

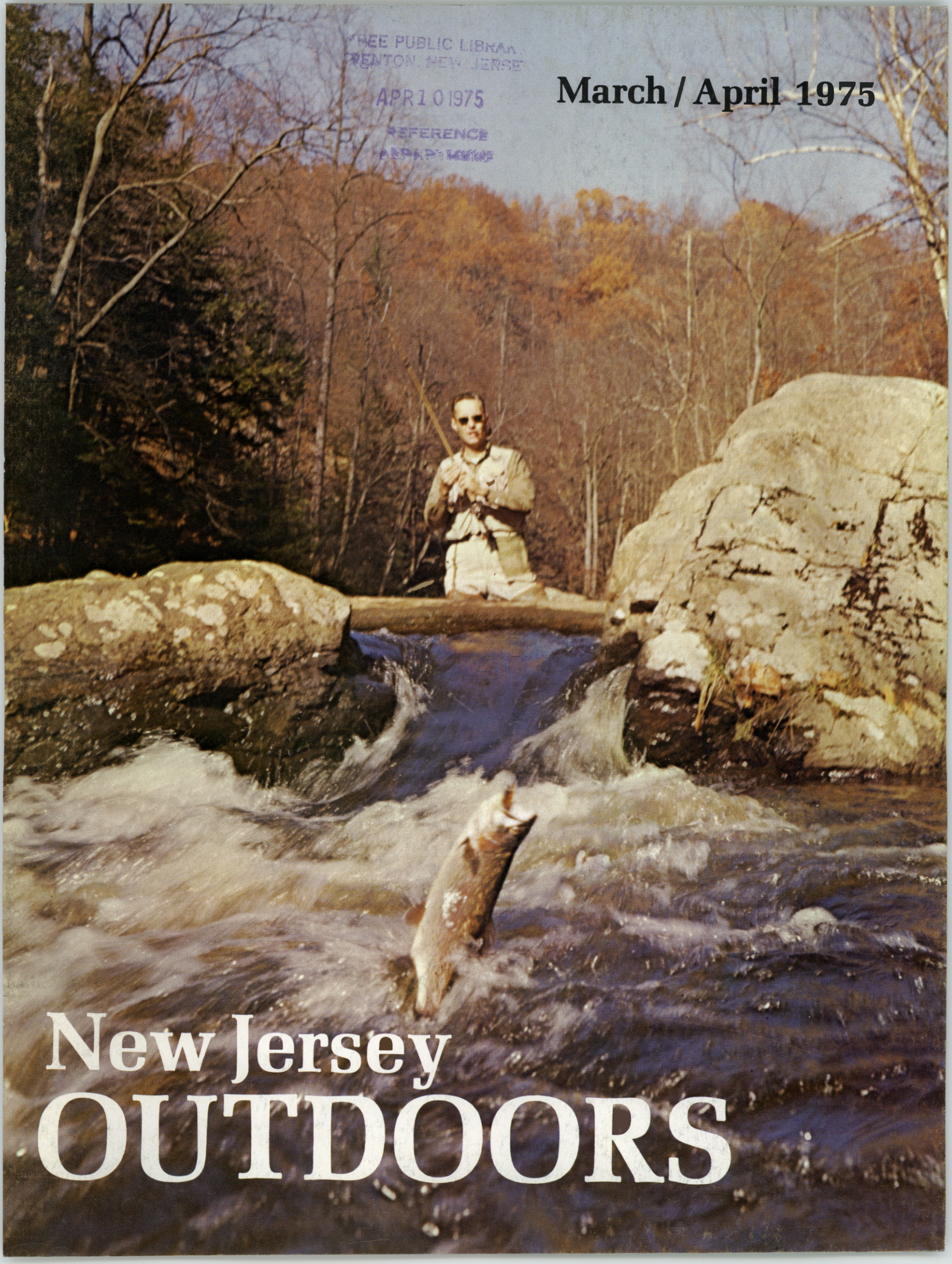
FREE PUBLIC LIBRARY
TRENTON, NEW JERSEY

APR 10 1975

REFERENCE

APR 10 1975

March / April 1975



New Jersey OUTDOORS

State of New Jersey



Brendan T. Byrne
Governor

Department of Environmental Protection

David J. Bardin
Commissioner

Editorial Advisory Board

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

John Krauskopf, *Director*
Office of Newark Studies

John McPhee, *Author*

Richard J. Sullivan
Center for Environmental Studies
Princeton University

Irwin Zonis, *Vice President*
Essex Chemical Corporation

New Jersey Outdoors Magazine

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

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

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

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

New Jersey OUTDOORS

Trout Fishing Prospectus <i>By Walt S. Murawski</i>	2
Paddling Through The Pine Barrens <i>By Sheila Link</i>	6
Oil Spills = Death for Ducks <i>By Fred Ferrigno</i>	9
What Was That Critter? <i>By Joseph M. Penkala</i>	14
Nature: Wildlife vs. Human <i>By Jerry Schierloh</i>	18
The Beagle — A Sporting Dog Well-Suited to New Jersey <i>By Len Wolgast</i>	22
Project U.S.E. — Urban Suburban Environments <i>By Phillip M. Costello and L. Jose Gonzalez</i>	24
Search for New Jersey's Biggest Trees <i>By John Kuser</i>	30

FEATURES

From the Editor	1
New Jersey Marine Police Letter From An Old Timer	5
Environmental News	13
CO'S Corner	17
New Jersey at the NE	29

ducks, death and oil spills

Another year, another major oil spill on the Delaware River. In addition to the grim loss of human life, an estimated 2500 to 3000 ruddy ducks perished in the 500,000-gallon oil bath. The photographs on page 9 depict the sad story of the stricken ducks — the collecting, the cleaning operations, and the dying. Some of the volunteers pictured are from last year's duck cleaning operation. But the results were much the same. This year's duck operation article begins on page 10.

Last year we treated 852 ducks of which 44 percent died after cleaning. The remaining ducks were released and observed. Lack of band returns and field observations indicated that most of these ruddies perished.

This year we treated 500 ducks with several types of solvents and lost 40 percent of the ducks within 72 hours. The remaining ruddies were transferred to our game farm at Forked River. But despite the efforts of our dedicated volunteers, and the cleaning solvents supplied by the oil companies (to atone for their oil spill sins), all the treated ducks died.

A related story tucked away in a corner of a Sunday edition of a Philadelphia daily reported a massive oil spill off the coast of Portugal. A giant supertanker ran aground attempting to enter an artificial deep-water port, exploded, killed four crewman and injured five more. According to the Associated Press, the 85,000 tons of crude oil is a total loss and is now spreading along the coastline of Portugal.

Converting the above figure to gallons, produces a horrifying 26,353,322-gallon oil spill. This is probably the second largest known oil spill thus far.

What would an oil spill of this magnitude do to the coastline of New Jersey? To the beaches, the saltwater fisheries, the salt marshes, the shellfish, the bays and estuaries? How long would it take the resource to recover?

And it can and will happen here — for this is the age of the supertanker.

from the
editor



Division of Fish, Game and Shellfisheries

Steve Perrone

New Jersey State Library

TROUT FISHING

KEN LOCKWOOD GORGE

Photo by Harry Grosch



PROSPECTUS

W. S. MURAWSKI

Principal Fisheries Biologist

Each year, we in the Bureau of Fisheries are caught in a dilemma. On one hand we hope for an early cold snap so that our northern lakes will freeze up and allow the large number of frostbite anglers to fish through the ice for their favorites—pickerel and yellow perch. But on the other hand we also hope for one of those mild winters where, because of the lack of ice cover, we can continue to feed our trout at our Hackettstown hatchery. We learned that with winter feeding we obtain continued growth and increased survival and thus have a better inventory of larger fish for next spring's stocking. Thus we have come to appreciate whatever nature hands out to us, be it a good ice fishing season or, as has been the case in the last few years, a good trout growing winter. Thus far it looks like this has been another year of moderate temperatures and our crop of stockable fish is much better because of it.

Winter growth is especially appreciated this year because our number of two-year old trout is down about one-half from what it was a year ago. Last year approximately 170,000 one-year old brown trout had to be destroyed because of cataract blindness. Thus we are hoping to partially recover some of our losses by making it up in size and survival in both our one-year olds and remaining two-year olds.

In addition, to help make up for these two-year olds, we have been able to raise approximately 50 percent more one-year old browns and rainbows than we did last year. These two factors plus some additional growth which we can expect during the latter half of April and the first half of May in our one-year olds should combine so that the effects of the reduction in the number of two-year olds will be minimized.

In terms of numbers of fish, we estimate to be able to stock approximately 577,000 brook, brown, rainbow and golden rainbow trout in 1975. Of this total, we will obtain approximately 81,000 from the U.S. Fish and Wildlife Service Hatcheries in Pennsylvania and New Hampshire. The great majority of the Federal fish will be rainbow trout and the remainder will be brookies. As we have virtually eliminated any brook trout culture at our Hackettstown hatchery because of disease problems, we are in need of this species of trout to stock certain acid waters of south Jersey. This is

because the brookie is the only species of trout that can tolerate the acid waters of our southern rivers such as the Toms, Metedeconk and Maurice, as well as such lakes as Prospertown, Hammonton and Iona.

As in the past years, we intend to stock about 164,000 trout before the season opens and the remaining number after the season begins. This inseason stocking is accomplished during the seven week period following the opening of the season. The dates of stocking for those waters having special closed stocking dates are listed in the Compendium of the Fish Laws which is received with your license. In addition, the Compendium lists the number of times during the period extending from April 21st to May 30th that waters not having special closure dates are expected to be stocked.

In order to obtain the most equitable distribution of the available number of fish, we utilize an allocation schedule which is based on observed angler usage of a given area. At present, this allocation list calls for a total stocking of approximately 533,000 fish. We have firm plans to shortly revise this allocation schedule and base stocking quotas on the biological carrying capacity of the water, its physical dimensions and angler access. However, until this is accomplished, we consider the 533,000 figure as a minimum or baseline quota for stocking.

The stocking schedule is aimed at distributing these trout to insure reasonable availability to the anglers throughout the stocking period. When we have a larger number of trout to be stocked than the 533,000 baseline quota mentioned above (as we expect to have this year), we prefer to stock this excess at a time when the greatest number of anglers are on the waters, and when the water temperatures and flows are moderate. This would be during the first five weeks of the season. We are reluctant to release any more than what our baseline calls for on the sixth and seventh weeks because of reduced angler activity, rising water temperatures and reduced trout survival. Apparently, many anglers have abandoned their spring fishing fling by then, and have taken up other activities.

The final week of May does not necessarily mean the end of trout fishing opportunities. An ever-increasing



portion of our anglers seek the alewife-eating tackle busters of waters such as Round Valley Reservoir, Lake Hopatcong, Spruce Run Reservoir and Swartswood Lake, to name a few, that hold and grow trout throughout the year. Other anglers don their waders, tee shirts and fishing vests and methodically search out those wary trout that have escaped the early season anglers and lay holed-up under undercut banks in our larger streams such as the Big Flatbrook, Pequest, Paulinskill, Musconetcong and Manasquan Rivers.

Still other anglers accept the challenge of native brownies at the Division's Mulhockaway Creek Natural Trout Area in Hunterdon County. Here, if he's lucky and a good fisherman, he may be able to entice a two-

year old brown onto his fly that has never been in a hatchery or, better yet, he may be able to hook one of the spawners that swim up from Spruce Run Reservoir in the fall to spawn in this creek.

In any case, there are a number of trout fishing opportunities left for those anglers wishing to continue their sport well after the stocking truck is gone. Perhaps this year you might try a little summer and fall fishing in our good trout waters. The fish are there at that time of the year and all you have to do is be prepared to replace the concept of quantity with the concept of quality. Don't expect to catch a lot of fish, but be prepared to work for and appreciate the few that you do catch. □

NEW JERSEY TROUT GUIDE

How and where to fish for trout in New Jersey is the subject of a 74-page book just off the press, *The New Jersey Trout Guide*. The first of its kind, the book is published by the New Jersey Council, Trout Unlimited, the largest trout-oriented club in the state.

Included are 30 articles, 8 maps of New Jersey streams and impoundments, and tips on how to do everything from tie a knot on a leader to cooking the catch.

Authors are all experienced New Jersey anglers, all club members who are sharing information they've gained from years of wading New Jersey streams. In addition to sections on Brook, Brown, and Rainbow trout as well as on worm, spin, and fly fishing, how to net and release a trout, and trout stream etiquette, the contents includes specific information on where and how to fish such streams as the Musconetcong, Pequest, and Flatbrook as well as such impoundments as Round Valley Reservoir and Lake Hopatcong. Sections also are included on stream conservation, water pollution, the history and traditions of the sport, and a fishing library, licenses, and the New Jersey Fish and Game Council.

The book is the first of its kind ever published in this state, according to Ben Fogarty, chairman, N.J. Council, Trout Unlimited. Copies will be available in tackle shops and by mail order from the Council at \$3.00 a copy.



**Activities at the
Conservation and
Environmental
Studies Center,
Whitesbog,
Browns Mills,
New Jersey.
609/893-9151**

**April 24 (Thursday)
8:00 pm-10:00 pm**

Spring Wild Flowers

At this evening presentation we will become acquainted with some of the beautiful and exotic plant specimens that abound in the New Jersey Pinelands. Brooks and Dot Everet, noted photographer and naturalist, will narrate this presentation.

**May 17 (Saturday)
Begin 9:00 am**

Canoe Trip: Oswego River

non-members \$5.00

All day canoe trip down the Oswego River from the Oswego Lake to Harrisville Dam. FOW members Tom Griffin and Bill Michalsky will lead this excursion which is open to everyone from novice to expert. All participants must pay a \$10 canoe rental fee per day unless you provide your own canoe.

NEW JERSEY MARINE POLICE

CASE M5001

(An actual case. Places, names and times may have been altered to preserve anonymity of participants and / or victims.)



Even though it was a cold and overcast winter's day, Harry H. was determined to go fishing. His friends had been telling him how well the flounder were biting, and this was the first day he had had free for nearly a month.

In his 16-foot outboard, well bundled up against the chill, Harry proceeded into the bay to a spot where he felt sure the fish were just waiting for him, and prepared to drop anchor. Since it was somewhat difficult, bundled up as he was, to lean over the windshield and secure the anchor to the bow cleat, he decided to make it fast to the stern.

The wind began rising, and a decided chop soon developed. Intent on his fishing, Harry paid no heed until breaking whitecaps and flying spray brought him out of his reverie.

He realized he should head for home. Starting his engine, he went to the stern to lift the anchor, against which the wind was causing the boat to tug heavily.

The combined weight of Harry and the engine, plus the force he exerted to lift the anchor, caused the stern quarter to dip into the waves. The water rushed in and the pull on the anchor line kept the quarter under. In seconds, the boat filled with water and capsized throwing Harry into the icy water.

Meanwhile, a New Jersey Marine Police boat was patrolling in that sector. Earlier, they had noticed the lone small boat anchored and fishing. As the wind rose and chop developed, the officers decided they had better check this craft to make sure it was alright, and had headed back in its direction. Thus, fortunately for Harry, when his boat overturned and he was thrown overboard, he was in sight of the patrol boat.

The New Jersey Marine Police gunned their vessel to full ahead, and snapped on their flashing lights and siren. In minutes, the patrol boat arrived on scene, and Harry was fished, chilled and sputtering from the water, and wrapped in a blanket.

Then, quickly the New Jersey Marine Police cut the anchor line of Harry's boat which was still pulling it under the chop, made fast a line to its bow, and proceeded to the nearest shore pier.

Having radioed ahead, they were met at dock by a local first aid squad who whisked Harry to a nearby hospital, where he was treated for emersion and released. The New Jersey Marine Police then secured Harry's boat, now righted, to the pier.

Even a good swimmer has little chance of survival in icy waters. But in this case, Harry, because of the prompt arrival of the Marine Police, suffered no more than a chill and loss of several hundreds of dollars in equipment and damage to his engine. But he learned a lesson that the New Jersey Marine Police wish all would heed: **DON'T ANCHOR SMALL BOATS FROM THE STERN.** □



The author paddling her kayak along the Wading River

Autumn's vivid colors are especially beautiful when viewed from a canoe.

Spring on the West Branch of the Wading River





Photos supplied by the author

Paddling through the Pine Barrens

by Sheila Link

Some of the most uniquely delightful canoeing in the entire northeast is to be found in the pine barrens of south Jersey.

These aren't whitewater streams, roaring a challenge to canoeists as they tumble torrentially down mountainsides. Instead, the rivers of the pine barrens meander quietly through the sandy-floored forest of scrub pine, stunted oak and the tall cedars that give the waterways their amber color.

While they may meander, these rivers are by no means *dull*. Their convoluted, twisting routes require navigational dexterity while at the same time you're constantly tantalized by what you may see around the next bend.

Four of the most popular south Jersey streams are located within the 150-miles of Wharton State

Forest. As you paddle along any of these canoe trails you'll find it hard to believe that you're within fifty miles (or less) of three major cities.

The Wharton Forest is situated within a triangle formed by New York, Philadelphia and Atlantic City. Once you launch your canoe, however, you almost immediately leave every trace of civilization behind.

Almost all the land within the Forest is untouched and unspoiled. Historically, the area played an important role in winning our country's independence and in developing the state's industry. Local bog iron furnaces supplied our Continental Army with munitions and the same region also became a center for glass production.

Batsto, the hub of all that early activity, is now a restored historical village, well worth a visit.

Except for an occasional gas station, tackle shop or

canoe livery along the three major roads that traverse the Forest, there are few interruptions to break up the acres of woodland that cover the area.

There are, however, numerous facilities for outdoor recreation. Camping, boating, swimming, hiking, fishing and hunting are all provided for and enjoyed in the Wharton Forest. But these activities are available in many places. What sets the Wharton Forest apart, in my opinion, is its network of distinctive canoe trails.

Four major streams wind through the Forest, all of which eventually empty into the Mullica River. The streams vary in length and each has its own, special character. All, however, can be paddled in one day, although many canoeists prefer to stretch the trip into a two-day jaunt, camping along the way.

The Oswego River is the shortest of the four, with an estimated paddling time of only three hours. You put in on Lake Oswego, which is reached via the first blacktop road north of Harrisville Lake, on Rte. 563 Spur. This road, going east off the 563 Spur, will take you to a picnic area on the Oswego lakeshore. Launch there, paddle across and slightly to the southwest, where you carry your canoe over a spillway and onto the river below.

Despite the increasing popularity of canoeing in the pine barrens, the Oswego remains wildly beautiful. Nature buffs should note that some twenty-five species of wildflowers not found anywhere else in the world, can be seen in this region. In addition, the cedars along the Oswego are said to be the largest of their kind in the northeast. Your trip on the Oswego will end at Harrisville Lake, on Rte. 563 Spur. There are no campsites along the way.

The Batsto River, from Hampton Furnace to Quaker Bridge, is a six-hour run. Quaker Bridge is the half-way point and some canoeists begin their trip there. There's a campsite at Lower Forge, which is just above Quaker Bridge.

Hampton Furnace, northeast of Atsion, is reached via a sand road which runs off U.S. Rte. 206, just north of Atsion Lake. This isn't an easy-access river, however, which is why the Batsto is able to retain its primitive quality. Several large beaver houses along the way attest to the infrequency of visitors.

It's a good idea to carry a hatchet and saw with you, particularly in early spring, to clear possible obstructions along the route. The Batsto is a lovely stream, well worth the effort necessary to reach and travel its length. Take-out is at Batsto Lake, just off Rte. 542.

The Atsion, or upper Mullica River, runs from Atsion Lake on U.S. Rte. 206 to Pleasant Mills on Rte. 542 just west of Batsto Village. The only campground along the Atsion is situated approximately two hours below the lake. This site, incidentally, is also used by horseback campers. Estimated paddling

time for the Atsion is seven hours, from the lake to Pleasant Mills. Like the other rivers in the pine barrens, the white sandy beaches and amber water contrast vividly with the green forest and blue sky above the Atsion. No one can be impervious to the unique beauty of this wild region.

Of all the streams in the Wharton Forest, however, the West Branch of the Wading River is my favorite. The trip starts at Speedwell and ends at Bodine Field, both on Rte. 563. Campsites are located at Hawkin Bridge, Godfrey Bridge and Bodine Field.

The upper reaches of this river are extremely narrow, with tight turns and frequent obstructions. It soon opens up, however, and becomes easier to navigate. There's a bit of variety along the way, from broad marshland to narrow passages through tall, dark cedars. All of the Wading River, though, is lovely and wild. This is an eight-hour trip.

These estimated paddling times, incidentally, are all based on experienced paddlers, empty canoes and ideal water conditions. Most canoeists aren't capable of—or interested in—such swift passage, however. A more leisurely journey is really preferable, first because the nature of these gently meandering streams lend themselves to a more casual approach. And, second, because if you're concerned primarily with timing your speed, you'll miss much of what these waterways have to offer.

In addition to a challenging canoe trip, good pickerel fishing, nature study and wilderness camping, there's an invaluable bonus for paddlers in the pine barrens—tranquility—a rare gift these days.

As your canoe slips noiselessly around a bend you'll be enveloped by a gossamer cloak of delightful quiet. Soon a sense of relaxed peacefulness overtakes you, blotting out the tensions of everyday life. Only the sudden, raucous screech of a jay, the soft splash as a turtle flops into the water, or the faint, muffled crash of a startled, fleeing deer disturbs the silence along these scenic canoe trails.

If you haven't paddled Jersey's pine barrens, you're cheating yourself of some of our finest outdoor recreation. □

CANOE LIVERIES

Canoes can be rented and shuttle-service arranged at the following liveries:

MULLICA RIVER BOAT BASIN—Rte. 542, near Green Bank. Phone: (609) 965-2120

BELLE HAVEN LAKE—Rte. 542, near Green Bank. Phone: (609) 965-2031

MICK'S CANOE RENTAL—Rte. 563 at Jenkins Neck. Phone: (609) 726-1380

You must obtain a camping permit at the Batsto Village Ranger's Office before camping overnight in the Wharton Forest.



**OIL
SPILLS**

EQUAL

**DEATH
FOR
DUCKS**

OPERATION OIL SPILL

TRI-STATE COORDINATED BIRD SALVAGE

BY FRED FERRIGNO

Senior Wildlife Biologist

It all started when a terrible blast rocked the Delaware Valley at 12:15 A.M. on January 31, 1975. Explosion followed explosion and the sky lit up as a result of spreading flames from burning oil from the British Petroleum docks at Marcus Hook, Pennsylvania. The tragedy, which resulted in over 20 persons killed and 35 injured, was brought about by the Edgar M. Queeny, a 650 foot, 19,047 ton chemical carrier owned by Keystone Shipping Company. The Queeny trying to negotiate a turn crashed into the Corinthos, a 30,705 ton Liberian registered tanker, which was pumping ashore 420,000 gallons of highly volatile Nigerian crude oil. Over 300,000 gallons remained on the ship when the accident occurred. The Corinthos turned into an exploding, fire-belching inferno. The Queeny managed to pull back and its cargo of phenol, vinyl acetate, gasoline, styrene, methanol and caustic soda remained intact at the aft end of the ship.

RESULTING SPILL

Division of Fish, Game and Shellfisheries conservation officers, coast guardsmen and employees of the New Jersey Division of Water Resources were on the scene immediately. Aerial and boat observations indicated that a large oil slick was moving in the Delaware River. By the end of that day, the slick had broken up into a series of smaller ones and covered an extensive area from Gloucester City to Killcohook National Wildlife Refuge, a distance of approximately 30 miles.

WATERFOWL IN JEOPARDY

Aerial waterfowl inventories indicated that over 30,000 waterfowl were in the spill area. However, on the basis of past experiences biologists were mostly concerned with 8,000 ruddy ducks. Spills passed through large populations of ruddies, and attempts to use noise makers to move birds out of the path of spills were futile. By Monday a number of these birds moved ashore as a result of the toxic effects of the oil and hypothermia. Field collection of oil soaked birds began Monday, two hours prior to low tide. This enabled collectors equipped with fish nets and sacks to put some distance between sick birds on shore and the water line. Birds scampering back to the water were netted, put in sacks and returned to trucks or boats with boxes filled with Drab, an oil absorbent material.

TRI-STATE PLAN

While the U.S. Coast Guard, New Jersey Division of Water Resources and hired private oil cleanup firms were booming off the dock spill area and Raccoon, Oldmans and other creeks, conservation officials from three states met with Royal Nadeau of the Federal Environmental Protection Agency to discuss bird salvage operations. As a result of this meeting a well-coordinated tri-state plan emerged. Ken Chitwood of the U.S. Fish and Wildlife Services was overall coordinator for the three states, Pennsylvania, Delaware and New Jersey. Each state assigned one coordinator to carry out their respective state plans and communicate with K. Chitwood. This included Anthony Florio of the Delaware Division of Fish and Wildlife, Tom Wylie of the Pennsylvania Game Commission and Fred Ferrigno of the New Jersey Division of Fish, Game and Shellfisheries. Similar field collection procedures, collecting and cleaning centers were established. At the end of each day, data was forwarded to the federal coordinator, and he released the information to all three states and the press.

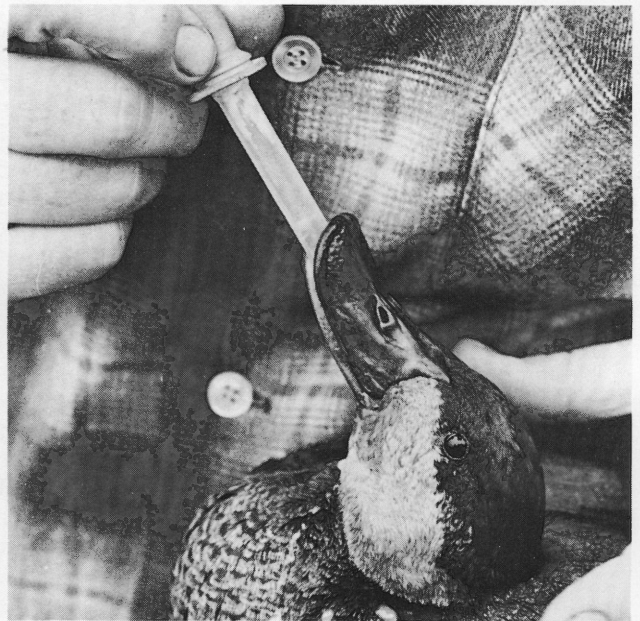
FIELD COLLECTIONS

Volunteer help to capture oil soaked birds was not encouraged unless they were willing to work at their own risk and under the supervision of conservation

...DEATH and a polluted environment



Almost 500 ruddy ducks were collected by Division employees and volunteers (Norman Richard Fowler, Walter Mabey and Fred Ferrigno). Over 900 ducks were collected after the December 1973 spill.



Milk of magnesia was administered to each bird to eliminate oil from the digestive tract.



Ruddies could be grouped together in close proximity to minimize losses. Exchange of body temperature kept them warm and reduced transportation losses.



A team of workers at one of the five sections subject ducks to cleaning procedures, assembly line style.

workers. Walter Mabey, Conservation Officer, with considerable oil spill experience, supervised bird salvage crews. He coordinated efforts with Robert Itchmoney, Norman Fowler and his management crew, hunters from the New Jersey Waterfowlers Association and locally concerned citizens. These crews collected 391 birds and delivered them to the cleaning center which was established at the Woodbury National Guard Armory.

CLEANING CENTER

Hundreds of volunteers offered their assistance at the cleaning center. They included Veterinary students from the University of Pennsylvania, members of New Jersey Waterfowlers Association, environmental groups such as CARP, high school and college students and other concerned citizens. Using a series of baths of solvents and other compounds, they cleaned over 384 ruddies, assembly line style. Solvents resulted in nearly 100 percent mortality, whereas with the use of Basic H, Polycomplex A-11, Foresight and Energy Plus 680, mortalities amounting to 40 percent within 72 hours after treatment. Cleaned birds were transferred to the Forked River Game Farm. Attempts here to provide feed intake equal to basal metabolic needs were not successful. All the treated ducks died.

ESTIMATED MORTALITY

Robert Itchmoney, Assistant Wildlife Biologist, conducted ground censuses from Killcohook National Wildlife Refuge to National Park near Gloucester City. He estimated that 650 ruddies were dead, 1,200 were adversely affected and would probably die, 500 were delivered to the cleaning center or salvage permittees for a total of 2,300. Mortality estimates from Delaware and Pennsylvania were added to this figure. The total mortality from this spill was between 2,500 and 3,000 ruddy ducks. From a total of 1,000 birds observed only 1 lesser scaup and 1 horned grebe were oil soaked. The rest were all ruddies.

Heavy losses to oil spills are no new experience to ruddy ducks wintering in the Delaware River. Last winter, three oil spills accounted for approximately 8,000 ruddies from an estimated wintering population of 12,000 birds. No one knows how the spills will affect this particular wintering population of ruddy ducks. There is the possibility that they could cause irreversible losses that might jeopardize this population. Experimentation should continue so that all techniques are well developed prior to a crisis.

SUCCESS UNCERTAIN

Ever since the Torrey Canyon disaster which killed thousands of sea birds, care of oil soaked birds has resulted in a very limited success. Last year's treatment of 852 ruddies during the Mellon spill resulted in field releases of 399 birds (44.2 percent). However, field observation and lack of band returns indicated that a large percentage of these birds also perished. California, with warm temperatures, recommends early releases into the wild and claims up to 40 percent survival. In cold climate of New Jersey this is impossible. Cleaning agents remove natural water repellent oils and impair insulating properties of feathers. Any feather absorption of water would result in death to

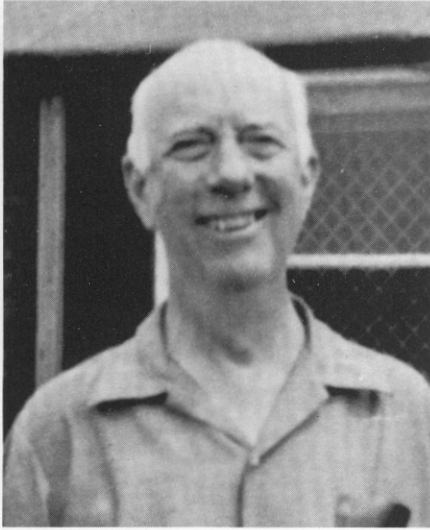
birds when released in the wild. Birds therefore must be held, fed and cared for over a long period of time. Post-treatment care is the area where more study is needed. Dr. Phil Stanton of the Massachusetts Bird Rehabilitation Center claims some degree of success. He will be consulted during our post-treatment care of oil soaked birds.

FUTURE OUTLOOK

Treatment of oil soaked birds has been a new experience for conservation agencies of the tri-state area. Continued experiences will improve techniques and chances of success. Past operations have led to the following facts concerning oil spills in the Delaware River.

1. The public demands that conservation agency or other groups care for oil stricken birds even though survival is unknown.
2. Future experimentation may be needed to save specific populations. Survival should improve as techniques are developed.
3. The tri-state coordinated plan to salvage birds is essential.
4. Cleaning centers should be established in each state. In New Jersey two are needed, one near the Delaware River and the other adjacent to Raritan Bay.
5. Cleaning centers should be fully equipped with solvents, protective clothing, and other necessary equipment prior to any spill.
6. Conservation agencies should operate with chemical companies in attempting to solve specific problems related to bird treatment and rehabilitation. Providing buildings for treatment and care of oiled birds would help their public relations efforts.
7. Warm buildings held at constant temperature are needed during treatment and after care of birds. One 3-cm diameter spot of oil on the breast of a bird can result in severe heat loss. It is imperative that warmth be provided.
8. Feeding experiments should be under the direction of a competent consultant.
9. Use of volunteer help will result in an inexpensive salvage operation. Contracting consultants and other firms to collect and clean water birds would result in an expensive program.
10. Bird salvage operations should be funded by contingency funds set up for oil spills by oil companies.
11. Experimentation should continue until all facts dealing with treatment and care are known. The last step of feeding and holding birds is the area where more research is needed. Success in this area would result in better survival.
12. Birds with substantial oil spots can not be left in the wild to fend for themselves. The oil must be removed, or they will perish.

In conclusion, all the conservation workers sincerely thank all those people who helped or offered to help in this first tri-state bird salvage operation. Your continued cooperation and understanding is essential to the success of future operations. □



Letter from an old timer

... about that time
to gilt the gun
and hang it up

Probably no native born New Jersey resident loves his woods and fields for roaming in the Fall more than I, especially with my twelve gauge shotgun, but for the past few years it has been mainly roaming since I lost my faithful beagle.

I have been a licensed hunter continuously since 1908 and hope to write something that might be of a little interest to the readers of *New Jersey Outdoors*. If the records go back that far, you will find the first license was blue in color and larger than the present one. It was near the size of a postcard and cost \$1.15, the 15¢ going to the City Clerk or other issuing Agent. Incidentally, when I decided to take up hunting, it was the first year our State commenced the licensing.

When we began, a neighbor friend and I started by using his dad's hammer gun. As teenagers we would buy a box of Winchester New Rival black powder shells for 45¢ at Walter Jackson's Broadway store. We didn't have much spending money so if I paid the 23¢ I took the odd shell, thirteen; and the next box my friend did in like manner. We walked along together and if it was his turn to carry the gun, whether he connected or missed, he then handed the gun over to me. We kept up this happy arrangement until I was able to buy my first hammerless gun. It was a cheap one, an A. J. Aubrey from Sears, Roebuck & Co., Chicago, Illinois. A little later I bought a kit of loading tools there and loaded my own shells with smokeless powder. In later years, I purchased a Remington with Damascus barrels and self-ejector for the shells. Presently, I use a model 24 Winchester.

We always tried to keep within the law to the letter. I recall one year the Migratory Game laws called for stopping duck hunting at four P.M. I took the alarm clock and placed it under our salt hay blind and, with the sun still high, it rang for quitting and my partner did not even see me place it there. Another time, while covering a cornfield in Ocean County, I flushed two different hen pheasants and dropped my aim as soon as I recognized them; but before I reached the edge of a cedar swamp, a party with an Essex County car license came through behind me, flushed these same two hens, killed them both and rushed them back to their car.

As long as I owned a good beagle I never had to come home empty handed and I have owned some of the best. At eighty-one and with most of our good hunting areas taken up by developments, I am content to recall some of the successful trips. I have shot deer, fox, geese, duck, rabbit, pheasant, quail, squirrel and woodcock in my better days, but its just about that time to gilt the gun and hang it up.

*J. Rutherford Stout
Long Branch, N.J.*

what was that critter?

By Joseph M. Penkala

If there is a common thread running through all outdoor recreation enthusiasts it is surely a desire to see wildlife. When conversations about outdoor pursuits arise—be it hunting, fishing, camping, canoeing, backpacking, or hiking— an amusing or interesting anecdote about an encounter with wildlife cannot be avoided. The ability to identify the kinds of wildlife seen and knowing something of their habits adds immensely to any outdoor activity.



LEONARD LEE RUE III

FEMALE YELLOW-SHAFTED FLICKER AND YOUNG

I had been a casual observer of wildlife until I became involved in duck hunting. When I did I began to realize that there was a distinct advantage to being able to identify waterfowl on the wing—the advantage being, not violating the game codes. As a result I began searching for a book with good pictures of ducks and geese, and that's when I happened upon *Birds of North America* by C. Robbins, B. Brunn, and H. Zim published by Golden Press.

It is an excellent field guide. Not only does it have good pictures of waterfowl but also pictures of all of the other roughly 645 species of birds of North America.

Using an old pair of binoculars and the field guide, I promptly learned to identify all the ducks and geese I was likely to see along the New Jersey coast. Having mastered the identification of the game birds of New Jersey, I began to realize how many other non-game species were out there. I decided to see how many of the other birds, that were supposed to be in the state, I could find. That was eight years ago and as I check the list now I've seen some 215 species of birds in my travels. Many were common birds—crows, robins, and the like. Others were a good deal more spectacular. There was the bald eagle I spotted while grouse hunting at the Delaware Water Gap, and one day a pair of ospreys and I were fishing the same shore of Swartswood lake. These experiences were just as gratifying as a five-pound bass on light tackle or a flock of mallards with cupped wings over my decoys because I could identify the birds and knew something about them.

How does one go about learning to identify birds? Well, it's relatively simple. All that's needed is a pair of binoculars, a field guide, and a curiosity about wild creatures.

Concerning binoculars I prefer an inexpensive pair. They go everywhere with me and get beat, battered and sometimes broken. If they were expensive I might tend to leave them at home and probably miss many good opportunities to see unusual birds. A serviceable pair can be obtained for \$25 or \$30. The most popular size is 7 x 35mm. If you want to know more about the advantages and disadvantages of various sizes, most large manufacturers of binoculars have free leaflets that provide this information.

A field guide is a book designed to fit comfortably in your back pocket, so that as its name states it can be used in the field. The field guide has pictures and descriptions of the birds as well as where and when you can expect to find them. That completes the equipment list. Now for some pointers to insure your success.

The skills required to see birds are no different from those necessary in hunting and fishing. The person who moves quietly and cautiously and is alert will get more game and see more birds.

Experience is important. Have you ever been with someone who spotted a deer when you couldn't see anything? It's not magic. It's only that they have enough experience to be able to pick out something that looks out of place in the landscape. An oddly shaped lump, ↴

SCREECH OWL

LEONARD LEE RUE III



BROAD-WINGED HAWK

LEONARD LEE RUE III





LEONARD LEE RUE III

CANADA GOOSE ON NEST

a flash of color, a slight movement—all of which are usually missed by the casual observer but not the experienced eye. Practicing with your binoculars is also important. Binoculars greatly diminish the area that you can see. Therefore, finding a bird with the binoculars that was originally spotted with the naked eye can be very difficult for beginners.

Now that we are able to find birds we are faced with the problem of identifying them. Now for the field guide. It describes the birds, but we have to know what characteristics to look for and which ones will be good for separating the different species. The ones that I have found useful are as follows:

1. Size: is it smaller or larger than a crow? a quail? a sparrow?
2. Color: are there any areas of contrasting colors on the body? the head? the wings?
3. Wing beat and flight pattern: is the wing beat fast or slow? is the flight pattern straight? erratic?
4. Leg and bill characteristics: are the legs and bill long like an egret? short like a duck?



LEONARD LEE RUE III

MALE GREATER SCAUP DUCK

5. Habitat: No one would expect to find a grouse on a salt marsh or a clapper rail in a hard wood forest. All birds have definite habitat preferences.
6. Season: Many birds are with us only during certain seasons, or during brief periods as they migrate through the state.

One last hint is that it is often helpful to go through the field guide, keeping in mind the season and habitat you will visit and make a mental list of the birds you might expect to see. It's easier to identify birds when you know what you're looking for.

Where to go to see birds? The Division of Fish, Game, and Shellfisheries Wildlife Management Areas are good areas for a beginning. These areas represent every habitat type that can be found in New Jersey. Brigantine National Wildlife refuge, north of Atlantic City, off Route 9, and the Great Swamp National Wildlife Refuge, near Morristown, are excellent.

When you've tried it I think you'll agree that bird identification is one of the most interesting outdoor activities around. □



Environmental News

Byrne Rallies States to Develop New Offshore Oil Drilling Plans

Governor Brendan T. Byrne hosted two Outer Continental Shelf (OCS) Strategy meetings in January at which governors and other high ranking representatives of the 13 Atlantic Coastal States met to work out a unified response to the federal government's apparent rush to lease offshore areas to oil companies for oil and gas development.

Byrne's opening remarks at the first

session (January 7 in Princeton) set the tone of the meetings. The governor said that the federal government has paid inadequate attention to the social, economic, energy-related and environmental consequences of the U.S. Department of Interior's plan to lease up to 10 million acres for oil and gas drilling at the end of the year.

Byrne said, "Any lease granted should

have built into it a high degree of state participation in decisions on the timing, location, and type of land base facilities necessary to support oil production. Failing that," he said, "it is imperative that the coastal states employ a strategy which will avoid the extremely adverse effects which are certain to occur."

Byrne suggested one possibility would be for the states to form a public consortium to bid against the oil companies for the leasing rights. He said, "The touchstone for the development of publicly-owned land must be that such activity be conducted in a manner thoroughly consistent with the public interest, not just that of the oil company."

The coastal states want a full role in OCS decisions. New Jersey's "case" will illustrate why. The state's concern involves the multi-billion dollar marine fisheries and shore tourist industries

(Continued on page 16C)

ENVIRONMENTAL CONGRESS MEETS



JOE KLEIM

RECEPTIVE AUDIENCE. Attendees of the second annual Environmental Congress, held in Morristown on January 18, give their attention to the Hon. Stewart Udall who spoke during the luncheon break. Udall served as U.S. Secretary of the Interior during the Kennedy and Johnson administrations.

"Two for the Seesaw," Managing the Economy and the Environment, was the theme of the second annual Environmental Congress convened in Morristown on January 18. The meeting brought together for the first time New Jersey leaders from business, labor, government, and environmental sectors as well as representatives of the press to discuss the environmental and economic balance upon which New Jersey's future will depend.

Former Secretary of the Interior, Stewart Udall was the featured speaker. Addressing the more than 1,000 persons attending the all-day conference, Udall emphasized that "the problem of the environment and the economy can't be separated . . . the time of cheap land, cheap air, cheap water, and cheap oil is over." He said that poor planning is a part of the problem nationwide and that

the energy crisis is just "the cutting edge of the larger environmental crises." Udall pointed to the poor land use planning of the past 50 years which has resulted in unlimited sprawl and said that "it's time we recognize that we can have the right kind of progress and good environment as well."

Local officials, conservationists, legislators, university and state officials, business and labor leaders participated in "crackerbarrel," panel and roundtable discussions throughout the day.

The congress was jointly sponsored by the Department of Environmental Protection, New Jersey Association of Environmental Commissions, State Association of Natural Resource Districts, New Jersey Recreation/Parks Association and the New Jersey Health Officers Association. □

Endorsed by Governor Byrne DEP EXPANDS WATER RESOURCES DIVISION

The expansion and reorganization of the Division of Water Resources announced by Commissioner David J. Bardin on February 5 will increase the department's capability to carry out Governor Brendan T. Byrne's pledge to improve New Jersey's water programs.

The move authorizes 79 new positions in fiscal year '75 over and above the existing 345. "The change will help speed sewerage construction grant funds to municipalities, increase our monitoring and enforcement capabilities and effect other efficiencies in water-related matters," said Bardin. "The governor's budget recommendations for the coming fiscal year (1976) provide for continuation of this program thrust."

Governor Byrne's budget message of February 4 stated: "The one area of substantial increase is in water resources. In order to be more responsive to the water resource needs of our state—both in terms of clean and ample water—the Department of Environmental Protection has reorganized its Division of Water Resources."

(Continued on page 16D)

CITIZEN BOARD KEEPS EYE ON TOCKS STUDY

The U.S. Army Corps of Engineers this past December awarded a \$1.5 million contract for the preparation of an in-depth report on the Tocks Island Dam and Reservoir Project to the URS/Madigan-Praeger, Inc. and Conklin and Tossant, Inc., environmental consulting firms based in New York City.

The new study, which was urged by Governor Brendan T. Byrne, will be a "multi-discipline" effort taking in the physical, social, economic, environmental and engineering sciences. It is being conducted in cooperation with the Delaware River Basin Commission (DRBC), of which New Jersey, New York, Delaware and Pennsylvania are members. The study will include:

- Analysis of the service areas and resource needs in the Delaware River Basin and contiguous areas
- Review of the overall Tocks project
- Analysis of possible alternatives which could meet the resource (water) needs
- Consideration of institutional aspects, including an analysis of land use and secondary effects of the dam and reservoir

Citizen Advisory Board

The first meeting of the newly-appointed 10-member Tocks Island Citizen Advisory Board was held in Trenton on January 22. The council, formed by Governor Byrne to ensure that the congressionally ordered Tocks study is impartial and objective, will serve as an advisory panel to the governor and DEP Commissioner David J. Bardin.

Eugene V. Howard of Trenton, chairman of the Mercer County Improvement Authority, was named chairman of board. Other members of the board are Lewis Applegate of Princeton, a representative of the New Jersey Chamber

of Commerce; John Brown of West Orange, vice president, AFL/CIO; Mrs. Emily Cardineau of Sparta, Sussex County Board of Freeholders; Mrs. Hermia Lechner of Clinton, South Branch Watershed Association; Walter Lucking of Allendale, Hackensack Water Company; Mrs. Joan Price of Millburn, Trout Unlimited; Dr. Frank Sinden of Summit, Save the Delaware Coalition; Hon. Frank Stem of Phillipsburg, Freeholder, Warren County; and Irwin Zonis of West Orange, Essex Chemical Company.

The board has scheduled monthly meetings which will be open to the public.

Dam Data Locations

In a further effort to keep the public informed during the course of the Tocks study, the Delaware River Basin Commission (DRBC) established seven locations for review of the study materials. All will have current materials including transcripts, contracts, interim and final reports and correspondence. All of the locations except DEP will have the 77 pre-study documents.

The Tocks Island dam data will be available at the following locations: DRBC Headquarters, 25 State Police Drive, West Trenton; DEP, Public Information Office, Room 805, Labor and Industry Building, Trenton; U.S. Army Corps of Engineers Library, Second and Chestnut Streets, Philadelphia; U.S. Army Corps of Engineers, 90 Church Street, New York City; the Library at East Stroudsburg State College (Pa.); Economic Development Council of Northeastern Pennsylvania, the WARM building, Exit 49 on Interstate 81, Avoca, Pa.; and the Bucks County Free Public Library, Monument Square at North Main Street, Doylestown.

Local Program aid: NEW GREEN ACRES GUIDE READIED

A new procedural manual, "Guidelines for Open Space and Recreation Project Grants," containing "how-to" information for Green Acres Local Matching Assistance Program applicants, is scheduled for publication this Spring. A free copy will be sent to the municipal clerk in each of New Jersey's 567 municipalities and to the clerk of the Board of Freeholders in each of the state's 21 counties.

The manual was prepared to guide local governmental units in submitting applications for up to one-half the cost of an open space or outdoor recreation project pursuant to the Green Acres and Recreation Opportunities Bond Act of 1974. New Jersey voters approved this Bond Issue in a referendum held on November 5, 1974.

In keeping with DEP Commissioner Bardin's pledge to encourage public participation in defining the procedures and priorities of the program, guidelines were developed by DEP staff members after consultation with a wide variety of local public officials and citizen groups interested in outdoor recreation and conservation. The proposed guidelines were presented for public comment in a series of informational meetings sponsored by the New Jersey Recreation/Parks Association during January. The new manual incorporates recommendations made, and was formally adopted by DEP.

For further information contact: The Green Acres Local Matching Assistance Program, Office of the Commissioner, DEP, Box 1390, Trenton 08625. Attention:

Acquisition: Howard Wolf
(Phone: 609-292-2662)

Development: Alfred Guido
(Phone: 609-292-2752).

RECENT CAFRA ACTIONS

Board says 'No' to Toms River project:

In its first decision, rendered on January 3, the state's Coastal Area Review Board unanimously affirmed the ruling of DEP Commissioner Bardin to deny an application to build a 10-story, 220 unit condominium on a 9.5 waterfront site in Toms River, Dover Township, Ocean County. The construction company had appealed to the board to set aside the Bardin decision of July 10, 1974.

The three-member appeal board, in a 14-page opinion, upheld Bardin's original decision on the primary grounds that the proposed high rise building would be "an abrupt intrusion to existing land use practices and policies in the Toms River

region of the coastal area. To permit such changes at this time would tend to foreclose alternative development options."

Members of the board, created under terms of the Coastal Area Facility Review Act (CAFRA) of 1973, are the state commissioners of Community Affairs, Labor and Industry, and Environmental Protection.

DEP says 'Yes' to Atlantic City project:

DEP approved a CAFRA permit on January 20 for the construction of a 15-story, moderate income apartment building at the corner of Pacific and Virginia Avenues in Atlantic City. The building, to be known as Community Haven, will be located in the uptown urban renewal area. The unit will contain 267 efficiency

and one-bedroom apartments for senior citizens. The apartment building will be located near commercial facilities, and is located on a regular bus and jitney service line.

1975 EARTH DAY: April 22 DEP'S BIRTHDAY: April 22

The fifth annual celebration of Earth Day coincides with the fifth anniversary of the establishment of the Department of Environmental Protection. Both came into being on April 22, 1970. President Gerald R. Ford designated the week of April 19-26 as Earth Awareness Week, and Tuesday, April 22 as Earth Day.

BYRNE RALLIES STATES

(Continued from page 16A)

which provide employment for thousands of people. The Interior Department has scheduled the first Atlantic lease sale for an area of the Outer Continental Shelf called the Baltimore Canyon, about 50 miles off the New Jersey and Delaware Coasts. A recent environmental impact study, done by the President's Council on Environmental Quality, found the northern section of the Baltimore Canyon (nearest to New Jersey) to be a "high risk" area in terms of the possible environmental damage. But, the Interior Department does not plan immediately

to take high risk areas out of consideration.

The Atlantic Coastal States feel that any move toward leasing should wait until the Supreme Court renders a decision on the pending U.S. vs. Maine case. In the suit, the State of Maine, joined by 11 other states including New Jersey, seeks a resolution of the issue of who owns the Outer Continental Shelf—the states or the federal government. The court's decision is expected this summer.

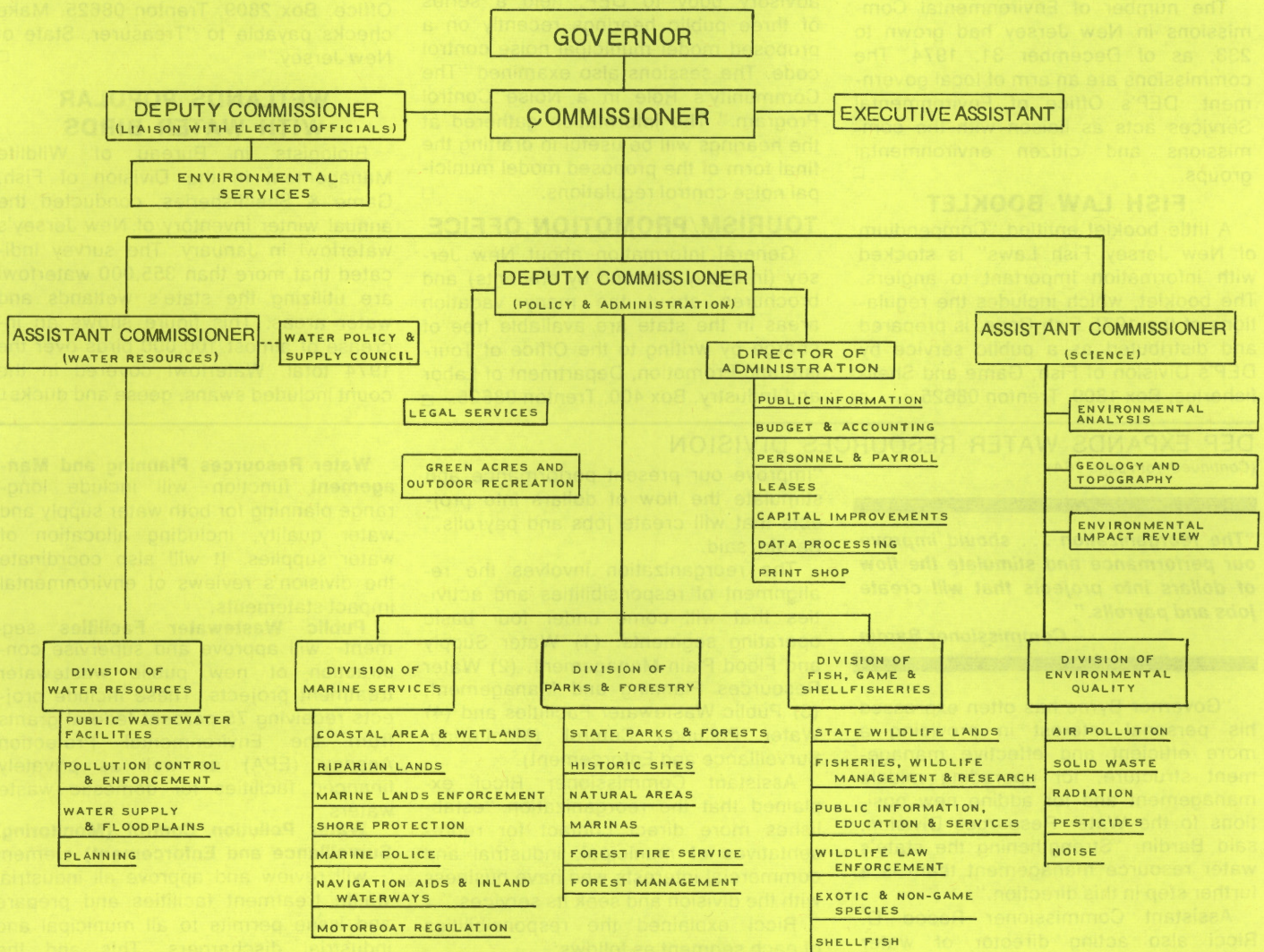
The current Department of Interior procedures for leasing offshore lands include a call for site nominations, actual selection of those sites, then a draft

environmental impact statement prepared on each tract nominated. Public hearings then are held on each tract, and a final impact statement issued before a call for bids is made on each site.

Interior's draft environmental statement says that the time interval between the call for nominations and actual production is a lengthy one. The report maintains that the actual shoreside impact of a lease sale is not felt for many years and therefore, the state coastal planning bodies will have ample time to complete their studies.

The states, however, are not so sure.

DEP ORGANIZATION CHART



The Department of Environmental Protection Organization chart shown above became effective January 1, 1975. Listed below are the mailing addresses of the department and its divisions:

Department of Environmental Protection: Box 1390, Trenton 08625
 Division of Water Resources: Box 2809, Trenton 08625
 Division of Marine Services: Box 1889, Trenton 08625
 Division of Parks & Forestry: Box 1420, Trenton 08625
 Division of Fish, Game & Shellfisheries: Box 1809, Trenton 08625
 Division of Environmental Quality: Box 2807, Trenton 08625

**FOR INFORMATION
WRITE TO NJO
FEATURES, BOX 1809
TRENTON, N.J. 08625**



News Capsules

NEW DRINKING WATER LAW

President Gerald R. Ford signed the "Safe Drinking Water Act" (PL 93-523) on December 16, 1974. This federal law establishes national primary safe drinking water standards to be enforced by the states and also established nonenforceable secondary standards. The act became effective upon signature. □

ENVIRONMENTAL COMMISSIONS

The number of Environmental Commissions in New Jersey had grown to 233, as of December 31, 1974. The commissions are an arm of local government. DEP's Office of Environmental Services acts as liaison with the commissions and citizen environmental groups. □

FISH LAW BOOKLET

A little booklet entitled "Compendium of New Jersey Fish Laws" is stocked with information important to anglers. The booklet, which includes the regulations of the 1975 Fish Code, is prepared and distributed as a public service by DEP's Division of Fish, Game and Shellfisheries, Box 1809, Trenton 08625. □

DEP CLAM PROGRAM A SUCCESS

In the summer of 1970 the department began a tightly supervised hard-shell clam transplant program in the Atlantic City area aimed at salvaging a natural resource and preserving this portion of the state's shellfish industry from the inroads of pollution. That the program has been successful is borne out by the five-year figures: an estimated 17 million clams, valued conservatively at \$1.5 million, were harvested and brought to market by commercial clambers. □

NOISE CODE HEARINGS

The Noise Control Council, an advisory body to DEP, held a series of three public hearings recently on a proposed model municipal noise control code. The sessions also examined "The Community's Role in a Noise Control Program." The information gathered at the hearings will be useful in drafting the final form of the proposed model municipal noise control regulations. □

TOURISM/PROMOTION OFFICE

General information about New Jersey (in heavy demand by students) and brochures about the many vacation areas in the state are available free of charge by writing to the Office of Tourism and Promotion, Department of Labor and Industry, Box 400, Trenton 08625. □

The American Revolution in New Jersey

BATTLE MAP AVAILABLE

If anyone doubts New Jersey's active role in the Revolutionary War, one look at the detailed map showing "Battles and Skirmishes of the American Revolution in New Jersey" will change his/her mind. The map, which measures 48 by 28 inches, contains the date and place of more than 800 battles and skirmishes which occurred in New Jersey or surrounding waters during the years of the American War for Independence. The maps cost \$3 each and are available from DEP's Bureau of Geology and Topography, Map & Publication Sales Office, Box 2809, Trenton 08625. Make checks payable to "Treasurer, State of New Jersey." □

WETLANDS POPULAR WITH WATER BIRDS

Biologists in Bureau of Wildlife Management in the Division of Fish, Game & Shellfisheries, conducted the annual winter inventory of New Jersey's waterfowl in January. The survey indicated that more than 355,000 waterfowl are utilizing the state's wetlands and water areas. This figure shows an increase of almost 100,000 birds over the 1974 total. Waterfowl covered in the count included swans, geese and ducks. □

DEP EXPANDS WATER RESOURCES DIVISION

(Continued from page 16A)

"The reorganization . . . should improve our performance and stimulate the flow of dollars into projects that will create jobs and payrolls."

— Commissioner Bardin

"Governor Byrne has often expressed his personal interest in providing a more efficient and effective management structure, for upgrading middle management and for adding new positions to the Water Resources Division, said Bardin. "Strengthening the state's water resource management team is a further step in this direction."

Assistant Commissioner Rocco D. Ricci also acting director of water resources, said the division is recruiting to fill all authorized positions.

The water pollution control program is the largest public works program currently underway in the state, operating with \$254.6 million in federal allocations for fiscal 1975, and with an equal or larger amount about to be released out of previously impounded funds.

Reorganization and expansion of the Division of Water Resources should

"improve our present performance and stimulate the flow of dollars into projects that will create jobs and payrolls," Bardin said.

The reorganization involves the realignment of responsibilities and activities that will come under four basic operating segments: (1) Water Supply and Flood Plain Management, (2) Water Resources Planning and Management, (3) Public Wastewater Facilities and (4) Water Pollution Control (Monitoring, Surveillance and Enforcement).

Assistant Commissioner Ricci explained that the reorganization "establishes more direct contact for representatives of municipal, industrial and commercial interests who have business with the division and seek its services."

Ricci explained the responsibilities of each segment as follows:

Water Supply and Flood Plain Management element—will oversee the inspection of more than 500 drinking water supplies and water from state-owned supplies including Spruce Run and Round Valley reservoirs and the Delaware and Raritan Canal. It will also administer flood plain legislation, review municipal applications for flood insurance, evaluate stream encroachment applications, and perform dam analysis.

Water Resources Planning and Management function—will include long-range planning for both water supply and water quality, including allocation of water supplies. It will also coordinate the division's reviews of environmental impact statements.

Public Wastewater Facilities segment—will approve and supervise construction of new public wastewater treatment projects. These include projects receiving 75 percent federal grants from the Environmental Protection Agency (EPA) as well as privately financed facilities for domestic waste waters.

Water Pollution Control (Monitoring, Surveillance and Enforcement) element—will review and approve all industrial waste treatment facilities and prepare and issue permits to all municipal and industrial dischargers. This and the Public Wastewater Facilities unit have both been restructured along geographic lines of the state's four major watershed areas known as the Atlantic basin, the Raritan-Interstate basin, the Passaic-Hackensack basin and the Delaware basin.

An **Office of Special Services** will coordinate the statewide program for preventing and containing hazardous materials spills. □



A Fine Hunter's Image

I am a mother of two, and I love animals just as much as anyone. I am also a hunter. I love the woods and the beauty it holds. Any game I have taken has been done so in a sportsmanlike manner. Everything brought home is eaten. It is not wasted and not boasted about.

I enjoy the sport a great deal. Anyone who knows anything about hunting also knows that an animal has an advantage, whether it be flight, camouflage or the lay of the land. Animals' senses are far keener than ours. No one deliberately wounds an animal. Not if he is a true sportsman. Unfortunately, there are some I can neither call hunters or sportsmen. They are the ones that make it bad for all of us by committing uncalled for acts of sadism.

I can't express my feelings enough on how I feel about uninformed people who refer to sportsmen as murderers and assassins. These people are so ignorant I'm sure they must think that the meat they eat was not killed to be put into their stomachs.

It is the sportsman who pays for conservation through taxes on equipment and license fees. So, unless a person is contributing funds for conservation, is a vegetarian, is familiar with all aspects of hunting, that person has no business commenting on the sport.

I would never force or condemn anyone who did not wish to hunt. So what gives others the right to condemn us for hunting? I could go on forever about what hard winters do to animal life, and how stray dogs down deer, and what many of the "non-human" lovers have done to them through progress for their own comfort, but my words would be wasted.

I do not need exaggerated phrases or fairy tale speeches to convey my thoughts. I have the knowledge, experience and the love for hunting and the outdoors and there is no substitute for that. The anti-hunter can live in his fantasy land of animal cartoons and the tooth fairy, but I'll take my world. It's real.

Sincerely,
(Mrs.) June Gourvellec
Oak Ridge, N.J.

□



PETE MCLAIN

New Jersey Conservation Officers awarded the Shikar-Safari Club "Officer of the Year" Award for 1973-1974. Hershel Beebe and Walter Mabey, Jr. were presented the annual Shikar Club award by James Rikhoff, Winchester Arms Company and Director Russell A. Cookingham of the Division of Fish, Game and Shellfisheries at a dinner on Friday, January 9, 1975 in Toms River, New Jersey. □

A just punishment

A juvenile who had senselessly killed an osprey, the fish hawk which is an endangered species, was apprehended by CO Bruce Young and prosecuted in juvenile court. The wise judge's sentence: one year's probation plus working with Division of Fish, Game & Shellfisheries personnel cleaning osprey nests. □

Reader offers Chestnut trees

Among the many letters from readers was one from Mr. Carl Schielke of Trenton who related some interesting history of West Windsor Township in Mercer County. Mr. Schielke also mentioned that he has a half dozen or so foot-tall chestnut trees he wishes to dispose of. He claims they are a cross between the American chestnut and the blight-resistant Manchurian chestnut. However, according to Mr. Schielke, the fruit of these trees will retain that fine American chestnut flavor. Interested readers can contact Mr. Schielke at 613 E. Franklin Street, Trenton, N.J. □

NATURE: WILDLIFE VS. HUMAN

Americans are living today in a world of "gaps". Educators speak of "knowledge gaps", economists warn us of gaps which exist between the supply and demand of various goods and services, and politicians and the media decry, almost daily, the woes of some "credibility gap". In the field of professional resource management, there exists still another gap—the "acceptance gap". The "acceptance gap" is basically the difference between what the resource professional or agency advocates as policy and what the citizen public is willing to accept as policy. In some instances, the gap has become a veritable chasm.

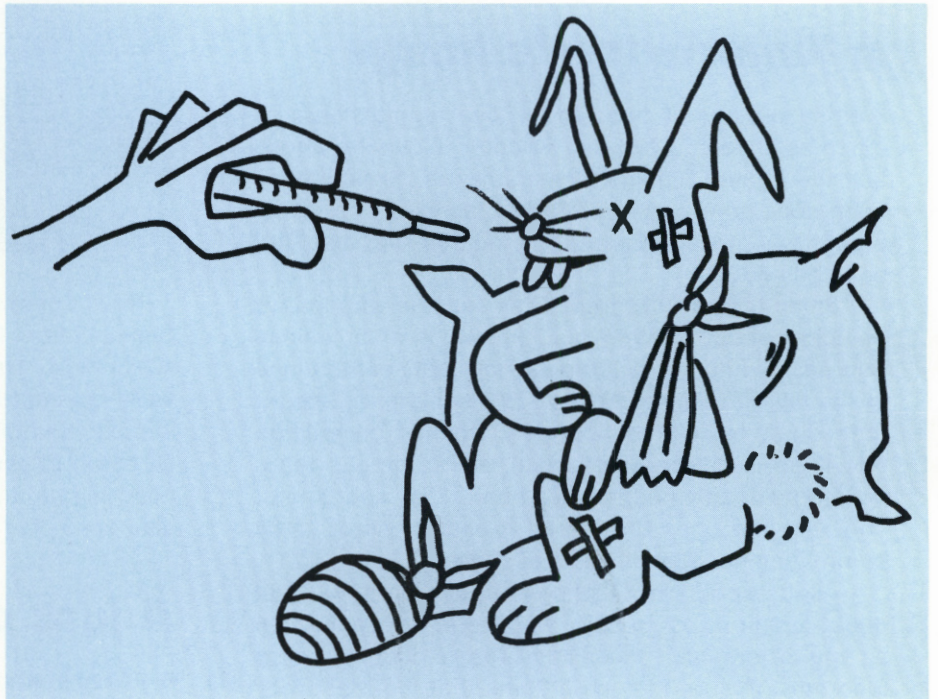
DEER MANAGEMENT PROGRAM

In a booklet recently published by the New Jersey Division of Fish, Game and Shellfisheries on *New Jersey's Deer Management Program for 1973-1974*, the authors conclude that while research information is readily available, it will be of little value unless the management programs based upon these data are accepted by the citizens of New Jersey.

WHY THIS SKEPTICISM?

Why this skepticism about public acceptance of practices recommended by resource professionals—people supposedly dedicated to the improvement of a resource for the benefit to the public? There are, of course, many reasons but most of them can be traced to the realm of human nature. In short, human nature attitudes about a resource frequently run contrary to programs and practices recommended by resource professionals. And perhaps no resource field provokes a broader spectrum of human nature attitudes and misconceptions than does the field of wildlife management.

My experiences in natural resource instruction have exposed me to a rather wide variety of people of all ages and from a diversity of backgrounds. From these experiences, I have distilled four human nature attitudes about wildlife which tend to "muddy the waters" which



ATTITUDE #1: Individual vs. Population Viewpoint

(Exaggerated concern for the individual animal— as opposed to the population of any given species)

lie between the resource professional and the concerned citizen. The specific nature of the attitudes varies, of course, with the individual; and the person with one attitude may not necessarily harbor some of the other attitudes.

Attitude #1: Individual vs. Population Viewpoint

● People with this attitude tend to look at wildlife more from the individual animal point of view than from the renewable population point of view. They are commonly the type who would support the nursing of an ailing or injured wild animal back to health as a major wildlife conservation practice. Taken at face value, there is nothing wrong with the individualistic point of view; in fact, there is a great deal to be said about promoting attitudes of respect for the lives of individuals of all species, espe-

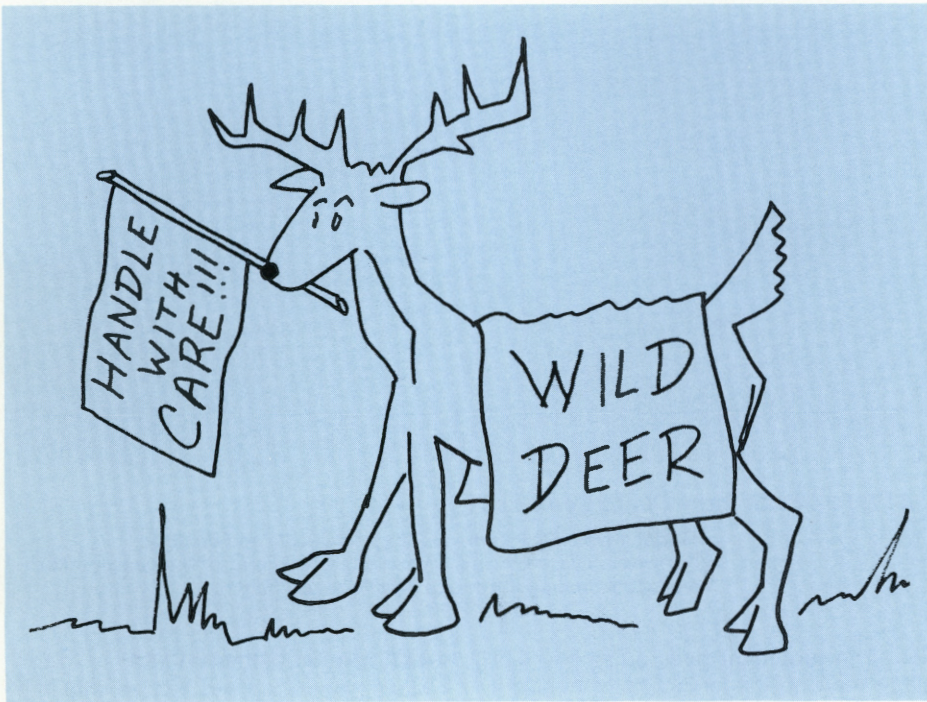
cially those endangered or threatened with extinction.

But if the individualistic point of view supersedes or is heedless of the population point of view, then the resulting attitudes frequently fall out of perspective.

And perspective—or perhaps lack of it—lies at the crux of this attitude. Many people are sincere and well-intentioned about supporting various practices "for the good of wildlife", but lack of knowledge and background to view these practices in the proper perspective. Had they achieved this perspective, they might realize that nursing an ailing wild animal, in addition to creating possible legal problems, is in most cases treating the symptoms—not the cause—of a

how human nature attitudes can breed misconceptions about wildlife

Text and illustrations by Jerry Schierloh, School of Conservation, Ass't Professor of Environmental Studies



ATTITUDE #2: Wildness/Man Hang-Up

(Unclear understanding of the role of man in encouraging and maintaining "wildness" in wildlife)

wildlife ailment much more serious and complex than the sickness of the individual animal.

HABITAT + REPRODUCTION = SURVIVAL

Though my overall purpose here is not to suggest specific ways of changing human attitudes about wildlife, perhaps it is appropriate to at least note that the wildlife conscience of our country is in dire need of a population attitude toward wildlife. "Population dynamics" is unquestionably the weakest point in what little background most people have had about what makes the whale or the rabbit or the hummingbird really tick. The well-worn management formula HABITAT + REPRODUCTION = SURVIVAL needs to be lifted from the textbooks of the wildlife biologist and given

rebirth in the thinking and attitudes of the citizen public.

It is not too difficult to figure why people—kids and grown-ups alike—have developed such an over-riding concern with the well-being of individual animals of the wild; after all, our entire culture, especially in a democracy, is based on preserving and protecting the rights of the individual human being. Question is, can we as humans, justifiably allow similar standards to govern the survival and conservation of wildlife species?

Attitude #2: Wildness/Man Hang-Up

● Almost everyone would agree that "wildness" is the one aspect of wildlife most in need of human protection and preservation. Wildness is how a wild species expresses its significance to the world of living things. Wildness,

working through such integral traits as agility, speed and aggressiveness is what got each species where it is today and allowed it to survive as a species.

Almost everyone would also agree that man, ethically at least, has no earthly right to allow his culture to uncontrollably undermine those wild places and features of such life forms as the crab, alligator and deer which Nature has so magnificently nurtured and perpetuated through millions of years of evolution and genetic selection.

For many, however, the agreement would end with the statement that "The major function of most professional wildlife agencies today is to protect and improve 'wildness' in a variety of species."

To many such individuals, wildlife agencies apparently exist for the express purpose of rearing game for the kill. What gets lost in the shuffle is that all of the so-called "killing adventures" (hunting, fishing, trapping, etc.) could not possibly be maintained on any sort of a continuum without firstly and foremostly insuring the survival of "wildness" in all of the species concerned.

WILDNESS AND MANAGEMENT RELATIONSHIP

But the wildlife professional's viewpoint on "wildness" seems a paradox to the layman. For in spite of the professional's concern for the integrity of "wildness" in wildlife species, he also realizes that it is impossible for man to leave wildlife strictly alone. This is hard for the layman and uninitiated to swallow. They simply do not understand the delicately balanced relationship that exists between "wilderness" and management; they do not see why we cannot develop a preservationist philosophy and leave all wildlife alone without disturbing it in any way.

MAN HAS INTRUDED

The point is, of course, that man has historically already disturbed the two

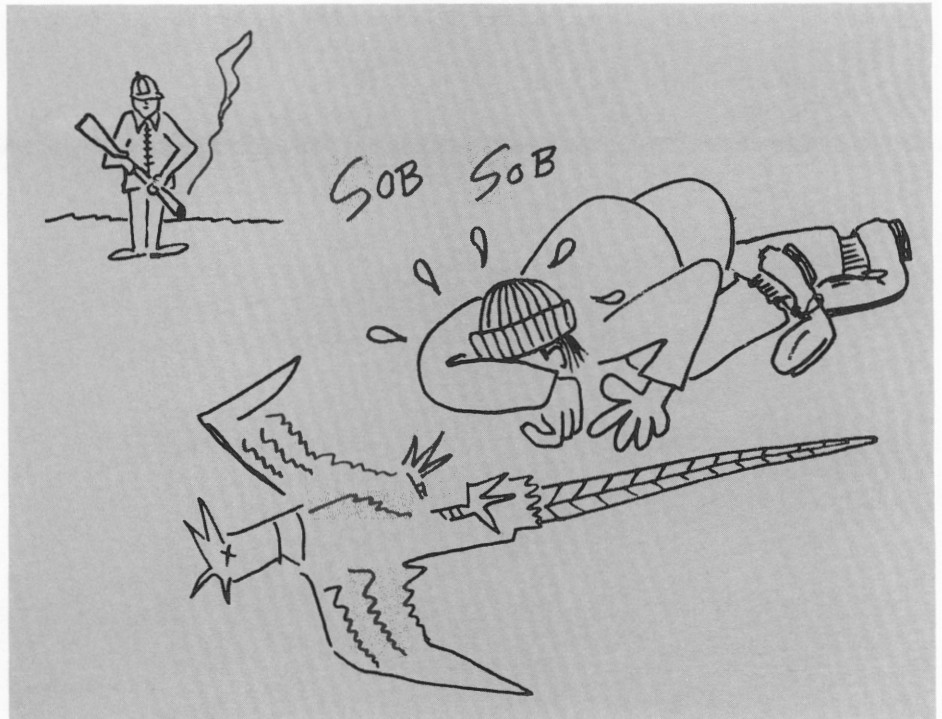
most significant things pertaining to wildlife survival: HABITAT and REPRODUCTION. So, though it is not really a case of two wrongs making a right, today's professional wildlife agencies have to add their "tamperings" in the form of management practices to those unfavorable changes which have already occurred, to insure that some semblance of wildness is maintained in those wild populations which still, quite remarkably, roam the land and swim the waters. If and when these recommended practices involve such harvest activities as hunting or trapping, the divergent philosophies (professional vs. preservationist) frequently clash and the resource agency finds itself lacking the public support it needs to accomplish its overall goals. All of which leads to the next attitude.

Attitude #3: Life/Death Concerns

● A great many people seem to live under the assumption that the ultimate ideal is to have an earth where no killing or dying takes place—at least until all life forms have had a chance to live to a ripe old age. They are not aware that perhaps death is as equally an important part of what it is to be wild as is life. Death does, in fact, promote improved wildness in many cases; it culls out the traits that diminish the life form's chances of survival as a species.

There are, no doubt, very few "untimely" deaths in the wild.

This approach almost invariably baits some individuals to state that they are not opposed to predation-deaths of wildlife as long as it is not "human" predation.



ATTITUDE #3: Life/Death Concerns

(Tendency to allow human feelings about life and death to overpower reasoned and rational considerations for the conservation and sound management of a wildlife population)

tion. The argument goes on to say that since man no longer needs to hunt out of personal necessity (food, clothing, etc.), hunting and trapping are examples of wanton killing, just another manifestation of man's tendencies toward violence and brutality.

ANCIENT SPORT OF KINGS AND PEASANTS ALIKE

What these people cannot see is that hunting and trapping are a deeply rooted part of the man-land relationship and that the million-year old predatory act cannot be severed so abruptly—in the interest of "civilization"—without dire repercussions for the hunted, as well as perhaps the hunter himself. For while the violence/brutality syndrome may be true in a number of isolated instances, most sincere hunters and trappers will state that the actual kill—though a necessary part of the sport—is not the real thrill of the overall experience; the real satisfaction is communing with the land and its "wildness" in special ways that are difficult for most hunters or trappers to articulate in so many words. "You have to experience it to feel it," they say.

WHAT ARE ALTERNATIVES?

Many people do not realize that the alternatives to predation—be it human or natural—are built-in population controls which will ultimately manifest themselves in paring down an oversized population in a very grisly and catastrophic way (i.e., disease, plagues, starvation, etc.). In the meantime, the habitat which supported this population may be destroyed to the point where it can no longer continue to support other wildlife forms. Such individuals may also not be aware of the extent to which human predators are needed to take the place of natural predators which have been forced out of a given area by human encroachment.

The overprotection of deer in the Great Swamp of New Jersey is a classic example of a situation precipitated by people who could not fully appreciate these factors.

The citizen public is also largely unaware of the reasons for the establishment of harvest seasons and bag limits for game species. Many do not realize that projected harvest numbers represent "surplus" animals which are



ATTITUDE #4: Selective Species Philosophy

(Inconsistent concern for the well-being and survival of a broad spectrum of wildlife species)

doomed ultimately to some mortality factor regardless of man's interaction in the harvest. They are largely ignorant of the hundreds of hours of field research and the arduous compilation of data which support most management policies regarding harvests. So when such individuals hear of 1000 deer being taken in their county by hunters in a single season, they may react within their own limited frame of reference and view the harvest as purposeless and uncivilized.

The cornerstone of wildlife management anywhere is habitat improvement, a practice which, if anything, helps to promote life—not death—within a given species.

Lastly, many individuals do not fully appreciate the many dimensions of wildlife management which do not relate directly to killing and harvesting. Sizable chunks of most agency budgets go toward habitat maintenance or improvement. In addition, most responsible wildlife agencies today are involved in programs and practices which will benefit the full range of wildlife in a given habitat area—game and non-game alike.

Attitude #4: Selective Species Philosophy

● There are still folks today who cannot see the sense in giving equal time to bacteria, bugs, and bunnies; clearly, the bunnies, with their big soft eyes and cuddly fur (i.e., the most "human") are the most "desirable" of the lot. What these people lack, of course, is a sense of history—earth history. In the world of natural selection—which goes back some 600 million years beyond "human selection"—the important species are those which are integrated most harmoniously into the web and fabric of life, with little concern for the size, appearance, behavior, or state of advancement on the evolutionary scale.

THE BAMBI SYNDROME

Yes, wildlife is more than those warm and wonderful brown-eyed fawns and furry rabbits and other handsome mammals. It also incorporates those cold and clammy, ugly and awkward, putrid and poisonous denizens of the countless other classes of the animal kingdom. In the most liberal sense, in fact, wildlife incorporates all the wild plant species which help to support these critters and their way of life.

A disproportionate concern for the well-being of a "favored" bird or mammal can actually be ecologically hazardous and can sometimes lead to the destruction of habitats and other species far more important in the total fabric of life in a given area.

Conversely, an overzealous concern for the destruction of an "undesirable" species (i.e., insect pests) can reap similar unfortunate results. The effect of heavy concentrations of DDT pesticide on the reproductive potential of birds of prey is a classic example of this. Witness the endangered status of the American bald eagle, the osprey, and others. We seem to be in need of a public conscience which can learn to better co-exist with a broader spectrum of life forms, regardless of their supposed assets or liabilities to man.

EDUCATION IS NEEDED

All of these attitudes have, of course, one common denominator—human nature. They all tend to view wildlife from a very humanistic point of view, which sometimes runs cross-grain to the philosophy and management policies of the wildlife professional. The point here is not that people who have these attitudes are stupid or ignorant in a derogatory sense, but that they need to be more thoroughly informed. The responsibility for informing lies as much with educators and resource agencies as it does with the people themselves. Teachers, in particular, could go a long way in helping to dispel common misconceptions youngsters have about wildlife, especially those passed down to them by well-meaning parents. □

the **BEAGLE** A Sporting Dog Well-Suited to New Jersey

by Len Wolgast *Assistant Professor of Wildlife Ecology, Cook College, Rutgers University*



Cindy and her litter

“Here comes Sam out of the honeysuckle. The rabbit must have holed up. Hey look! Here comes Cindy, and she has the dead rabbit.” My friend and hunting partner for the past twenty years, Bob Reynolds, was shouting, as I climbed out of the dense thicket of blackberry and honeysuckle.

Our day had begun at the Clinton Fish and Wildlife Management Area, where we had collected a limit of pheasants and one bunny in the early morning hours, and we had come back to Middlesex County to hunt cottontails in the afternoon. We were hunting over Sam, a nine-year-old male beagle, and Cindy, a two year-old female, and had shot at a cottontail but did not think we had killed it. Most beagles will not retrieve dead animals. Their job is

primarily to track game and keep it moving until the hunter gets a chance to shoot the animal. So Cindy’s retrieve of the dead cottontail was the end of a perfect hunt and the final triumph as we had watched her develop from an awkward puppy into a nearly perfect hunting hound.

Here in New Jersey the hunter’s principal quarry is the cottontail rabbit, which is well-distributed throughout the state. More cottontails are harvested in this state than any other game species. A New Jersey hunter who owns one or two beagles rarely has a hard time bringing home a bunny or two.

Most beagles will also trail other species, including pheasants, foxes, deer, house cats, and raccoons. Many pheasants and a large number of foxes are



Photos supplied by the author

harvested over beagles in New Jersey every year. It is up to the beagle's owner to decide which species he wants his hound to run and then to train the hound *not* to run the other species. Breaking a beagle of running deer is one of the most important steps involved in training a dog. It is not only illegal to hunt deer with a dog, but a hunter may waste many hours of hunting time if his beagle insists on chasing whitetails!

The beagle has long been a popular breed in the United States; the first beagle having been registered with the American Kennel Club in 1885. More than 50,000 beagles are now being registered every year—only three other breeds had a greater number of new registrants in 1974.

Although beagles are used extensively as hunting dogs, many other reasons including their excellent disposition, account for their popularity. The relatively low purchase price of most beagles, combined with the low cost of their feeding and care, also contribute to their wide appeal. Several beagles can be maintained for the same cost as one setter.

Many people own beagles principally to enter them in field trials, where the dogs are judged on their ability to hunt and track cottontails in a certain manner. Emphasis is given to accuracy in trailing, voice, endurance, starting ability, style, and obedience. Good field-trial dogs often make excellent hunting dogs.

Other beagle owners get the most enjoyment from entering their animals in shows, where the dog's structural form is the major point on which he is judged. A dog which conforms to certain physical standards, however, will not necessarily be a better or poorer hunting dog than one which does not meet those standards. It is true, though, that puppies whose parents were hunting or field-trial dogs will generally make better field dogs than puppies whose parents were bred strictly for show.

As living conditions for New Jersey sportsmen become increasingly crowded, the amount of space available for raising hunting dogs is gradually shrinking. Large sporting dogs, such as pointers and setters, require considerable space in which to exercise properly and often cannot adjust well to life in cramped quarters. This does not mean, however, that the New Jersey hunter must forego the pleasures of owning and hunting over his own dog. The beagle is not only an excellent sporting breed, but is also one of the easiest of all such breeds to house comfortably. Any waterproof, well-insulated shelter of suitable size provides satisfactory outdoor housing (heater is never necessary). A raised wire run should be attached to the shelter. The entire housing area need occupy no more than four feet by ten feet.

If backyard space is unavailable or if the hunter desires that his hound live indoors, his beagle will thrive in the smallest of apartments. The beagles' small size and short coat contributes to his compatibility with indoor living. I disagree strongly with those sportsmen who feel that a hunting dog will be ruined if raised indoors. Some of the best hounds I have ever had the pleasure of hunting over have been raised as house pets.

In summary, the beagle, with its merry disposition, low purchase and maintenance costs, short hair, minimal housing demands, and outstanding hunting abilities can be a welcome addition to the households of many New Jersey sportsmen. □

*New Jersey's Wilderness program
completes third winter*

Project U.S.E. Urban Suburban Environments

By Phillip M. Costello and L. Jose Gonzalez

PHOTOS BY HARRY GROSCH



"What is this place anyway?" "Where are we?" "Where do you people live?" "Are there any stores around here?" "What's for lunch?"

These were only a few of the questions posed to a team of Project USE instructors by a group of Bergenfield High School students on a recent day program at the Wildcat Mountain Wilderness Center in Hewitt, New Jersey.

The questions are not new to the USE staff; in fact, they had heard them many times before, for the Wildcat Mountain Center is the northern base of operations for a very unique statewide environmental program—Project USE.

The roots of Project USE go back to Trenton Central High School, where, for four years the "Action Bound" program utilized outdoor experiences as a means of motivating underachieving urban youth.

When the grant for Trenton High School ended in 1971 the authors who were staff members of "Action Bound," felt that the techniques and program elements designed and developed during this program were very effective in reaching the goals of the project and that they should be demonstrated to other schools.

An evaluation of the program prepared by Princeton University concluded a number of very positive gains including: more positive self-image, improved outlook toward teachers and more positive attitude toward participation, more goal-oriented and more willing to work hard to reach an objective.

When Project USE began it was set up primarily to serve as a resource to schools, colleges and community agencies that are interested in developing a wilderness-based environmental education program.

One unique feature of the program was that it was initiated without any source of funding whatsoever. Even today, it has not received any private, state or federal support, and relies totally on small contracts with individual schools and colleges to support its operations. However, with a team of dedicated staff and a lot of hard work they have been able to move a lot of ideas from discussion to reality.

◆ **Wildcat Mountain**
— **Building a log cabin**

Wilderness Pursuit Center, ◆
Stockton College



Two years ago the New Jersey Education Consortium adopted USE as its environmental education program. The Consortium is a private, non-profit organization which seeks to increase educational options in our society. On the assumption that within the American public there lies a vast unserved or ill-served market of potential learners, the Consortium acts as a broker between such individuals and appropriate educational resources. The Consortium also devises programs of its own to meet the diverse learning styles, interests, and needs of the public. The goal of the Consortium is to develop human potential and meet important needs of the society by enabling individuals to acquire and expand skills which will be both socially useful and personally satisfying.

Presently, USE has an administrative office in Princeton, New Jersey; operates the Wildcat Mountain Center in Hewitt, New Jersey; operates the Wilderness Pursuits Center at Stockton State College; conducts mobile courses from 1 to 30 days duration all over New Jersey and in six other states and has a small year-round experimental program in Somerville, Massachusetts.

The project staff feels that the philoso-

phy of USE has three main objectives:

1. *Personal Growth*—to encourage greater self-awareness and confidence by successfully completing the challenging nature of the activities incorporated into the expeditions.

2. *Environmental Awareness*—to encourage greater understanding and interest in all of the environments of New Jersey and the problems of these environments.

3. *Group Development*—to improve group relationships by living as a community in a wilderness situation and solving problems together.

The project feels that youth in our present society too often become caught up in our mechanized, transistor world and lose touch with themselves, the earth and the real essential things in life.

Students who have become locked into self-imposed limitations need to be exposed to controlled stress situations and encouraged to try to stretch their limitations and do the things that seem beyond their grasp.

Few high school students are familiar with more than one of the many natural environments of the state and yet, in a very short period of time they will be voting on our environmental legislation.

During the next five years it will be increasingly necessary to familiarize secondary school students with the pine barrens, the mountains, the wetlands, the rivers and the ocean areas of the state and to be knowledgeable regarding the environmental problems of the areas of the state and to encourage them to seek alternative solutions to these problems.

USE believes that this process begins by living in these areas and studying the environment first hand.

Although the project concentrates on secondary school groups it has done programs for groups 8 to 65 years old, and has been involved with delinquent programs, drug-related programs, staff training and teacher workshops, programs for mentally retarded and emotionally disturbed youngsters and prison inmates.

The concept of wilderness has numerous applications other than pure recreation. USE looks to its programs as providing alternative methods of dealing with and solving school problems.

Some schools incorporate it into the physical education program, others in the science or guidance department. In some it remains separate and independent. Ideally, it should be closely

Project U.S.E. at Stockton



woven into the entire school structure and viewed as a totally interdisciplinary approach to experiential education.

The Wildcat Mountain Wilderness Center

Located on a large tract of undeveloped state property in Hewitt, New Jersey, the center conducts programs 7 days a week, 12 months a year. Groups can arrange for courses from 1 to 30 days duration and select from a wide range of activities.

During the school year, courses are held with secondary schools, colleges and community agencies, but during the summer months 16 and 23-day wilderness courses are open on an individual basis.

Activities include: backpacking, mountaineering, an obstacle course, group problems, cave exploring, rock-climbing, rappelling, mountain rescue, orienteering, first-aid, white-water canoeing, kayaking, rafting, skin diving, scuba diving, sailing, survival, snow and ice climbing, snow shoeing and cross-country skiing.

During the past year, the number of participants taking part in courses at the center has tripled.

USE supplies instructors, all necessary equipment and food for its courses. Students supply only their clothing and personal items.

Groups are divided up into patrols of ten with two USE instructors assigned to each patrol.

New staff members go through a training process at the Wildcat Center which includes: working as a volunteer in a local hospital emergency room, basic and advanced training in outdoor skills, group sessions, environmental education and working as an assistant for 6 months.

Facilities at Wildcat are minimal as the name implies, and consist only of a warming tent, equipment and food storage trailer, a staff tent and a partially completed log cabin that has been built during the last year by student volunteers and USE staff.

For the last two winters the staff has wintered out at the center with no heat, running water or electricity.

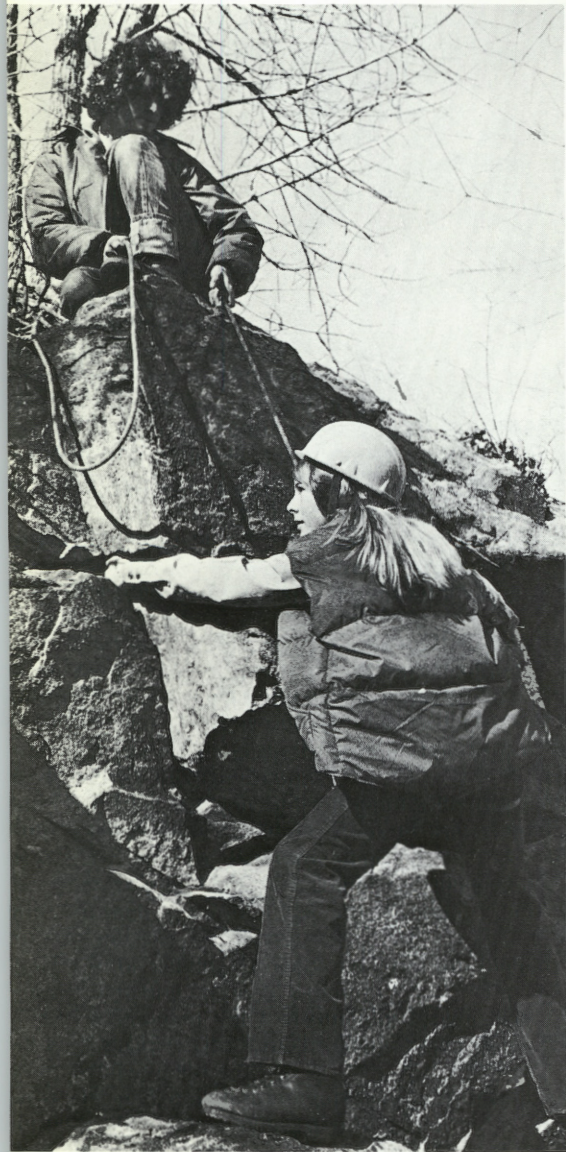
Twenty minutes after a group arrives they are completely outfitted with everything they need including backpack, sleeping bag, tents, food, maps, cooking gear and instructors and they are off.

Presently, USE is working with over thirty schools including Ohio State University which brings students to the center for three 1-week sessions each year.

**Winter Hike at
Wildcat Mountain**



**Hiking at
Wildcat Mountain**



Climbing at Wildcat Mountain

**Wilderness Pursuits Center—
Stockton State College**

Beginning its second year, this program based under the Campus Activities Office directed by Mr. Randy Foose, has three primary functions: (1) to provide an on-going regular series of outdoor experiences 1 to 7 days duration and available to students and faculty; (2) to provide instructor training, in the form of semester-long internships on a credit basis; (3) to involve USE instructors and interns in developing outdoor programs in community agencies and local school districts.

Stockton State College is the base of operations for southern New Jersey programs including the pine barrens, the wetlands and the ocean.

One and two-day long environmental education sessions are conducted on the 1,600 acre campus.

Activities include: use of the program's 14-station ropes course, use of map and compass, orienteering, basic canoeing, ecology, edible wild foods, group problems and initiative tests, and basic outdoor skills.

Extended experiences two to six days long in the pine barrens can include backpacking, canoeing, hiking, environmental problems, ecology, survival, history and physical fitness.

Experiences for undergraduates include sessions in all natural environments of the state as well as special courses in New Hampshire, New York state and West Virginia.

Stockton is the only college in the state with such a program, and hopes, as the program develops, to design a model that can be used by several other interested colleges.

USE instructors, interns and college faculty are presently involved in curricu-

lum development for southern New Jersey environments and are encouraging local school districts to examine possible methods of implementation.

Somerville, Massachusetts

USE has a contract with the city of Somerville to develop a wilderness program in Massachusetts for a Coalition of Youth Agencies in the city. The overall goal is to reduce delinquent crime in the city. Two USE instructors are working full-time on the project, and includes outdoor courses throughout Massachusetts and New Hampshire.

Experiences are run during the week and on weekends with follow-up projects back in the city continuing all year.

USE as a resource

With a staff of fourteen including two administrators, 3 program coordinators, 6 instructors and 3 interns the project is able to offer a wide range of services including:

- plan, design and conduct wilderness experiences at the Wildcat Mountain Center from 1 to 30 days duration;
- plan, design and conduct wilderness experiences at the Stockton center from 1 to 6 days duration;
- plan, design and conduct wilderness experiences in other areas of the country for more experienced groups;
- conduct staff training sessions and teacher workshops for school and agencies;
- consulting services for program planning and proposal writing;
- speaker and 15-minute color film "Project USE" for meetings and school assemblies;
- a 1-day introductory program available at either Wildcat or Stockton.

For details, write Project USE, 228 Alexander Road, Princeton, N.J. 08540. □



Joseph Penkala, Assistant Wetlands Project Biologist



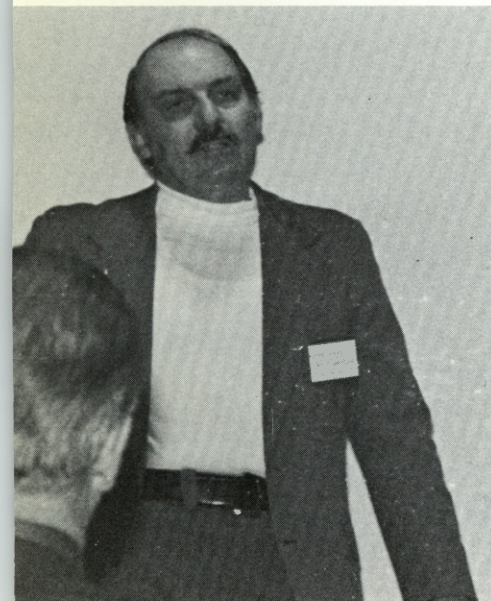
Left to right, Director Russell Cookingham, award recipient Fred Ferrigno, and Acting Wildlife Management Chief George Howard

1975 NORTHEAST FISH AND WILDLIFE CONFERENCE

The New Jersey Division of Fish, Game and Shellfisheries was well represented at the 1975 Northeast Fish and Wildlife conference held February 23 through 26 at New Haven, Connecticut. Fred Ferrigno, Senior Wildlife Biologist and Leader of the Wildlife Management Bureau's Wetlands Research Project was the recipient of the Wildlife Society's John Pearce award which is presented annually in recognition of outstanding contributions to the Wildlife Management profession.

Three formal papers were presented by New Jersey biologists relative to problems and techniques in Deer Management. Robert McDowell of the I & E Section collaborated with Douglas Roscoe of the University of Connecticut on a presentation entitled "Deer Management Problems at the Great Swamp National Wildlife Refuge." Deer Project Leader, Robert Lund, presented a report on "The Capture and Marking of Newborn White-tailed Deer Fawns" and Acting Wildlife Management Bureau Chief George Howard presented the "Deer Management Zone Concept in New Jersey."

Additional presentations were made by Robert Lund on "The Status of the Eastern Coyote in New Jersey" and by Joseph Penkala, Assistant Wetlands Project Biologist, on the "Winter Food Habits and Body Weight of Atlantic Brant." Bob McDowell and Steve Perrone of I & E Section participated in panel discussions on the "The Sportsmen's Image" and the publication of a "Conservation" magazine. □



Steve Perrone, Editor, New Jersey Outdoors



Robert Lund, Deer Project Leader

Get Your Name in the Record Books

search for New Jersey's biggest trees

By John Kuser

Photos supplied by the author



How do you go about finding and measuring the biggest trees in New Jersey? Generally you find them when you're doing something else, such as marking timber or hiking through the woods—or perhaps canoeing a river or even driving along a highway.

One day last May I was hiking along the Appalachian Trail in Sussex County with a group of forestry students from Rutgers. About two miles northeast of Sunrise Mountain Pavilion in Stokes State Forest we came across a grove of paper birch trees. Paper birch is a northern tree which ranges from Canada's Maritime Provinces in the east, all the way across the continent to central Alaska in the west, with the northwestern corner of New Jersey on the southern edge of its range. The species was not included in the first edition of "List of New Jersey's Biggest Trees," and apparently had not been reported in the state. We checked the trees to be sure that they were paper birch rather than the much commoner gray birch, which also has white bark. They proved to be paper birch. But then we realized to our chagrin that nobody had a steel measuring tape along—and so there is still no paper birch on the list. This spring when we again hiked that section of the Trail, from Rutgers' forestry summer

camp at Beemerville southward along the crest of Sunrise Mountain, you can be sure there will be a tape in my pocket. And on the next edition of the big tree list, there will be a paper birch.

But not every tree that is measured is big enough to make the list. Lured out by a spell of mild weather last December, my wife and I went on an overnight canoe trip down the Oswego and Wading Rivers, and camped for the night at Bodine Field, near Jenkins. During the night the weather turned clear and cold, and sunrise the next morning was beautiful to watch as the first rays of the sun slanted through the pine woods and glanced off half-inch crystals of frost which had built up overnight on our canoe, paddles, and gear. After toasting cold hands and feet at the campfire, I took camera in hand and explored a trail downstream alongside the river, hoping to find a spot featuring a photogenic combination of sunrise, river, frost crystals, and pines. Leaning across the trail a few hundred yards down was what looked like the biggest pitch pine I had ever seen. I went back for a tape and measured the tree, only to find it a disappointing two feet smaller than Louis Hand's 8'7" pitch pine which grows not far away in the same county.



*Black Walnut,
Moorestown*

Tree marking INDIAN TRAIL on Openaki Road, Denville Township opposite southeast corner of Lake Openaki.



Largest tree in N.J.—Sycamore measuring 21'8" located in Warren County.

One tree that did make the list is a southern magnolia which grows alongside U.S. #130 in Burlington County. I recognized the tree while driving past one day, because I had worked several years in the South and seen many magnolias there. The owner of this tree was very proud of it, because it grew right out in the middle of her back yard where it had no protection from snow or ice, and it had survived for many years and reached a height of about 40', with branch spread of about 30', and breast-high circumference of 5'2". Another Burlington tree that made the list is a giant sequoia which I spotted from the road and recognized from having seen its kind in the West. It measured 7' around, only a midget compared to the 83'11" circumference of the General Sherman sequoia in California, but still larger than any other sequoia in New Jersey.

Sometimes a "mystery tree" appears and needs to be identified before it can take its place on the list. One day Jim Lime, a great outdoorsman who has a keener eye in the woods than just about anybody, saw a tall, gray-barked, unfamiliar-looking tree growing on the floodplain of the North Branch near Pluckemin in Somerset County. Jim told me about the tree, and we went there to see what it was. We

were both puzzled for a while, because it didn't look much like anything either of us had ever seen. We finally identified it as a downy-leaved variant of hackberry, with different-looking bark, larger leaves, much taller and straighter than the usual hackberry, and lacking the usual "witches-brooms" on the twigs. The lowest branches were 40' above us, so we needed a pair of field glasses to see the leaves and the characteristic black, berrylike fruit. We also had to check five tree manuals before we found one which listed this tree and described (quite accurately) the difference between it and common hackberry.

The first "List of New Jersey's Biggest Trees" was printed in June 1969, and the current revised list was issued in June 1974. The total number of species on the list is now 140, and the statistics on their size and location have been sent in by 36 tree owners, foresters, and others. Some of the most productive tree reporters have been Louis Hand, with 22 record trees; John T. McNeil, with 10 trees; and Santiago Porcella III, with 22 trees. I have 42. Sonny Porcella is kind of in the driver's seat with respect to the rest of us, because he works for the Bureau of Forestry in Trenton, and it is he who checks the trees we measure and accepts or rejects

them for the list. It is no use to swear to him that you have identified the species correctly and measured it accurately—he has to see to believe.

The 1974 list has already become obsolete, because many of my students at Cook College, Rutgers, where I teach forestry, have gone out with tapes in pockets, determined to beat some of the record trees on the list—particularly mine. They have been quite successful, and at this writing there are 40 or 50 file cards with data on new record trees awaiting the next revision of the list. Some of the best of these new tree-hunters are Nick Demicco, John Keator, Eric Schallock, Steve Brodtkin, and Bruce Clarke.

Everybody in the State is welcome to send in reports on big trees—please help us find bigger ones! If you see or

know of a tree which you think is larger than any other of the same species growing in New Jersey, the first thing to do is to obtain a copy of the Big Tree list from Cook College, Rutgers (201-932-9333), and compare the size of your tree with that of the largest of the same kind on the list. Measure the circumference of the tree at breast height (4½' above ground), and if your tree is larger than the one on the list, report it to the Forestry Department, Blake Hall, Cook College, New Brunswick, N.J. 08903.

Below are listed the largest known specimens of the ten largest species in the State. All are more than 17' in circumference, and the largest tree in New Jersey (so far) is the 21'8" sycamore below.

Species	Circumference	County	Location	Owner or reporter
Ash, white <i>Fraxinus americana</i>	18' 3"	Camden	Bancroft School, Haddonfield	Reported by John T. McNeil, 800 W. Fisher Ave., Philadelphia, Pa. and J. Stanley Quirkmire, 701 Wood St., Vineland
Elm, English <i>Ulmus procera</i>	19' 7"	Mercer	In front yard of Dr. David Mayer's home, 940 Kingston Rd. (N.J. Rt. 27), 3 miles north of Princeton	Reported by Santiago Porcella III
Maple, red or swamp <i>Acer rubrum</i>	19' 10"	Salem	First lane east of Canton Church, 200 feet up lane from county road on property owned by Alfonso Smica	Reported by Joseph A. Jacobs, 1928 Hillcrest Ave., Pennsauken
Maple, silver <i>Acer saccharinum</i>	17' 6"	Cumberland	Corner of Front & Noble Sts. on property owned by John Panco, Mauricetown	Reported by Ms. Carolyn C. Bacon, Mauricetown
Oak, pin <i>Quercus palustris</i>	19' 3"	Burlington	North of Chesterfield Crossroads toward Crosswicks on Rapic property	Reported by John T. McNeil
Oak, swamp white <i>Quercus bicolor</i>	18' 9-1/2"	Burlington	1-1/8 miles NNE of Juliustown on Rosebud Farms property, Springfield Meeting House Rd., Jobstown	Reported by Louis E. Hand
Oak, white <i>Quercus alba</i>	21' 6"	Monmouth	Cream Ridge, Upper Freehold Township, between Hornertown & Cream Ridge on Highway 37, (also known as 539), near fruit tree test plots. Tree is east of stream at NE of property on south side of Rt. 539	Reported by David C. Shaw, Supt., Shade Tree Commission, Holmdel Arboretum
Oak, willow <i>Quercus phellos</i>	21' 4"	Burlington	Beginning at Medford Circle, travel 1/2 mile west on Rt. 70, make right turn on Hartford Rd., travel 1/4 mile to tree in field on east side of road on property of Cozy Morley of Philadelphia, Pa.	Reported by Richard L. Washer, Burlington County Agent, Mount Holly and William E. Johnson, Church Rd., Medford
Sycamore <i>Platanus occidentalis</i>	21' 8"	Warren	Tree on Slacks Farm, Hope-Bridgeville Rd., N.J. Rt. 521, RD 1, Blairstown	Reported by Santiago Porcella III
Tulip poplar <i>Liriodendron tulipifera</i>	19' 6"	Mercer	Tree in front lawn of Children's Day School, 520 W. State St., Trenton	Reported by Santiago Porcella III

FRONT COVER

*Reeling in a large brownie at
Ken Lockwood Gorge, Harry
Grosch, Nikon F2, Koda-
chrome II*

INSIDE BACK COVER

*Brook trout illustration by
Duane Raver Jr. This illustration
will be used for the 1976
New Jersey Trout Stamp.*

BACK COVER

*The New Jersey State Bird—the Eastern Goldfinch, painted by Ron Jenkins.
Prints suitable for framing, hand numbered, and signed by the artist are
available from The National Wildlife Art Exchange, Inc., P.O. Drawer
3385—Suite 903, Vero Beach, Florida 32960.*



D. RAVER



r. jenkins
© 1974