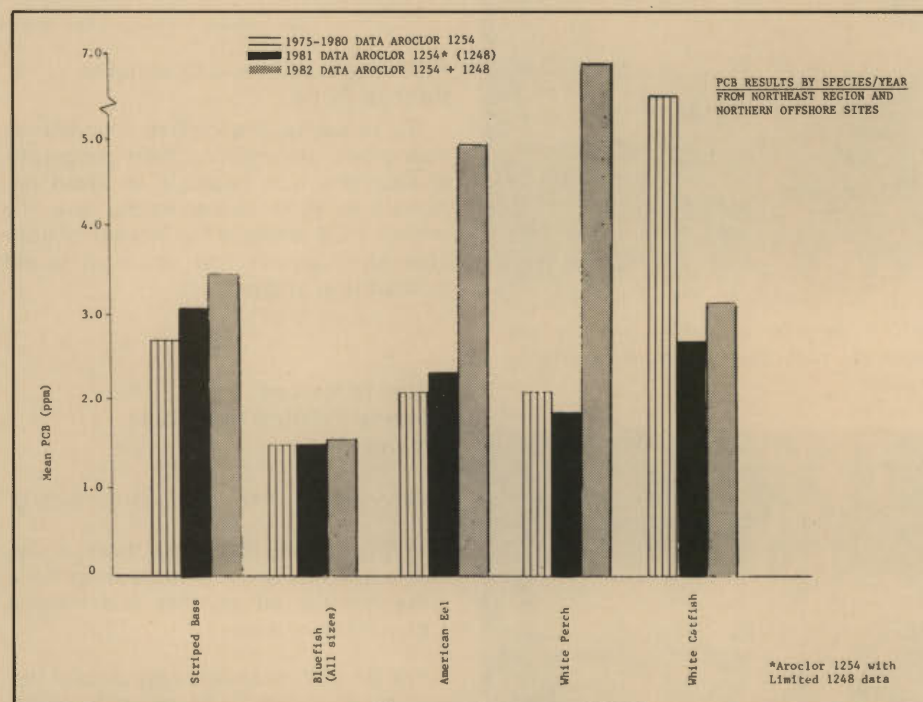
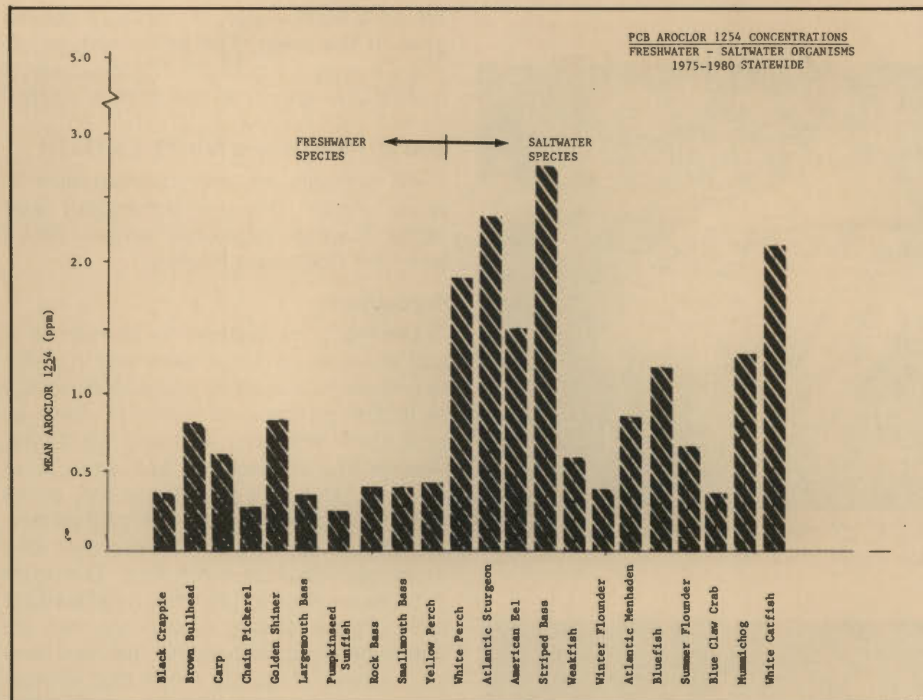
The study shows that 75 percent of the finfish and 50 percent of the shellfish had detectable levels of PCBs in their edible flesh. Of that only 2.4 percent of the finfish and none of the shellfish had levels exceeding the 5.0 parts per million (ppm) "action level" established for adulterated or contaminated food items by the Food and Drug Administration. In 1977, based upon declining incidences and new toxicity data, the FDA proposed that the PCB tolerances should be lowered to 2.0 ppm. The decision is still pending.

A total of 11.1% of the finfish exceeded the proposed level and none of the shellfish had contaminant concentrations greater than the proposed 2.0 ppm action level. The data also show that those fish which are highly contaminated represent only a few species from the heavily urbanized, northeastern corner of the state, within the Hudson-Newark-Raritan Bay Complex. Even though levels have declined the Hudson River still appears to be the most severely contaminated drainage within the state's water.

The study examined samples of over 50 different species of aquatic organisms from both fresh and saltwater habitats, representing several major trophic classifications. Only six species of fish exhibited elevated levels of PCB concentrations. The euryhaline species, White Catfish (*Ictalurus catus*), White Perch (*Morone americana*), and American Eel (*Anguilla rostrata*) and the saltwater species including Striped Bass (*Morone saxatilis*), Bluefish (*Pomatomus saltatrix*), and Atlantic Sturgeon (*Acipenser oxyrinchus*). All species, except Atlantic Sturgeon, represent recreational and/or commercial interests within the State. Species like Bluefish that are highly migratory may well have interstate health risk implications as well. Research into this concept is currently underway.

The tendencies of PCBs to concentrate in fatty tissues has been demonstrated as a prime correlation factor for bioaccumulation in fish as the results show those species with high lipid (fat) content also show elevated PCB concentrations. The data also indicates that in Bluefish the larger, older and more lipid fish had higher levels than the smaller juvenile or young of the year size. This differential uptake may be due to changes in feeding habits or geographic-migratory contamination source.

It is known that lipid storage differs within species. Pelagic fish (e.g. Blue-



fish) use muscle tissue for storing lipids much more often than benthic species (e.g. flatfish) which may use liver and/or bone marrow. This may explain why the mid-water estuarine fish had elevated levels and why the Flatfish (Fluke or Flounder), which lie on the bottom in close proximity to contaminated sediments, had low levels of PCBs.

An important observation, concerning PCBs association with the lipid rich tis-

sues, is that human consumption exposure to these substances can be reduced in a number of ways, such as fat-trimming while filleting the fish and altering cooking techniques so as to allow fat to run-off from the food tissue. It has been shown that removal of the fat-rich belly flap, skin, and lateral line of a fish, as well as broiling, rather than frying, can reduce the exposure to PCBs from a contaminated fish by up to 50%.



# TIME



Paddleboats can be rented at Bass River State Forest

5, Box 548, Newton 07860; Voorhees SP, R.D. 2, Box 80, Rte. 513, Glen Gardner 08826; and Worthington SF, Old Mine Rd., Columbia 07832.

**Southern New Jersey Locations:** Allaire SP, Box 220, Farmingdale 07727; Bass River SF, P.O. Box 118, New Gretna 08224; Belleplain SF, Box 450, Woodbine 08270; Cheesequake SP, Matawan 07747; Lebanon SF, New Lisbon 08064; Parvin SP, R.D. 1, Elmer 08318; and Wharton SF, Batsto, R.D. 4, Hammonton 08037.

## A NOTE TO ANGLERS

DEP's Division of Fish, Game and Wildlife reminds anglers that the New Jersey fishing license must be prominently displayed on outer clothing. When buying a license remember to ask for a free copy of the New Jersey Summary of 1983 Fishing Laws.

## FOR CANOEISTS

The foldout, color brochure—*CANOEING IN THE PINELANDS RIVERS*—details primary canoe routes through the region. In addition to a large map, the brochure supplies background information about the waterways and describes points of interest found along their banks. Available from DEP, Division of Parks and Forestry, State Park Service, CN 404, Trenton 08625.

**PINES RECREATION GUIDE AVAILABLE**—A free guide to public recreational opportunities in the Pinelands, which includes a list of public and private nature centers in or near the Pinelands National Reserve, is available from the Pinelands Commission, P.O. Box 7, New Lisbon 08064. (Phone: 609-894-9342)

# FUN



Tent campsite at High Point State Park

## FREE ENTERTAINMENT

This summer the State Council on the Arts and DEP will again present free performances of mime, theatre, dance, folk and bluegrass music and puppet shows on a regular schedule at several state parks/forests. A flag with a picture of a butterfly on it will be raised on performance day . . . watch for it! Specific program information will appear in local newspapers. A performance schedule (parks, dates, times) is available from the Division of Parks and Forestry, CN 404, Trenton 08625.

## FOR GOLFERS

The 18-hole Spring Meadow Golf Course, adjacent to Allaire State Park in Wall Township (Monmouth County), is part of the state park system. Spring Meadow is a 5,302-yard, par 68 course. For greens fees and other information, call the Spring Meadow office at 201-449-0806.

## DEP'S SPECIAL LICENSE AND PASS PROGRAMS

**Free Clamming and Oystering Licenses** (one license is issued for both activities) are available to New Jersey residents age 62 or over. Free Fishing Licenses are available to New Jersey residents age 70 or over. For applications for one or both write to DEP, Division of Fish, Game and Wildlife, CN 400, Trenton 08625. **Jr.-Sr. Fishing Licenses**, which cost \$6.50 each (regular license cost is \$11) are available to state residents between the ages of 65 and 69 from any license agent (most sporting goods stores) in the state, or from the division.

**Senior Citizen Park Passes** for free admission and free parking to day-use facilities at any state park, forest or historic site are available to state residents age 62 or over, upon presenting proof of age and completing the application form. Other fees are not covered by the pass. Any resident of New Jersey who is totally disabled may obtain a **Totally Disabled Persons Pass** which provides the same free admission and free parking privileges as the Senior Citizen Pass. Application forms for both types of passes are available at each park/forest/historic site office or from DEP, Division of Parks and Forestry, State Park Service, CN 404, Trenton 08625.

*Don't let being confined to a wheelchair or being otherwise handicapped keep you from joining friends and relatives for an outing at a state recreation area. The three newest parks—Spruce Run, Round Valley and Liberty—have barrier-free design. Others, such as Allaire and Washington Crossing which have nature trails designed for the blind, are partly barrier free. The "New Jersey Invites You" brochure, mentioned above, lists the addresses and phone numbers of all state recreation areas. Contact the office of the park you want to visit in advance to find out the degree of difficulty for handicapped persons at that facility.*

## PROTECTING THE PARKS IS EVERYONE'S JOB

In these times of tight budgets it is especially important for all of us to pitch in to help preserve and protect the natural beauty and the facilities of our state park system. *Practice fire prevention.* Make sure campfires are completely extinguished, butt cigarettes in the car

*Continued on page 16D*



## ENVIRONMENTAL NOTES

- A FEDERAL Emergency Management Agency grant of \$200,000 to New Jersey is funding a study to find ways to improve the state's capability to respond to major storms in its densely populated coastal zone. DEP's divisions of Coastal Resources and Water Resources, and the state department of Law and Public Safety's Division of State Police are sharing the work and money.

- AMENDMENTS TO the New Jersey Hazardous Waste Management Regulations adding certain classes of waste oil to the list of substances regulated as hazardous waste were adopted by DEP in January. The rule was designed to prevent the illegal disposal of PCBs, chlorinated solvents and other hazardous chemicals, which are found in waste oil. The adopted regulations include several provisions suggested by commentators at the February 1982 public hearing on the proposed rules.

- GOVERNOR KEAN was elected chairman of the Coalition of Northeastern Governors (CONEG) for 1983. The organization, made up of representatives of eight states (Conn., Mass., N.H., N.J., N.Y., Pa., R.I. and Vt.), is currently working to develop a multi-state regional compact for disposal of low-level radioactive waste generated within the region.

- A GEOLOGICAL Survey Element has been created in the department's Division of Water Resources to bring together in one unit the responsibilities and duties of the Bureau of Ground Water Management and the New Jersey Geological Survey. The merger is a direct result of the growing need for geological and ground water expertise necessary to investigate and clean up ground water pollution incidents, and the mandate to evaluate the state's ground water resources.

*Continued from page 16C*

## PARKS

ashtray when driving through wooded areas, keep matches away from children. Lives, property, hundreds of acres of valuable forest land and thousands of dollars in fire-fighting expenses will thus be saved. *Keep the parks tidy.* Litter along the drives, trails and recreation areas detracts from the beauty of the parks and requires costly clean-up services. Use the trash cans provided. *Protect the native plants and animals from injury or removal.* Each visitor deserves the same opportunity to observe nature "in the wild."

## CLEAN AIR PLAN APPROVED BY EPA

The federal Environmental Protection Agency on January 31 proposed to approve New Jersey's State Implementation Plan (SIP) for the attainment and maintenance of ozone and carbon monoxide ambient air quality standards. New Jersey must meet the standards for these two pollutants by December 31, 1987. EPA Region II Administrator Jacqueline E. Schafer said she was "pleased to propose approval of New Jersey's plan for meeting the requirements of the Clean Air Act . . . New Jersey continues to be a leader in taking the necessary action to protect the public health through its environmental programs." She noted that New Jersey is in compliance with the ambient air quality

standards for three pollutants—particulate matter, sulfur dioxide and nitrogen dioxide, and has proposed an acceptable plan to control ozone and carbon monoxide by the 1987 deadline. The plan includes strengthening programs to control industrial, commercial and transportation sources of pollution.

## PHOTO EXHIBIT CELEBRATES "PRIDE IN NEW JERSEY"

A photographic celebration by the New Jersey Conservation Foundation (NJCF), a private, nonprofit organization, will be exhibited in the Princeton Library, June 2 to July 15, and in the West Orange Library, August 2 to the 30th.

The exhibit of prize-winning photographs depicting "Pride in New Jersey" represents the work of amateur and professional photographers throughout the state.

The 45 color and black-and-white prints show outstanding views of New Jersey's many beautiful faces—forests, coastline, farmland, marshes, dunes, waterways, Pinelands and wildlife.

For further information, contact: Pat Baxter, New Jersey Conservation Foundation, 300 Mendham Road, Morristown, New Jersey 07960, (201) 539-7540.

*Continued from page 16A*

## CLEAN-UP

cleaning up our environment." The draft plan was transmitted to EPA on February 10 for its review and comment.

Commissioner Hughey remarked that New Jersey also will submit the four-year action plan to public scrutiny and comment prior to its adoption by DEP. He said that in some cases DEP will have the responsibility for cleanup programs, while in others EPA will take the lead.

DEP's Division of Waste Management developed all three cleanup strategies. Commissioner Hughey related that "last August (1982) DEP reorganized its Division of Waste Management to better deal with hazardous waste problems in New Jersey. We have restructured the program to establish multi-disciplinary management teams to handle this highly complex problem. Nowhere has this problem ever been addressed on a scale of such magnitude. We intend to deal with high priority hazardous waste sites in a timely fashion while insuring proper fiscal and managerial controls for the expenditure of public monies. Our goal is to eliminate or lessen potential public health and environmental impacts from these sites."

## NEW PUBLICATIONS

*Open Space for New Jersey—Take Part in a Legacy*, a brochure designed to assist municipalities and counties in the acquisition of open space through donations of land, has been published by DEP. The brochure describes several ways for private individuals or corporations to make donations of land to public agencies or nonprofit corporations. Additional information and free copies of the brochure may be obtained by writing to DEP, Office of Green Acres, CN 404, Trenton 08625.

*Basic Information about New Jersey Trout Waters*, is a report intended to provide important background information; it does NOT identify or recommend specific fishing locations. The report, prepared by DEP's divisions of Water Resources and Fish, Game and Wildlife, discusses, among other topics, trout life history and ecology, and the procedures used by DEP to classify trout waters. Also, it lists streams and lakes officially classified as "Trout Production" or "Trout Maintenance," and the 133 municipalities in 12 counties with land in trout production or trout maintenance watersheds. The report, costing \$3 per copy, is available from DEP, Division of Water Resources, Bureau of Planning and Standards, CN 029, Trenton 08625. Please make the check or money order payable to "Treasurer, State of New Jersey."

*HAZARDOUS WASTE MANAGEMENT IN NEW JERSEY* is a guide to rules, programs and officials involved in the program. Supply is limited; single copies available free from DEP, Assistant Commissioner for Environmental Management and Control, CN 402, Trenton 08625.



# More Turkey Talk!

By Jan McDowell



ILLUSTRATION BY  
DOREEN CURTIN

This convention could in no way be mistaken for a convention of three-button pin-striped bankers, or a hundred percent club of super salesmen. Take the main event, the turkey calling contest on Saturday.

"Number 29, give us your putt," echoed the resonant voice of the announcer over the microphone in the softly lighted big room. The turkey caller, unseen and anonymous to the judges in this national championship, began.

Dressed in jeans and a leather vest, the caller bent at the waist and began his show. He pivoted with the call, producing the loud and soft portions of the putt by facing and turning away from the judges in an arch from left to right. As one of the eight finalists of 42 callers, his sounds were wonderfully realistic amid the greenery and the golden trophies awaiting the winners.

The Grand Nationals Wild Turkey Calling Championship was nearing completion at the national convention of the National Wild Turkey Federation, Feb. 18-20 at the Cherry Hill Hyatt. Hosted by the New Jersey

Chapter, it was the first year the event was held in this state.

Upon the direction of the announcer, the caller next did the tree call of the hen turkey. He hunched his shoulders and, using a diaphragm mouth call worked by puffing air over the rubber reed held on the roof of his mouth, produced this barely audible, sleepy and almost contented call. The approximately 350 listeners were respectfully silent, a sure sign that this was a championship event.

A gentle but persuasive old hen assembly yelp then filled the auditorium as the caller cupped his hands in front of his mouth, first on one side and then on the other, producing sounds remarkably like a wild hen turkey reuniting her flock. His actions made him seem as if he were, indeed, the animal he imitated.

One by one the callers ascended the carpeted stage in the hushed auditorium and repeated the calls as directed by the announcer. They each did the urgent fly down cackle of the hen and the low, raspy old gobbler yelp

with assorted calling devices, such as the slate call which is scraped with a stylus, the tube call which is blown into, and the box call which is rattled or worked by scraping one piece of chalked wood over another in the form of a resonating chamber.

When the final call, "How you would call a spring gobbler," was announced, the caller was allowed the freedom to combine calls and really put on a show.

After each of the eight finalists had had a chance to call to his satisfaction, the points were tallied by the judges and the winners announced. Danny Gulvas of DuBois, Pa. became the Grand Nationals Champion amid the applause and admiration due him. He had competed against the best the nation had to offer. Runner-up national champions were: Robbie Rome of Louisville, Pa.; Skeeter Thomas of Chester-ville, N.C.; Paul Butski of Niagara Falls, N.Y.; and Dick Kirby of Orchard Park, N.Y.

The calling contest, by far the most  
*continued on page 19*



# Trolling For Fluke

By Don Kamienski

On two occasions last summer, I witnessed a sizeable fleet of boats not necessarily enjoying the fruits of their angling efforts for fluke. While the first fleet was situated off the ammunition pier in Sandy Hook Bay, and the second fleet in the ocean off the "red church" in Elberon, they both had two things in common.

First, because of the lack of wind and tide, these boats tended to remain stationary over the same bottom structure as they attempted to drift their fluke baits. Second, because of not being able to move their drifted baits along the bottom, only a scattered few boats had enough numbers of fluke onboard to smell up the fish box.

What these anglers failed to realize is that fluke are predators—feeding by pursuit and ambush on almost any smaller baitfish such as squid, shrimp, crabs, killies, sandeels, and spearing as long as they are moving. Fluke are not necessarily scavengers, so using a stationary bait, while being able to feed the local calico crab population will not put many fluke fillets on a post fishing trip table.

To maximize your catch of fluke, you have to not only keep your baits moving along the bottom, but also these baits must be moved across bottom structure or contour that contains fluke. There's no sense trying for fluke on the 80% of bottom that contains little or no fish. What you want to try to accomplish is to maximize your angling efforts over that 20% of the entire bottom area that harbors the most fluke. So the question that remains is how do you find and position your boat over that 20% of the bottom that contains the resident fluke population when the wind or tide prevents you from drifting? The answer to this question is twofold. First, you have to find the most productive bottom structure, and secondly, you should be trolling this area rather than drifting.

Before I describe some trolling tech-

niques, let me give you a short course in locating fluke structure. After all, you have to first find the fluke before you can catch them. For the most part, fluke tend to like sandy bottoms in which they can bury themselves with only their eyes protruding. Then as a baitfish swims by, the fluke with a burst of speed, will explode from the sand in hot pursuit of an easy meal. The area that most fluke tend to inhabit are the edges of structure breaks. A "break" is a sudden or gradual change of the bottom's contour, and being able to find these changes will help to locate more fluke. While most changes in the bottom's contour are usually covered with water, which

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## *The key words with trolling are Boat Control and Bait Movement.*

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makes a depth recorder an invaluable tool for fluke fishing, some changes such as sandbars, tidal rips, shoals, and channel edges can become visible during the ebb phase of the tide. By knowing where these changes are located in your area, and by knowing that fluke tend to be located on the downtide side of these structure breaks, you should be on your way to increasing your number of fish-to-trip ratio.

Now that you've got an idea as to what is the most productive type of bottom for fluke, how should you fish it from a small boat? Invariably, the wind and tide are moving against each other, or the wind is blowing diagonal to the direction of the structure break, or the tide is flowing too fast or too slow for a good drifting pattern. If this is the situation facing you, my suggestion is to start your engine and begin to troll the area instead of wasting your time waiting for good drifting condi-

tions.

Webster's dictionary defines the word troll as "to angle for with a hook and line through the water." If I didn't know better, I'd suggest that Webster was a fluke fisherman who eventually became frustrated with windless drifting conditions for this species. The key words with trolling are **BOAT CONTROL** and **BAIT MOVEMENT**. As was previously pointed out, you will maximize your catch of fluke by fishing over that 20% of the bottom's contour that contains most fish. By trolling the normal fluke baits along channel edges, sandbars, tidal rips, points of land, and shoals, you'll position these baits over the most effective bottom nearly 100% of the time.

The speed and direction in which you troll may be somewhat of a controversy amongst the fluke angling fraternity, but my suggestion is that you should troll just fast enough so that you can feel your sinker bouncing along the bottom. With the sinker in this position, your trailing baits will be in the fluke's feeding zone. In regards to the direction of the troll, my recommendation would be to forget the direction of the current and troll parallel to the structure breaks regardless of the tidal movement. By trolling in this manner, you'll be positioning your boat and baits over productive structure the majority of the time. When you hit a pocket of fluke, toss over a marker buoy, and retroll this area until you've caught most of the fish or they've stopped biting. It's also a good point to practice a little fish conservation here. In many cases, a zig-zag or a tight figure eight trolling pattern over a small pocket of fluke works wonders.

Just a few more trolling tips before ending this article. Since your trolling speed and direction may lift your bait off the productive bottom, you should let out sufficient line so that the line enters the water at 60° as the sinker hits bottom. The length of line let out at





this angle is approximately three times that of the water's depth, so trolling in 10-15 feet of water is suggested. If your motor is too big and fast for normal forward continuous trolling, you can keep the engine in neutral while running, and kick it into gear when additional forward motion is needed. As an alternative, you can run your engine in reverse with the stern of the boat helping to slow you down.

Finally, if the bottom you're fishing is generally free of obstructions, I'd suggest using a fishfinder rig when trolling. This rig consists of a plastic sleeve through which your line passes

before reaching the hook and leader. The benefit of this rig is that you can feel the fish before it feels the unnatural weight of the sinker while mouthing the bait. This rig certainly has an advantage when the fluke are finicky in striking a trolled bait, and the rig is usually available at most sporting goods stores that handle fishing equipment.

Though not practiced by many, trolling is perhaps the most productive way to consistently catch fluke. I encourage you to try this alternative fishing method especially if you're faced with adverse wind and tide conditions. It really works!



## TURKEY TALK!

*continued from page 17*

heavily attended event of the three day convention, was but an afternoon's doing. About 600 convention goers, many dressed in camouflage and wearing their hunting or felt hats adorned with turkey feathers, outdoor pins and patches, were also treated to a number of unique and well done seminars on their favorite subjects: the status of the wild turkey in New Jersey; how to hunt wild turkeys with bows and arrows and with black power guns; women in the outdoors; spring hunting and calling; and NRA turkey hunting responsibilities.

The exhibit area of the Hyatt was filled with turkey hunting equipment dealers, art displays, and other exhibits interesting to turkey hunters who wanted to get a jump on the spring hunting seasons.

New Jersey offered her finest to the convention: Jim Craig of Stillwater told an eager audience the fine points of how to take a wild turkey with a bow; Carol Decker of Frankford Township showed her art and provided pen and ink drawings for the programs; Bob Eriksen of Phillipsburg gave up-to-the-minute details about New Jersey's wild turkey project; and Leonard Lee Rue III of Blairstown provided the after banquet entertainment by showing his photographic slides of wild turkeys.



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illustrations for the National Zoo in Washington and several science magazines in the Washington area.

I suppose the most popular eating saltwater fish in New Jersey is fluke. Fluke fisherman Don Kamienski says *Trolling for Fluke* describes one of the most effective fish catching techniques an angler can use for this species. And he offered to take me out and prove it too. I just might . . .

Another 50th celebration will be held on May 15th at *Parvin State Park* in Elmer, N.J. The article about this celebration and the facilities available at Parvin State Park for campers, hikers, swimmers, anglers, and birdwatchers was written by Loraine Page. The author is a reporter for *The Central Record* in Medford and she has been published in the Sunday magazine section of the *Philadelphia Inquirer*.

*Canoeing the Pequest* was written by Frank T. Dale of Allamuchy, who describes himself as a Jersey boy who remembers when the shad didn't come up the Delaware, when there were no wild turkeys, Canada geese or black bears in our state. He says he has written outdoor articles for the local newspaper which provided him with "good excuses for spending time in the woods and on the rivers of our lovely state." That's what he said.

One of our most prolific contributors, saltwater angler Ferd Di Palma, writes about *The Name Game*. If I may use some poetic license, a snapper (fillet) by any other name would taste as good.

*Spring Flowers of Cheesequake State Park* describe what the article is all about. The article and the color photographs are the work of Park Superintendent William C. Vibbert, of DEP's Parks Bureau.

*Modern Uses for Historic Properties* describes "how DEP, through its Office

of Historic Preservation, is playing an active role in rehabilitation of historic properties throughout the state." The article was written by William Forwood, Architectural Historian, Office of Historic Preservation.

"To some people a muskrat is a cute, furry animal. To others, any animal with a "rat" in its name cannot have any redeeming qualities." With the above statement wildlife biologist Bob Byrne introduces our Wildlife in New Jersey article, *The Muskrat*. Illustrator Carol Decker provided us with the muskrat painting on the inside back cover.

As promised in the *Environmental News* section of the March/April 1983 issue of *New Jersey Outdoors*, we are including a snapout four-page insert of DEP's Office of Science and Research report on PCB levels in five fish species in New Jersey waters. This report also contains recommendations for cleaning (with illustrations) and preparing fish that may be contaminated.







Footbridge across Muddy Run.

# Parvin State Park

by Loraine Page



Hiking trail in Parvin Park.

Whether you are a "regular" who comes back year after year, or a "newcomer" exploring the park for the first time, you'll find there's something for everyone at Parvin State Park.

This small park, located in Salem County just five miles west of Vineland, has been an outdoor mecca for New Jersey and Pennsylvania residents for 50 years. Because its 1,125 acres consist of a variety of terrain—woodland, swamps, lakes, streams, and brooks, you'll find lots to do.

On a summer's evening, for instance, you can pitch your tent alongside Parvin Lake and let the whip-poor-wills serenade you. You can launch your boat in the lake the next day—or rent one here—and spend a few leisurely hours fishing. You're bound to catch some Calico Bass or Yellow Perch.

If you're a photography buff, you

might take shots of your friends on the scenic White Bridge, or close in on some of the wild flowers that grow in the park, such as blue violets, pink lady slippers, and orange milkweed. You can also hike through miles of forest and try to catch sight of a white-tailed deer or the elusive mink.

The park is open all year for many activities, and a protected bathing area at Parvin Lake, the largest of two lakes in the park, is staffed by lifeguards from Memorial Day weekend to Labor Day. Facilities here at Parvin Grove include a first aid station, restrooms, and a concession for food and beach supplies.

The grove is located at the entrance to the park, and admission is 50¢ per person over 12 years of age, between Memorial Day Weekend and Labor Day.

There are about 100 picnic tables in Parvin Grove, and a playground with swings and slides for the young-

sters. Picnic fires are permitted, but must be confined to the metal stoves, and fireplaces provided.

Group picnicking is provided at Thundergust Grove, on the shore of Thundergust Lake, just off Parvin Mill Road. The area has a capacity of 200 people, and can be reserved for use by clubs, Scouts, Church, and School groups on a daily basis. Cost for this facility is 25¢ per person with a reservation fee of \$3.00.

A pleasant after-lunch activity is boating, and there are two miles of stream above Parvin Lake that make interesting canoeing. A boat concession next to Parvin Grove offers rowboats and canoes for an hourly rental fee, or you can launch your own small boat (no motorboats, please) at Fisherman's Landing.

Both Parvin and Thundergust Groves close at sundown. No alcoholic beverages are permitted in the park.





**Above top—"Little Red Riding Hood" at the Children's Theater. Y.C.C. last day picnic.**

Parvin State Park is known for good fishing, with Large Mouth and Calico Bass, Carp, Eastern Chain Pickerel, Channel Catfish, Yellow Perch, and other pan fish to be found in good supply. Park Ranger Kenneth Lemke says that various fishing clubs come to the park to hold their competitions. "They do pretty well in their bass competitions", he says. Fishing is subject to the regulations of the Division of Fish, Game, and Wildlife.

Camping is by far the most popular attraction at Parvin, and each year campers from all over New Jersey and other states come to enjoy a few days or weeks of "roughing it" in

this beautiful wooded park. Some return every year because it has become their favorite vacation spot.

The park is divided into three sections for overnight use. The family and group campgrounds are located on the south shore of Parvin Lake, and cabins are dotted along Thundergust Lake. Campsites are open from March 1 to November 30, and the cabins from April 1 to October 31.

Jaggers Point serves as the family campground and there are 56 campsites here with room enough to park your car and pitch a tent, or pull

## 50TH ANNIVERSARY CELEBRATION

On May 15, 1983 Parvin State Park will celebrate its 50th anniversary with an all-day festival, and the tribute wouldn't be complete without honoring the men from the CCC camp.

In 1933, the CCC (Civilian Conservation Corp) was formed under President Roosevelt's New Deal program for the purpose of providing work for men between the ages of 18 and over. A CCC camp was set up at Parvin, and young men from all over the nation came here to create facilities for the new state park.

"We dug mud out of lakes and replaced it with sand, cleared trails around the park, built bridges over swamps, cleared road sidings, dug a new lake—Lake Thundergust, and built buildings," recalls a former CCC member, 67 year-old John Emmons. "If it weren't for these men, the park would have been just an old muddy stream."

He recalls how the men built the office/bathhouse complex, which is the main entrance to the park: "We traveled in dump trucks to Philadelphia. They were tearing down old buildings there and we would take the bricks and clean them up. That building is still standing!"

Life at the CCC camp was "military like" remembers Mr. Emmons. The men were under army regulations while in the camp, and under the Department of the Interior when they went to work in the morning. There were eight barracks, a mess hall, workshop, ping pong hall, and a recreation center where dances were held.

The men earned \$30 a month, of which they sent \$25 back home to their families and kept \$5 for themselves.

The work at Parvin took several years to complete, and gradually the men began to leave as they found work on the outside. By the early 1940's most of the young men were fighting in World War II, and the CCC barracks were empty. They were used in successive years to house German prisoners of war, displaced Japanese from the west coast, refugees from Europe, and the Kalmyk people who were exiled from Russia. All these people worked in factories and farms in nearby towns.

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# CANOEING THE PEQUEST

By Frank T. Dale

James and Margaret Cawley in their classic, *Exploring The Little Rivers of New Jersey*, didn't think much of the Pequest River. Describing it as running from Hackettstown (which it doesn't) along Route 46 to the Delaware River, they state that it "has some canoeable water in the spring from the Village of Pequest (present location of Kramer's Asphalt Plant) to the Delaware at Belvidere." Apparently the Cawleys did not know that far superior canoeing can be found farther upstream on the Pequest, beginning in the Allamuchy area.

The river in this area has little white water; rather, it is a meandering stream of considerable depth and current in periods of normal water with no dams or fish or eel traps to impede the canoeist. Some brush is in the water through Great Meadows but only one downed tree near the beginning of the journey makes a portage necessary.

The best place to enter the water is just north of Route 80 in Allamuchy Township, Warren County, on Long Bridge Road near Alphano Road. There is a wide spot in the river here and the banks are low. There is plenty of room to park a car unless an unusual number of springtime fishermen are present.

Canoeists should get well into the middle of the river quickly, for almost immediately it rushes under a railroad bridge—use the center span—and a short stretch of white water is encountered. Route 80 is directly in front, but the river makes one of its frequent



PHOTOS PROVIDED BY AUTHOR





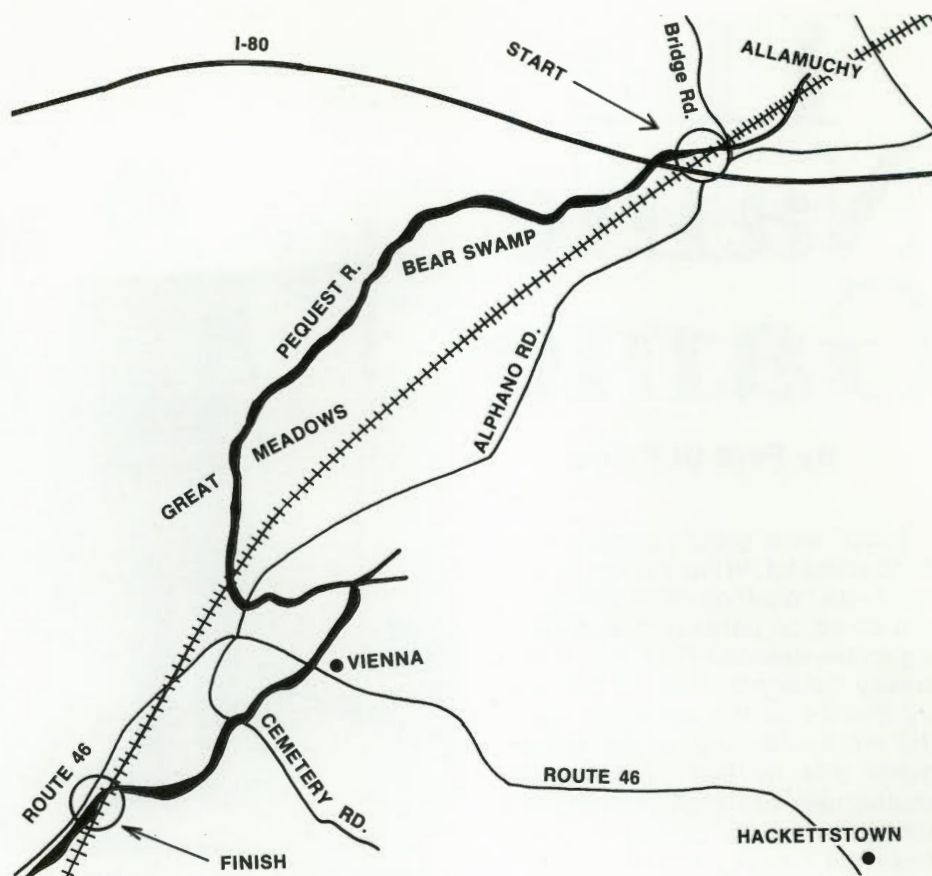
meanders and runs parallel to the highway for a while. It is in this stretch that a large downed tree blocks the river and the one and only portage must be made—the right bank is best. The Pequest then passes under Route 80 via a long tunnel and emerges on the other side in an area called Bear Swamp. Recent bear sitings in Allamuchy attest to the appropriateness of the name!

For the next hour or so the steady current guides the canoe through an uninterrupted forest wonderland. No houses, roads, or bridges are to be seen. The trees on the banks spread their limbs over head and wildlife is everywhere. If you paddle silently and talk in a whisper, there will be much to see and hear. Muskrats can be observed and deer are frequent river edge visitors. Huge turtles rest along the shore. Frequently, I've been escorted for this entire stretch by a few Black Ducks, streaking ahead close to the water, then landing around the next bend, waiting for me to catch up, and then taking off again when I get near. Hawks and owls abound but the Great Blue Heron will be seen most frequently of all, for the Pequest here passes through one of the few remaining Blue Heron rookeries in our State.

This stretch of river, beginning at Bear Swamp and passing through Great Meadows, is narrow with a brisk current, silent and shaded. Rarely can the bottom be touched with the canoe paddle. Canoeing skills are needed occasionally, for at two or three places in the river trees partially close passage and a modicum of technique is required to maneuver through the branches.

Soon the river crosses under another railroad bridge—same railroad—bends sharply, and crosses under Alphano Road, a mere 100 feet or so from Route 46 at Vienna. But here the river bends again and parallels the highway. The sky above opens up, tree growth along the river bank is sparse, and the river enters an area of open fields. Because of the high banks no human habitation is visible. Only an occasional dock or barn roof can be seen. The canoeist should watch the right bank here for grazing or drinking deer; I have never made this passage without seeing some.

Shortly, the Route 46 bridge will appear. A word of caution here: this is a favorite fishing hole and you'll be unexpected. So be prepared to



backpaddle to give the fishermen a chance to notice you and reel in their lines.


You'll observe that the river has been widening and that the land is more open. The lack of trees along the bank means no brush in the water. But the current moves right along; paddling is required only sporadically.

Shortly after passing under Route 46 another bridge—and fishing hole—is encountered. This is the Cemetery Road bridge, named for the cemetery on your right up the hill. Again, beware of anglers. Either arch under this old stone bridge is usable, although the left one has a riffle and a few large rocks that must be avoided.

From this point on the river widens even more and no obstructions will be met. Again, the banks will be deserted and you will be traversing an apparently deserted landscape. This is a time to relax, paddle infrequently, and observe and listen. This final portion of the trip takes about 45 minutes. Some of it is through open fields, the final portion through woods. And all too soon an abandoned railroad bridge will mark the end of the trip. Pass under the

bridge and paddle to the right bank. A dirt road is nearby which runs in from Route 46 just west of a gravel bank (look for the burrows of a large colony of Bank Swallows) and truck garage. The river at this point has almost touched the highway and from here westward on its journey to the Delaware, runs very close to the highway, on its south side. Your pickup vehicle can be parked anywhere in this area.

The best time for this trip is in the late spring. The water is deeper, the current stronger, and the bushes crowding the banks in some areas have not yet reached over the water to narrow the canoeist's passage. And of course insect activity will be almost nil. If you like crowds of people, littered river banks, and power boat accompaniment, avoid this trip. I've never met another canoe on this portion of the Pequest River, and only an occasional angler, and even he'll be absent if your trip precedes the start of trout season. Trip takes three to four hours.

This whole experience will present to you a portion of the Pequest River that is silent, clean, remote—truly a canoeing Utopia. 



# The Name Game

By Ferd Di Palma

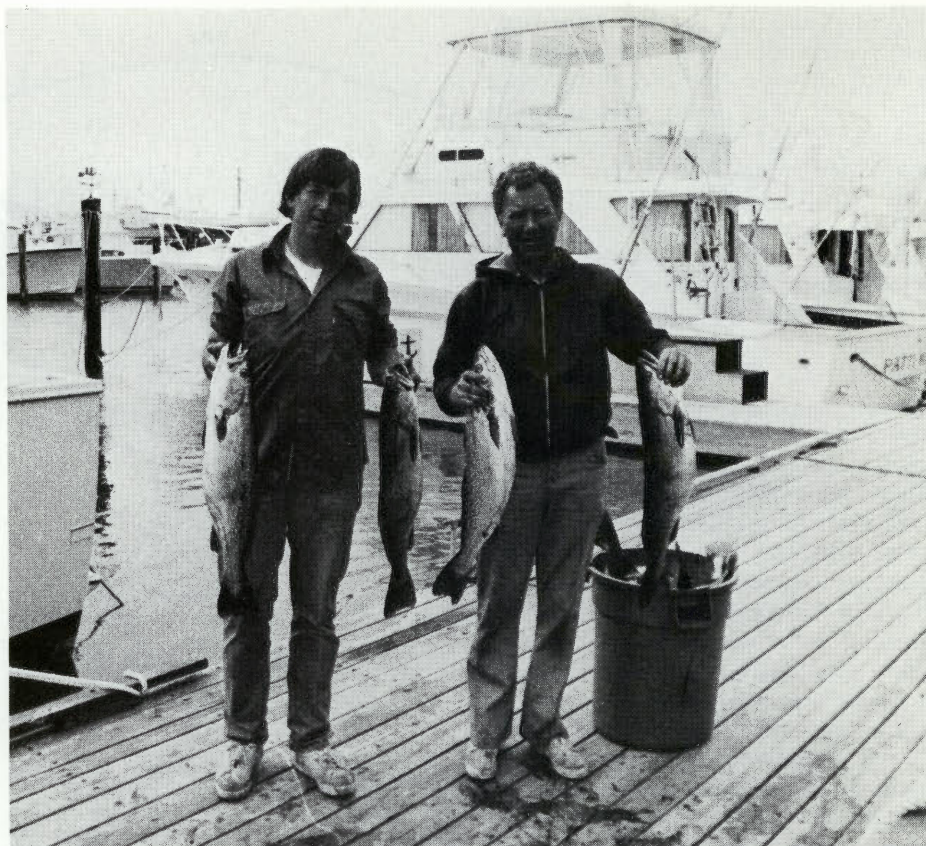
Taken as a group, anglers are a peripatetic lot. Waters seem to contain more "blue" on other coasts and this could be partially true depending on the season of the year. A New Jersey fisherman must of necessity try Florida or the Bahamas during the months of high winds and extreme cold. In return, sundrenched southerners are frequently encountered on New Jersey's sandy beaches, rock jetties, charter vessels and party boats during the hot months of summer.

That is where the saltwater name game comes into the angling picture.

In the spring of the year the New Jersey fisherman is likely to encounter cod, ling, and whiting; related species, yes, but easily identifiable as they come over the rail of a fishing boat.

Well, let's see! A cod is a cod although some party boat wits often sing out "baccala coming in," to alert the mate with the gaff. New Jersey's ling and whiting are the red and silver hake of the international commercial fishery. On the other hand there is a smallish fish that occurs along the northeastern shoreline known as the northern whiting. Somehow this lackluster little species became known to Jerseyans as the kingfish, though not at all regal in either size or strength. This becomes even more evident as the New Jersey angler travels to Florida where he encounters kingfish that may go 8 or 10 pounds to 60 pounds plus; this long, sleek, powerful speedster is also known as the king mackerel.

Let us go back a moment to our friend the ling. The traveling fish-



*Cynoscion regalis*: This crowd-pleaser is often called weakfish. New England old-timers call it the squeteague. In southern waters the gamester becomes the grey trout—sometimes simply trout. But wheatfish?

PHOTOS BY AUTHOR

erman does not have to venture too far south to tangle with a large, heavy-bodied brown brawler that also might tip the beam at 60 pounds or more. You guessed it. The locals around the Chesapeake area have named the species ling. Meanwhile that same tackle-buster taken in the Gulf of Mexico is known as the lemon fish. Cobia to the cognoscenti.

If our peripatetic fisherman should travel to the northwest he might run into some pretty fast action with another ugly, ill-tempered but very good-eating specimen known to West Coast aficionados as the lingcod, a species that is neither ling nor cod.

During the month of May a very popular gamefish arrives in Delaware Bay. At that time the Delaware Bay area becomes the scene of intense angling activity as fishermen from several surrounding states arrive in pursuit of the weakfish. This splendid light-tackle gamester is supposed to have obtained its regional name (New Jersey—New York) because of the tender jaws

that require the use of light tackle and loosened drags. Some angling historians claim that the name weakfish is actually a corruption of wheatfish—a name inspired by the increasing abundance of *Cynoscion regalis* during the period of the harvest moon. At any rate the weakfish is also known as squeteague in New England's waters and the grey trout below the Mason-Dixon line. Southerners hold to the more pleasing appellation of seatrout for the weakfish's close relative *Cynoscion nebulosus*.

Everyone seems to know that the fluke—oops!—summer flounder is a flatfish. Bluefish are known as exactly that; except for the more descriptive name chopper, an obvious choice for this iron-jawed, sharp-toothed battler. But why New Englanders call the sporty pollock a Boston bluefish is beyond me.

When we get further offshore the name game becomes even more sticky. Troll up a mess of little tunny and right off someone calls these hard-running little gamefish albacore—forgetting or omitting the



adjective false. The next guy latches onto an albacore and it is necessary to report this fine food and gamefish as a true albacore. Let it go, already! Call the albacore by its name—or, if you will, let it be a long-fin tuna. But keep the little tunny as the falsie, even though down Florida way saltwater enthusiasts label it the Jersey bonito.

The striped bass of New Jersey, New York, and New England becomes the rockfish of the Chesapeake. The tautog of the northeast is the blackfish of New Jersey/New York—and the slippery bass of southern New Jersey.

Any angler who has inadvertently discussed the taking of dolphin, a beautiful multicolored denizen of the Gulf Stream which is occasionally encountered as far north as New Jersey, must be prepared to face the glares and sometimes the outraged remarks of the uninitiate who immediately suspect he has been killing the brothers and sisters of "Flipper," the beloved marine mammal of TV, whose descendants have become the current mascots of the Miami Dolphins football team. Better to call this animated streak of pulsat-



**Pomotomis saltatrix:** Up to about a half or three-quarters of a pound the species is widely known as snapper. One- and two-year-old fish are likely to be called tailors. Big brawlers are often identified as hatteras choppers, Montauk slammers, and Jersey jumbos.



A dynamic battler for its size, the little tunny is often erroneously called albacore. The New Jersey/New York regional or colloquial name is, more properly, the false albacore. Floridians term this spectacular light-tackle gamester the Jersey bonito.

ing color by its Mexican moniker, the dorado, or, as it is known in Hawaii, the mahi-mahi.

Let us go back a moment to our friend on the party boat who cried "baccala coming in." He thought he was using a word of Italian origin—a variation of the Spanish/Portuguese "bacafao" (cod). Actually the word is of American indian origin. As early as 1497 Sebastian Cabot, exploring the new world with his father, wrote of an excellent food fish much relished by the coastal tribes. The fish was the cod and the indians called the fish bacalao.

But all this pales in comparison with some of the regional and colloquial names of some freshwater species. A United States government publication provides the information that there are 55 different names for the species *Pomoxis nigromaculatus*, the black crappie also known to New Jersey fishermen as the calico bass.

If you want I'll send you a list.  
Ferd Di Palma  
178 Ivy Street  
Newark, New Jersey 07106



## Old-time country fair **FANFAIR**

Sponsored by the  
Riverside Hospital Auxiliary,  
Boonton Township.

- Wandering Clowns
- Children's rides
- Exotic foods
- Home baked pies and cakes
- Parachutists
- Irish Dancers
- Miss FanFair Beauty Contest
- Crafts

For a real day of family fun on the *second Saturday* in June (June 11, 1983) consider taking in this FanFair any time from 9:00 a.m. to 9:00 p.m. topped with fireworks just after dusk. Just find your way to Boonton and U.S. Routes 46, 80, 202 or 287 and signs will direct you to the *FanFair*.



# Spring Wildflowers of Cheesequake Park

There is no finer show in nature than the early spring explosion of wildflowers that takes place in New Jersey in April and May. Unlike the bold shower of fall's brilliant colors, you'll have to stalk carefully through the moist spring woodlands to catch the subtle splendor of these fleeting blooms.

An excellent place for an introduction to New Jersey's rich variety of spring wildflowers is Cheesequake State Park in Old Bridge. The wide diversity of plant communities, a well marked trail system, and easy access from the Garden State Parkway make Cheesequake appealing for the beginner and the experienced botanist alike.

Unlike the summer wildflowers of open country that may flower for several months, the spring wildflowers of the hardwood forest must complete their reproductive cycle quickly. When the forest canopy is complete, sunlight is restricted and growth must wait for another season. In April and May, the deciduous forest changes incredibly rapidly. Park visitors are surprised to see a brilliant flower where only a small leaf was present a week before. Employees and visitors trade information to keep up to date: "Saw starflowers today, bellworts and violets are in flower too . . . on the green trail near the boardwalk." "We should see Lady's Slippers in a week or so." To many, the appreciation of wildflowers is one of the rewards of being out-of-

doors in the spring. The flowers are the mileposts of the changing season.


The author's favorite spring wildflower is the Trailing Arbutus, once common, but now becoming rare due to overpicking and loss of suitable habitat. Probably no event in nature more certainly signals the arrival of spring than the appearance of the delicate, fragrant pink and white flowers in early April. Trailing Arbutus is said to have been the first wildflower sighted by the Pilgrims. A late snow may cover the tiny blossoms, but the flowers signal that winter is finally past.

**by William C. Vibbert,  
Park Superintendent**

Perhaps the most well known of the spring wildflowers is the Pink Lady's Slipper. An orchid, the Lady's Slipper has a specially adapted petal called the sac or lip. An insect that enters through a one way slit in the lip must pass by the stigma and the stamens before it can exit out the base, thus insuring pollination. It is common to hear the flowers "buzz" as bumblebees search for the exit. The yellow trail near the natural area parking lot is one of the most convenient places in New Jersey to observe these lovely orchids, as the forest floor is nearly covered in early May by the bright pink translucent flowers.

A few other highlights found along

the Cedar Swamp trail in the natural area are Jack-in-the-pulpit, Wood Anemone, Violets, Sessile Bellwort, Starflower, High and Low Bush Blueberry, Pink Azalea, and Wild Geranium. Along the trail near Gordon Field group camping area, the forest floor is covered by a green carpet of Wild Lily-of-the-valley. The most spectacular show takes place in June near Booth Field group camping area when acres of Mountain Laurel turn entire hillsides pink. Not really a wildflower, but a flowering shrub, the Mountain Laurel signals the beginning of summer and the end of the flowering season of the spring ephemerals.

Spring is one of the best times to visit the park. The summer crowds have not arrived yet and a quiet walk is possible even on weekends. It is a good idea to call the park office (201-566-2161) and ask what flowers are in bloom. Remember, wildflowers reproduce very slowly and should never be picked or dug up. In their natural setting, they are a delight to the passer-by and a reminder of the beauty of the virgin forest that once covered all of New Jersey. For photographing wildflowers, a 35mm camera is best with either a macro lens or the inexpensive, but excellent screw-on close-up lenses. Stop at the park office and pick up a map of the trail system. Cheesequake State Park is located in Old Bridge and can be reached via the Garden State Parkway, Route 35, Route 34, or Route 9. 

PHOTOS BY AUTHOR



1



2



1. Trailing Arbutus  
*Epigaea repens*

2. Pink Lady's Slipper  
(Also Rare White  
Phase)  
*Cypripedium acaule*

3. Jack-in-the-pulpit  
*Arisaema triphyllum*

4. Starflower  
*Trientalis borealis*



3



4



5



6

5. Wild Lily-of-the-valley  
*Mianthemum canadense*

6. Wood Anemone  
*Anemone quinquefolia*



# MODERN USES FOR HISTORIC PROPERTIES



**The Abbey, Cape May Historic District (Cape May County), has been converted to a guest house.**



**Essex Catholic High School (originally the Mutual Benefit Life Insurance Company) in Newark (Essex County), will become a 460-bed health care facility.**

New jobs, new dwelling units, health care facilities, restaurants, offices and new tax ratables for cities are the result of a federal program to encourage private investors in preserving certified historic structures by adapting them to meet present day needs. The Department of Environmental Protection, through its Office of Historic Preservation, is playing an active role in this rehabilitation of historic properties throughout the state. The Office of

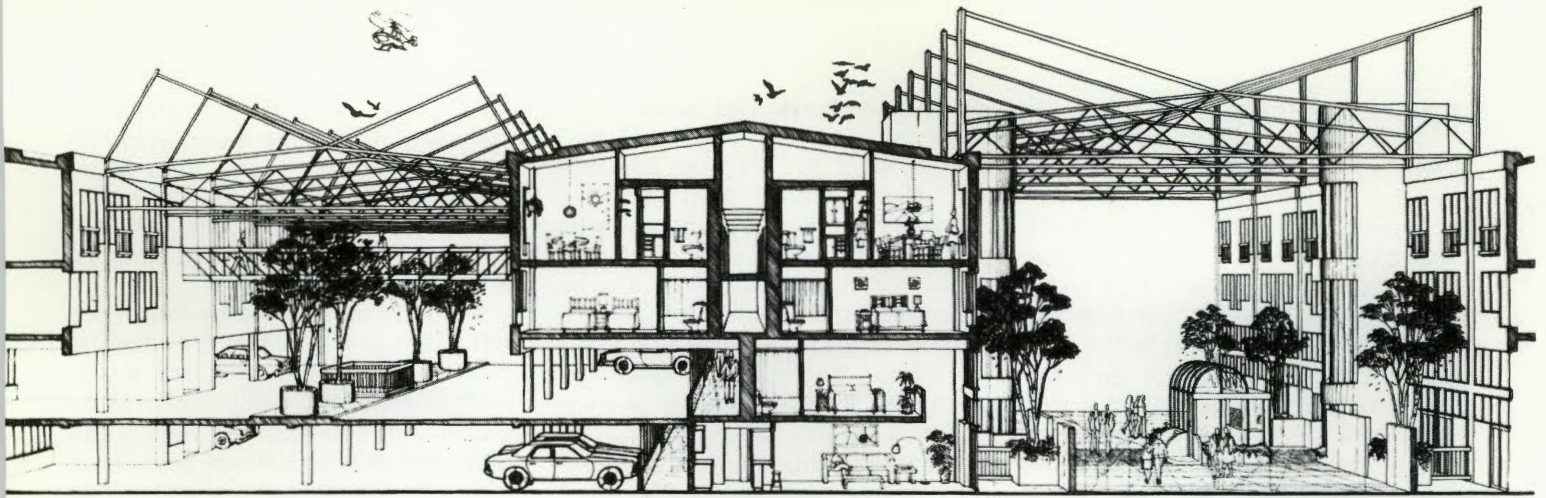
Historic Preservation is normally the first contact and principal intermediary between the developer and federal certifying authority, the Department of the Interior.

Developers and property owners in New Jersey have become increasingly aware of the potential tax benefits under the Economic Recovery Tax Act of 1981—developers of certified historic structures may realize a 25 percent federal investment

tax credit for their income-producing properties. This has encouraged private sector financing and helped fill the void left by a severely curtailed federal grant program for historic preservation. The number of New Jersey projects executed under the Tax Act has doubled each year, and the indication is that this phenomenal growth will continue.

In 1982 the Office of Historic Preservation reviewed applications for





**Edgewater Commons**

**By William Forwood,  
Architectural Historian,  
Office of Historic Preservation**

PHOTOS PROVIDED BY THE AUTHOR



**South Village I and II. The Stokely-Van Camp Industrial Complex in Trenton (Mercer County) has been converted into 132 residences for senior citizens.**



**Van Dorn Mill, Franklin Historic District, Bernards Township (Somerset County), has been rehabilitated as the New Jersey office of an international architectural firm.**


over \$104 million in construction and certified more than 120 individual buildings as eligible historic structures. Once abandoned firehouses, churches, schools and railroad stations in Dover, Bridgeton and Newark are becoming restaurants, shopping malls and offices. Mill buildings in Paterson and Victorian houses in several cities including Jersey City, Plainfield and Haddonfield are becoming apartments and professional

offices. These will be tax ratables for the cities.

The typical Tax Act project is exemplified by the conversion of a nineteenth century Jersey City brownstone to multifamily or professional office use. The range and variety of projects will be apparent by glancing at the photos accompanying this article.

One of the largest certified Tax Act projects in the country will be the

rehabilitation of the huge Ford Motor Company Assembly Plant in Edgewater (Bergen County). When completed, the renovation will provide housing for over 700 families and contain within its walls its own shopping area, central park, street systems and parking area.

For further information on preservation tax incentives and applications, write to DEP, Office of Historic Preservation, CN 402, Trenton 08625, or phone 609-292-2028. 



## PARVIN STATE PARK

*Continued from page 21*

in your camper/trailer. Each campsite is equipped with a grill, picnic table, and access to a water pump. Open fires are permitted in the circular metal fireplaces provided, but firewood is not supplied. There is a bathhouse nearby with sink, flush toilets, and free showers, and a sanitary station for trailers. Washers and dryers are available for doing laundry.

Campers have a special boat landing and swimming area designated for them on Parvin Lake, and there is a playground nearby.

A campsite at Jaggers Point cost \$6 per night for up to six people, unless there are more in the immediate family. (Immediate family includes parents and children). Most of the sites are first come, first serve, but one third are reservable. Those sites may be reserved for a minimum

of one week, or two weeks, from June 15 to Labor Day, and for a minimum of two days at any other time during the camping season.

Island Point campground is for groups of campers, such as clubs or other organizations. There are two sites here that hold a total of 100 people, and the facilities are similar to those at Jaggers Point. The campsites may be reserved at a cost of 75¢ a person, per night.

Campers who enjoy a roof over their heads, may rent one of the 15 cabins along the shore of Thundergust Lake. These rustic cabins are nestled in the woods at a distance of at least 100 feet from each other. The fact that they have no telephone or TV adds to the outdoor feeling. A cabin cost \$18 per night or \$126 for a week. Up to six people may stay in a cabin.

The cabins are alike, except that eight have woodstoves instead of fireplaces. Wood is provided. Each cabin has a living room furnished with a table, two benches, and four chairs, and the two bunk rooms are equipped with double-deck bunks and mattresses. (Extra mattresses may be furnished by the camper.) The entire front living room can be opened with screens for the summer use, and outside there is a terrace with picnic table and grill.

The kitchen is complete and has a sink, electric range with oven, and electric refrigerator. The bathroom has a sink, toilet, and a shower. There is hot and cold water, and electricity is included in the rent.

Cabin visitors supply their own gear, including extra sleeping bags, linens, pillows, blankets, diningware, and cooking utensils. Food can be bought in a small grocery store in Centerton, two miles away, or in the larger shopping centers in Vineland and Bridgeton.

The cabins may be reserved for a week or two weeks at a time from June 15 to Labor Day, and for a minimum of two days at any other time during the cabin season. Payment in full plus \$3 reservation fee must accompany applications.

Parvin State Park is also a haven for nature lovers. It has a total of 15 miles of hiking trails (including a three-mile blacktop trail for bicycling) that wind around the lakes and

throughout the 450 acre preservation area. Animal life found at Parvin includes deer, fox, raccoons, opossum, rabbits, mink, red and grey squirrels, river otters, and different types of turtles, frogs, snakes, and salamanders.

Guided hiking tours by the park's naturalist are available by reservation on a year round basis, week-ends in June, and daily, except Monday, in July and August. The naturalist points out the various plantlife in the park, such as the white and chestnut oak trees, pitch pines, white flowering dogwood, mountain laurel and huckleberry bushes, jack-in-the-pulpit or "Indian Turnip" flowers, white Queen Anne's Lace, blue flowering chicory, and wild lilies-of-the-valley.

A nature center located off Cabin Road, serves as a learning center for scouts, 4-H clubs, and other interested persons. Different specimens of plant and animal life from the park are on display, including leaves of different species, pine cones, turtle shells, and woodpecker homes.

Birdwatchers will find an abundance of birdlife at Parvin. Such species as warblers, thrushes, vireos, swallows, whip-poor-wills, and even the summer tanager have been seen here.

Special events are sometimes held at the park, such as the upcoming 50th anniversary celebration of Parvin State Park, which will be held on May 15. In past years, the New Jersey Council of the Arts and the Children's Theatre have entertained campers and picnickers with plays and musical numbers.

The park is open all year round, and according to Park Superintendent Joe Reed, people come out to enjoy hiking, cross country skiing, and ice skating during the winter months.

Nearby attractions include the Centerton Golf Club, which is across the street on Route 540, the Cowtown Rodeo, Bridgeton Zoo, and historic Wheaton Village. The park is about 40 miles from the Jersey shore and Atlantic City.

For more information, call (609) 965-7039 or write: Parvin State Park, R.D. #1, Elmer, New Jersey 08318.

*continued from page 21*

### 50TH ANNIVERSARY

Mr. Emmons, who was born in Vineland, joined the CCC camp when he was 18 years old. He stayed there for four and a half years as first sergeant, then went on to help establish a new camp in Nevada. He eventually took a job at Seabrook Farms (N.J.), where he worked as a shift supervisor for 40 years.

The gala celebration at the park on Sunday, May 15 will be open to the public. Festivities will begin at 10 a.m. with an arts and crafts show by professionals, lectures on the history of the park, and an antique car and firetruck show. Scheduled also is a tractor-drawn hayride through the park.

In memory of the CCC men who put the park together, there will be a display of pictures of the men from the old camp and a model of the barracks, which no longer exist. In the afternoon there will be a parade from Thundergust Lake to the main entrance, and a concluding ceremony during which a plaque will be dedicated to these men.

John "Popeye" Emmons would like to hear from any of the "ex CCC boys from Company 1225 Parvin State Park." You can contact him at (609) 451-3532.





## Wildlife in New Jersey

# The MUSKRAT



by Bob Byrne

To some people a muskrat is a cute, furry animal. To others any animal with a "rat" in its name cannot have any redeeming qualities.

To the resource manager, however, a muskrat is an animal that has tremendous economic and recreational value. It can also be used as a monitor of environmental quality and ecosystem productivity.

This tangible value makes muskrats special because direct economic impacts of what people want to do with the land can be measured. This becomes extremely important when conflicting uses are being considered. Because we have a dollar value for muskrats and we know what effects man's use of habitat will have on muskrat populations, we can use muskrats as a model for making environmental decisions.

*Webster's Dictionary* describes it

as a large, aquatic, North American rodent (scientific name: *Ondatra zibethica*), having a musky odor. Although this is a very accurate and concise description it does not do justice to the animal.

Muskrats usually weigh between 2-4½ pounds and have an overall length of 15-27 inches. They have a long thin scaly tail, which is vertically flattened. The tail accounts for about 1/3 of the total length of the muskrat. Males average about a half to a pound heavier than females.

The term muskrat was derived from the Algonquin Indian name for the animal, "Musquash." It is still known and marked as musquash in England which is one of the principal purchasers of muskrat fur. Muskrats are also known as 'rats, marsh rats, and mushrats. "Hudson Seal" is sometimes used as a marketing

name for the fur products. Because of its aquatic nature "marsh rat" is probably the most descriptive.

Like all rodents muskrats have large orange-colored incisor teeth in the front of its jaws and flattened grinding molars in the back. This tooth structure identifies the owner as vegetarian or herbivore. In the case of muskrats, the food supply comes from the roots, stems, and leaves of many different aquatic and semi-aquatic plants. Cattails, bull-rushes, burreeds and arrowhead are the most important food plants but the muskrats' diet is so diverse that almost any plant living close to water can and will be consumed.

Muskrats are rarely seen because of their nocturnal nature. However, they are frequently observed by boaters or fishermen who venture out after dark during the summer.



They are also easily spotted sitting on the edge of the melting ice at ice-out during the spring.

The musk that gives the muskrat its name is found in glands located at the base of its tail. This heavy sweet-smelling scent is most prevalent in the spring when males deposit it on prominent locations on streambanks or lakesides to mark their territories and attract females. In diluted concentrations the musk has an agreeable odor that is sometimes used in expensive perfumes and colognes.

The breeding season for muskrat begins in mid-February or early March when the males start marking their territories. Mating will continue throughout the summer months. At the height of the breeding season, which is usually in late March, the males will frequently fight over females and/or their territories. Very rarely does this fighting result in any serious injuries. However, numerous bites and cuts are received.

Musk rats have a very high reproductive rate. It is not unusual for a female to have three or more litters per year with an average of 5 or 6 young per litter. The young of the first litters are also capable of having litters before the summer ends. Quick calculations make it easy to see that a few muskrats in the spring will result in many 'rats in the fall!

Musk rats are never found far from water. They can live in any slow moving body of water that is deep enough to allow them to construct an underwater entrance to their den. Two different types of dens are constructed. The bank den is usually a simple tunnel dug into the stream or lakeside bank. It is usually found dug under a convenient tree. The roots of

these trees are sometimes used as an emergency food source. The lodge or "push-up" is made of mud, roots and stems of various aquatic plants. It is similar in appearance to a small beaver lodge. The "push-ups" are more common in shallower marshes.

Musk rats are found in every New Jersey county including those in the highly developed northeastern area. However, the greatest population densities occur in the coastal salt marshes along Delaware Bay. In these tidal areas it is not uncommon for populations to reach 20 rats per acre.

As an adaption to its habitat the muskrat has a very dense waterproof fur. The fur ranges in color from a sandy brown to a jet black, but the most common color is a chestnut brown.

This fur is widely sought after by the fur industry to make long lasting functional clothing. The nation-wide value of this fur resource is estimated to be in the hundreds of millions of dollars. In New Jersey the value of the 300-400 thousand muskrats that are taken each year by trappers is calculated to be worth between two to three million dollars. This is the *raw fur value*! When processed into finished garments, value to the economy of the state is estimated to be 12-15 million dollars.


Studies have shown that trapping has little or no effect on the overall muskrat population. The annual death rate of a muskrat population is between 60-80% per year. This annual loss can be easily made up by its extremely high reproductive rate. The reason for this large population turnover is because of the seasonal changes in the availability of food, cover, and water.

Quite simply, there is more food and places to hide in July, August and September than there is in January and February. The population is limited by these lower levels of food and cover. From a population standpoint the individual muskrats that are removed during the regulated trapping season are the same ones that would otherwise die because of the lack of adequate habitat.

Trapping is a controversial subject. However, from a resource management point of view it is a method of removing a part of the ecosystems' productivity and channeling it into usable products. The overall value of these ecosystems is increased by production of tangible goods like fur products, wood, minerals, etc. These are the natural resources that form the basis of our standard of living.

This is the root of the controversy that surrounds trapping. Some people do not see muskrats or other wildlife as natural resources. Some people question the morality of viewing animals, especially "warm blooded" animals, as usable economic and recreational raw materials.

The future of the muskrat in New Jersey roughly parallels the future of all environments in New Jersey. Musk rats are extremely tolerant of human disturbances as long as they have the proper amounts of food, cover and water. Management and legislative decisions in the future will have to provide for these needs. Recent legislation has begun to recognize the value of protecting wetlands and providing minimum water quality standards.

If these mandates are maintained, the future for people and muskrats in New Jersey is bright. 

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#### FRONT COVER

*Albert McReynolds with his world record striped bass—Photographed by Pete Barrett  
(See article on page 2.)*

#### INSIDE BACK COVER

*Muskrat—Illustration by Carol Decker (See article on page 31.)*

#### BACK COVER

*Field Attraction: Girl with Black-Eyed Susans—Photographed by Paul E. Taylor*





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'83



