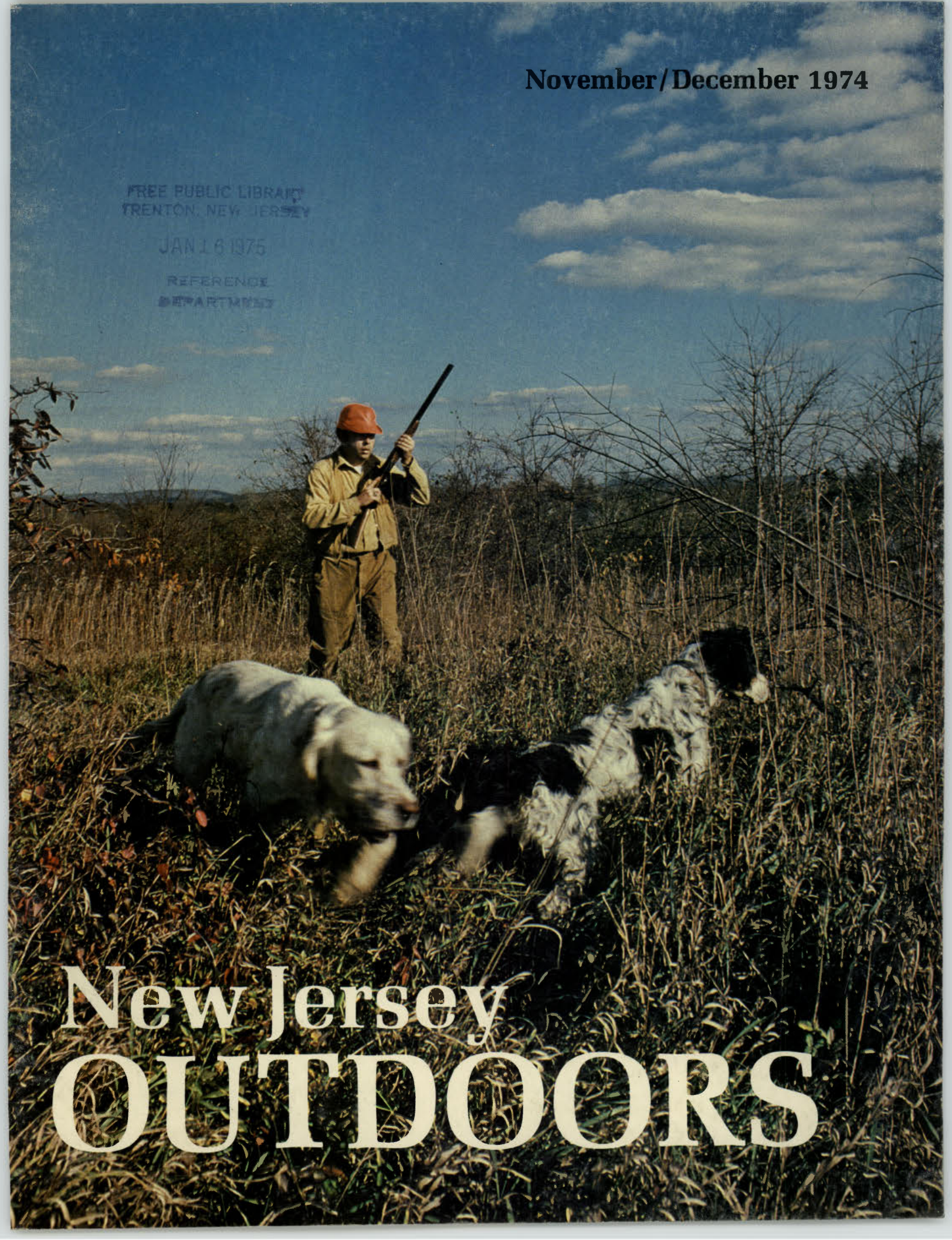


November/December 1974

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A photograph of a hunter in a field with two dogs. The hunter is wearing a tan jacket, pants, and a red cap, holding a shotgun. Two dogs, one white and one black and white, are in the foreground. The background shows a field of tall grass and bare trees under a blue sky with clouds.

New Jersey
OUTDOORS



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New Jersey Outdoors Magazine

Steve Perrone
Editor

Edi Joseph
Staff Writer
(*Environmental News*)

Harry Grosch
Photographer

Lucy Brennan
Circulation

Contributors
Bob Adams
Bob McDowell
Pete McLain
Teddy Moritz
Carlton Smith

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from the editor

Not too long ago while driving back toward New York City from a business appointment in Suffolk County in Long Island, I decided to stop at Valley Stream, a town in Nassau County, where I spent many enjoyable summers during my early teens some years back. Maybe it was the hot sun or just a wave of nostalgia that prompted me on this day, but I was remembering the small farms, the pleasant bungalows that dotted the area, and the many trees I'd conquered while summering at my aunt's home there.

But I should not have returned. First of all, I couldn't "find" where I had spent all those summer days. I recognized nothing. I found the street, the intersection, but it was an alien landscape. Gone was my aunt's neat bungalow, the trees in front, the large vegetable garden at the rear, the neighbors' houses, the nearby farm, that piece of woods by the creek, the creek itself . . . nothing that I could remember, no proof that I had ever been here at all. It was row after row of houses, cemented sidewalks, paved streets and parked cars at the curbs.

The change was so drastic and complete that I momentarily suffered some sort of "future shock." Completely disoriented, I stumbled back to my car and drove off as quickly as possible, eager to forget what seemed like a bad dream. But it wasn't a bad dream—what happened and is still happening in Long Island can certainly happen and is happening in New Jersey—unless we, as concerned citizens, become involved in *land use planning*.

The important article beginning on page four, by B. Budd Chavooshian and Thomas Norman, describes how New Jersey can preserve open space and ensure the quality of life we all deserve and need.

This final issue of 1974 marks the first year of publication of NEW JERSEY OUTDOORS under my direction. At this time, I especially want to thank the old subscribers for "hanging in there," and I also want to welcome the many new subscribers to our magazine. And I hope you all "hang in there" and tell all your friends about us. Or better yet, send them a gift subscription—they'll appreciate your thoughtfulness.

I want to wish you all a happy holiday season and a more prosperous New Year, double-digit inflation notwithstanding.

Steve Perrone



Save your acorns
and enjoy **New Jersey Outdoors**
All year long

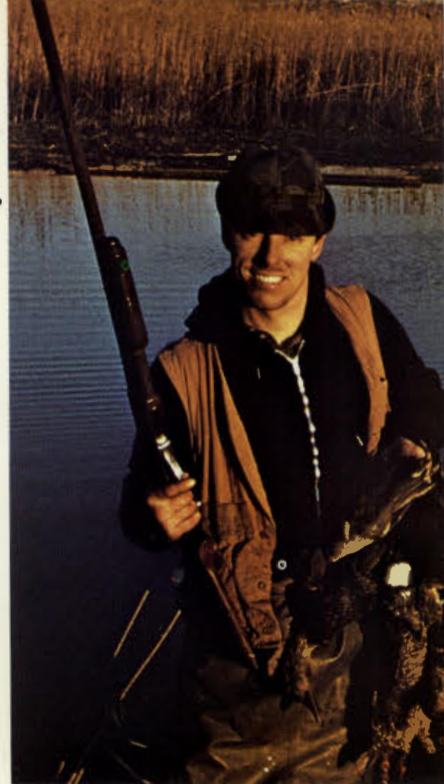
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hunting the hackensack meadows

S. J. Toth Jr.
Wildlife Biologist



*A successful urban hunter
with his bag.*

Is it necessary to travel to the great South Jersey marshes to find good duck hunting? The results of a survey conducted by personnel of the New Jersey Division of Fish,

Game, and Shellfisheries indicate that excellent duck hunting possibilities exist within the sight of the tall buildings of New York City.

This prime hunting area exists in the Hackensack Meadows within the counties of Hudson and Bergen. The area is almost 10,000 acres in size and stretches along both sides of the Hackensack River from the town of Little Ferry to the Pulaski Skyway.

A portion of this area has recently been designated as the Sawmill Creek Wildlife Management Area. The donation of this land by the Hackensack Meadowlands Development Commission to the Division of Fish, Game, and Shellfisheries for multipurpose use was motivated by the desire of the Meadowlands Commission to retain a portion of the area in its natural state. This joint venture between a planning and a conservation agency is the first in our state.

history

The Hackensack Meadows have been and still are the traditional hunting areas for the urban sportsman. During the 1800's the meadows supported a number of commercial guides who were available for hire by wealthy sportsmen from New York City. Hunting was concentrated on various species of rail and other water-

fowl. Even in 1934, the area was noted as one of the most important areas for duck shooting by the New Jersey Division of Fish and Game. When old-time hunters of this area got together, the hunting is often discussed in glowing terms part of which is fact and the rest inflated memories of the past.

hunter study

During the 1972-73 duck and goose season a survey was conducted to obtain information on the numbers of hunters using this area, bags, access points, and species of ducks taken. Other information relating to plant species present and nature of impoundments present was also collected. The information obtained indicates a good hunter success ratio. Approximately 1.2 ducks were harvested per hunter day. Three hundred and forty gunners used the area and harvested 483 ducks. A large variety of duck species were shot including puddle and diving ducks. Green-wing teal and pintail made up the largest part of the total bag. Other species shot were: blacks, mallards, gadwall, shoveller, ruddy, scaup and old squaw.



Green winged teal over the meadows with North Bergen in the background.

Photos by Donald J. Smith

hunting the meadows

To reach the Meadows, the hunter should follow the New Jersey Turnpike to Exit 16W. Follow Route 3 after leaving the Pike to various boat launching sites along the Hackensack River. Follow the river down stream and enter the area via creeks that empty into the river. Your choice will depend upon the type of shooting that is of interest to you.

Hunting in the early part of the season consists mainly of jump shooting along the creeks or pass shooting from selected sites. The dominant duck species harvested at this time are teal and mallard. One group of four hunters interviewed harvested 25 teal in a four-hour morning hunt. In the latter part of the season, traditional hunting over decoys appears to be the most productive. A spread of decoys of at least 30 are required for best results and should consist of both diver and puddle ducks. Ducks harvested include blacks, mallards, pintails, scaup and old squaw. Best hunting is experienced when inland ponds and creeks become frozen.

a typical hunt

The author and Donald Smith (Naturalist—Hackensack Meadow Lands Commission) hunted the area in the later part of the duck season. The boat was launched at an access point and taken down river to a large tidal bay on which the blind was located. The decoys (30 mixed pintail and scaup) were set out and the action soon started. Numerous large flocks of pintail, mallards

and black ducks were trading over the area and four pintail and two scaup were shot before leaving the blind. This is typical shooting for the Meadows.

To insure hunter success, it is suggested that the gunner scout the area prior to the opening of the season. Access points should be selected and tidal flows noted. Week day hunts are recommended since hunter pressure is very small at this time.

These marshes can provide good duck shooting, similar to that found in South Jersey, for the urban North Jersey gunner. In addition its nearness to home and the varied opportunities for hunting should interest all duck hunters. □

A pair of blue winged teal in flight over the marshes.



***Land-use Planning
Would Provide Open
Space In Our Crowded
State.***



Photos by Harry Grosch

Transfer of Developmental Rights

by: **B. Budd Chavooshian
and Thomas Norman, Esq**

How can New Jersey, the most densely populated state in the nation, preserve open space and ensure the quality of life which its residents desire?

Whatever course is taken, it won't be easy! Our state's population has increased from 4.2 million in 1940 to 7.3 million in 1970—a jump of 74 percent in little more than a generation.

The purpose of this article is to describe a new concept of land use controls called transfer of development rights. This is an uncomplicated idea—yet very different from traditional philosophies of land ownership and development.

THE NEED FOR ACTION

Land is modern man's most precious natural resource and its wise use is imperative. A highly developed, technological society ought to possess and enjoy an environment of the highest quality. But until very recently land use policies, dictated by economic, political, and social (or perhaps anti-social) considerations, have insensitively and irresponsibly squandered the land. For the most part an environment has been

created which is not worthy of modern man's intelligence and highly advanced technology.

Generally, it is realized that open space provides aesthetic, psychological, and social values in the form of scenic landscapes, rolling and wooded hills, farmlands, stream valleys, flood plains, protected aquifer recharge areas, marshes, meadows, and historic areas. Yet rarely have these areas been retained and protected for their treasured and essential qualities in the planning, zoning, and development of a community. This is a strange paradox, but there are some signs now that open space preservation is being recognized and dealt with in various ways.

Some important examples are wetlands and flood plain protection laws, coastal zoning, State land use guidelines, and open space purchase programs (Green Acres).

THE PROBLEM OF ZONING

In the past, conventional zoning, the basic tech-



Vincent Amico

A Planned Unit Development In Central New Jersey

A New Concept in Land Use Management

and Use Specialist and Program Advisor for Resource Management, Cooperative Extension Service. Member of New Jersey Bar, Visiting Investigator, Institute of Environmental Studies, Rutgers University.

nique of guiding the preliminary stages of development, did not have environmental protection built into it. Occasionally, the judicious application of geologic, physiographic, and hydrologic data sometimes did produce zoning classifications and densities less damaging to the natural environment than random development.

But in general, little if any of the essential natural resources were preserved. The courts often found that zoning regulations drafted to preserve large areas of land were unduly restrictive, confiscatory, and therefore unconstitutional. Moreover, conventional zoning did not preserve natural environmental qualities; at its very best it could only provide for the harmonious and efficient development of all of the land.

Cluster zoning was extensively discussed but infrequently used. A more sophisticated version of cluster zoning is the planned unit development, better known as P.U.D. However, the main thrust of all these devices and mechanisms was to preserve some open space and give relief from the typical monotonous sprawl devel-

opment created by conventional zoning. But since these devices are applied generally to small areas and are usually an option to the existing lot-by-lot subdivision process within a municipality, the best to be achieved is some minimal break in an otherwise monotonous development. Haphazard, non-contiguous, scattered open space is the result.

This is not necessarily bad or undesirable, but it does not protect large areas of open space such as farmlands, flood plains, steep and wooded slopes or aquifer recharge areas, necessary for a water and air supply free from serious pollution for an increasing population.

Of critical importance for the 1970's is an environmental balance that will ensure health and safety, retain open and productive land for water and air quality, and give psychological relief from the continuous sprawl of the megalopolis.

PLANNING AND DEVELOPMENT RIGHTS

Almost any small town or city newspaper can provide
continued on page 30





UPPER LEFT
*Cordwood piles
by cooperative hunters*

UPPER RIGHT
*The author cooking
for the campers*

LOWER RIGHT
Gathering cordwood

LOWER LEFT
*John Kuser erects
American Tree Farm
System sign*



Photos by Harry Grosch

multiple
use of a
resource

honey hollow

Hiking in the summer, cross-country skiing in the winter, spring camping by a woodland stream — who wouldn't enjoy a place where they could do all these? Timber growing, deer hunting, firewood sales, youth employment, and education, in addition, comprise multiple-use forestry, 1974-style, in northern Mercer County.

BY JOHN KUSER

In 1971 I found myself the owner of 130 acres of rocky, seasonally swampy, abandoned farmland that my grandfather had bought for back taxes around 1900 on which to introduce deer. What could be done with it now? Considering the alternatives of farm-

ing, residential or industrial development, I decided that the ultimate use of the land was probably either large-lot residential development or inclusion within a proposed county recreational area, and that the best interim course of action was multiple-use forestry. One prime consideration was taxes, which were several hundred dollars a year even though the land was completely undeveloped and had no buildings on it.

I knew about the Farmland Assessment Act, passed by the State Legislature in 1964 after seven out of ten New Jersey voters had approved a constitutional amendment in the previous year which made it possible. To qualify for farmland assessment, the land must be at least five acres in area, must have been actively devoted to agriculture for two consecutive years immediately preceding a request for such assessment, and must produce a minimum of \$500 in sales of agricultural products, or clear potential of such sales. A State Farmland Evaluation Advisory Committee annually determines and publishes recommended farmland values for use by local assessors, based on actual data on income earned from various classes of land devoted to four categories of farm use—cropland harvested, cropland pastured, permanent pasture, and woodland or wetland.

If forestry could mean farmland assessment, that was the answer. We marked 20 acres for timber stand improvement in 1972 and removed defective trees, trees of undesirable species, and trees that were crowded too closely to grow their best. The USDA's Rural Environmental Assistance Program provided partial reimbursement of our cost for the work, thus producing some of the income necessary to qualify for farmland assessment; firewood sales made up the rest. Now the taxes dropped to a level where I could afford to continue to own the land.

The next part of multiple-use woodland management to be implemented was deer hunting. There were lots of deer around, and lots of hunters looking for a place to hunt. The problem was how to fit deer and deer-hunters into the overall management scheme with as much benefit as possible to all involved. I hit upon the unique answer (so far as I know) of

having each would-be hunter fell and stack a cord of wood from trees we had marked. This earned him his deer hunting permission with no outlay of cash, plus a day's good outdoor exercise in the winter, while it solved part of my problem of getting trees cut. The first season our seven-man deer club bagged two deer. The second season they bagged six, and club membership jumped quickly to 11. Thinning the woods had been good for the deer because it improved their forage, and the deer which had been attracted by our logging were controlling unwanted regrowth by browsing stump sprouts.

During 1973's fuel shortage the price of firewood nearly doubled, and we sold all we could haul and stack. Since the USDA's REAP program was temporarily discontinued in 1973, firewood sales became our only way of qualifying for continued farmland assessment (the requirement for which had now risen to \$500 plus 50¢ per woodland acre). We sold three times as much as we needed to meet our quota, then used the firewood profit to pay for more timber-stand improvement. In the meantime I had joined the Tree Farm System,* a forestland owner's group whose members display the nationally known green and white Tree Farm sign on their property, and who receive periodic mailings of *The Tree Farm News*, a publication designed to keep them informed on regional and national developments in forestry and conservation matters. Figuring that the best way to learn more about something was to join the competition, I entered the Tree Farm System's "Outstanding Tree Farmer" contest. I didn't expect to win the first year, but hoped to learn more about what I was doing, which is exactly what happened: when the judges came around, one of them was a South Jersey forester who said something about the advantages of access roads as we struggled through a shoulder-high tangle of briars and grapevines. Later that winter, our firewood profit helped us build a network of tractor trails from the nearest paved road to all our woodpiles. In the course of doing this, we got into another part of multiple-use forestry—youth employment! My neighbor across the road has a 16-year-old son who helped build the trails and hauled long logs out from our woodpiles to a handling

area where we sawed them into short lengths, split them, and loaded them into a pickup truck for delivery. By the end of the winter he had become a better wood splitter than I, and had helped me haul and stack more than 50 loads of firewood. A year earlier I had split wood myself, taking it a leisurely couple of hours at a time, with enough time left for a side trip to the Belle Mountain ski area if the snow was good; now we were busier. My neighbor went into the wood business too, and his son traded hours working for me in return for cords of seasoned logs.

Now we added still another use: education. My neighbor's boy belongs to a 4-H club whose members were intensively interested in forestry last winter. I marked off a two-acre demonstration plot, and our district forester and I talked to the boys about forestry out on the site and explained how to mark trees for timber-stand improvement. The forester had brought along some rolls of colored tape, which he gave the 4-H'ers for marking. They did a good job, and when they had finished I felled the marked trees and bucked them into long logs which the boys piled.

With our trail network through the woods now built, we can easily walk or drive a small farm trailer to every log pile. This makes better hiking, makes it easier for the deer hunters to get to their blinds, and we discovered that in the winter the trails are perfect for cross-country skiing. The snow lasts a couple of days longer under the twig-shade of our bare trees than it does in nearby open fields, and even though last winter was not long on snow, we had eight or ten days' good cross-country skiing. With Belle Mountain mostly out of action and gasoline for travel difficult to obtain, this was a welcome addition to winter sports.

With the coming of spring and the end of the woodcutting season, our final effort went into finishing the trails and clearing a new half-mile trail down to a campsite deep in the woods where two small streams join. Now we've got it all—timber, firewood, hiking, camping, cross-country skiing—real multiple-use forestry.

* American Tree Farm System, American Forest Institute, 1619 Massachusetts Avenue, N.W., Washington, D.C. 20036. □



At Middlesex County Federation Celebration

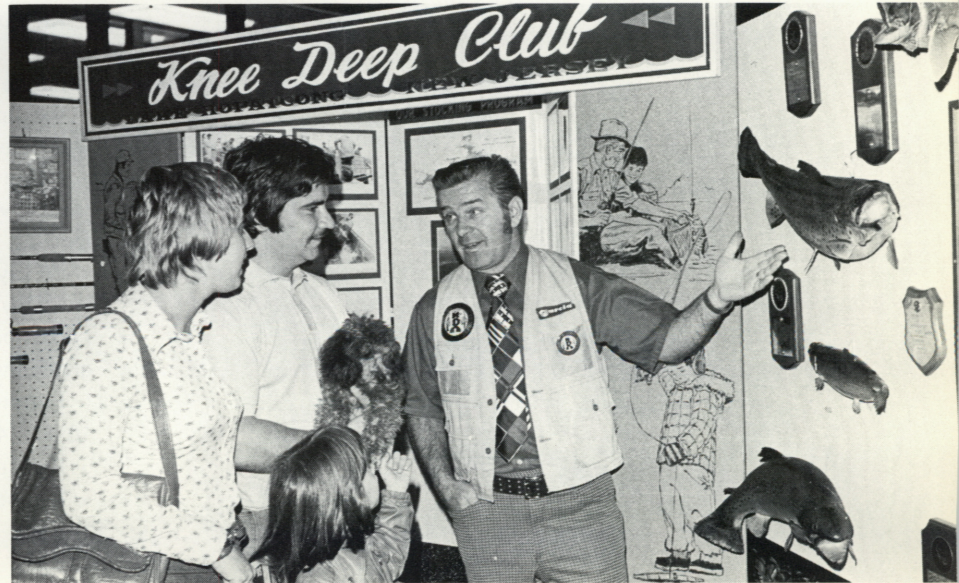


New Jersey Trappers Association exhibit at Mall.

Photos by Harry Grosch



At Willowbrook Mall, from left to right John Chatellier, Jim Fitzsimmons, Director Russ Cookingham and Ed Doll.



Ed Doll, President of Knee Deep Club displays trophies.



Editorial Comment: From time to time we receive letters that we can do nothing about because of various reasons and/or regulations. We are including several excerpts—some are sad, some are humorous, and hopefully all of them will be educational. SP.



nuff said?

please, I need help . . .

10-17-74

Dear Help:

So many times I thought of writing, but the problems usually solved themselves.

However this time, I'm afraid I'm in big trouble, and need *help* desperately and very quick.

My husband is an avid hunter and fisherman, he is looking forward to Hunting Season every year, since he's hunted since he was a little boy and never missed opening day.

He applied for a special deer-doe permit this year and was selected by computer to receive a permit.

However I misplaced the application form he had to return with a \$5.00 check. It had to be in Trenton by Oct. 11, 74.

To say the least, he's not upset but riling mad at me.

Today I sent it off, since I found it among some papers. I also called the Div. of Fish and Game, but they are not giving much hope that he will receive it.

I'm enclosing all pertinent data, which went to Trenton on 10-17-74.

Please, please if I ever needed help, it is now!

Please see what you could do.

Sincerely,
Mrs. E. P.

I feel sad about the whole thing . . .

Dear Sir:

My husband and son both received Special Deer permits this year, which made everyone so happy. In turn I went and put them in my sunviser to mail and while driving on Rt. 80 by the G. W. Bridge one blew out the window. We've walked the grass on Rt. 80 but could not find it. Is it at all possible you can check and he can get another one. This is also his hunting license. Could you please let me know as I feel very sad about the whole thing.

Thank you,
Mrs. D.



oh yeah? . . .

Sept. 19, 1974

To an understanding person:

I sent in my application for a doe permit a few days ago. The enclosed identification stub wants to meet up with my application. I'm sure it won't be any problem for you.

Gratefully yours,
F. P.



if he finds out he'll kill me . . .

September 13, 1974

Dear Sir:

On the evening of September 11, my husband and a friend went to get their licenses for bow—and something else. Nevertheless, they completed the forms (the IBM cards), signed the ID stub and asked me to send them out for them, which I sent on Sept. 12.

So, last night, I found the two ID stubs in my purse, and realizing the deadline is the 13th, and I already sent the cards yesterday, I am asking that you accept them for the random drawing.—My husband doesn't know that I forgot, and if he finds out, he'll kill me—(don't take that literally).

Sincerely,
Mrs. W. K.

I mailed in a blank permit . . .

September 11, 1974

Dear Sir:

A few days ago, I sent in the special deer permit along with the stub of my hunting license. I just discovered I mailed in a blank permit with my hunting stub.

Enclosed you will find my special deer permit filled out in its entirety and would deeply appreciate it if you would be so kind as to match it with my hunting license stub.

Thank you.
Sincerely,
P.P.



this time I'll send the stub . . .

Dear Sir:

I am writing to you to tell you I'm sorry, but for the past 5 years I have been sending you my doe permit application and I never noticed that on the card you have that you have to send in your stub from your hunting license. I have been wondering why I never received one because everybody I go hunting with has gotten one at one time or another. And every year that someone gets one, we go up to Sussex County doe hunting and I always go just to drive the woods for them and it drives me crazy walking in the woods and not being able to hunt. So I guess I'll just try again this year only I'll send the *stub* in with it.

Thank you very much,
K. M.



Editorial Comment: In the beautiful state of Oregon, an aroused public convinced a responsive legislature and an environmentally-aware governor to enact the Bottle Bill, which prohibited the sale of beer and soft drinks in non-returnable containers. The opponents of this bill predicted that passage would bring about economic disaster in Oregon such as: mass unemployment, closing down of breweries and bottling plants, bankrupt grocers, drop-off in beer and soft drink sales, and other widespread ruin. Now two years later, not one of these dire predictions has come about. What did happen is a dramatic 81 to 96 percent reduction of litter on Oregon roadways; conservation of natural resources and energy, and an incentive for youngsters to collect litter.

Overcrowded New Jersey with less area and a greater population density than Oregon, has a massive litter problem on our public lands, our highways, streams, bays and estuaries, everywhere. At the rate we're going the Garden State will be known as the "Garbage State" in the not too distant future . . . Maybe we need a Bottle Bill. Let's hear from you.

On the opposite page, the eye-opening article by Nancie Fadeley, chairman of the Oregon House of Representatives Environment and Land Use Committee shows the way.

The article was reprinted from the Sierra Club Bulletin. SP

Challenge to the Throwaway Ethic

by

NANCIE FADELEY

Chairman of the Oregon House of Representatives Environment and Land Use Committee

In Oregon, we buy beer, not bottles. Since the enactment of the Oregon Bottle Bill, which prohibits the sale of beer and soft drinks in non-returnable containers, we Oregonians have started to recycle the American Throwaway Ethic and, as a result have cleaned up our roadsides and parks, conserved natural resources and energy, and encouraged our kids to pick up our trash.

Contrary to the dire predictions of the Bottle Bill's opponents, beer and soda pop are still being consumed, and in increasing volumes. Those adversaries—brewers, soft-drinksters, grocers, and glass and metal manufacturers—maintained that, if passed, the Bottle Bill would close down breweries, bottling plants, and distributing operations; bankrupt grocers; and leave the citizens of Oregon high and dry. Relying on the revealed wisdom of the moment, the Bottle Bill's foes argued that since 60 billion disposable cans and bottles are produced (and disposed of) annually in the United States, a change back to returnables would, necessarily, cause economic disaster, widespread ruin, and the establishment of a State of Thirst where Oregon used to be.

Fortunately, the Oregon legislature didn't swallow those arguments; the Bottle Bill was enacted, and most Oregonians agree with Governor Tom McCall, who describes the Bottle Bill as a "rip-roaring success." The operation of Timberline, Oregon's famed ski resort, made an observation that has been echoed throughout the state: "Now that the spring melt is on, it has become obvious that the Bottle Bill worked extremely well. The amount of litter which has always surrounded Timberline every spring is not in evidence this season. . . ."

Travelers leaving Oregon insist they can tell immediately when they cross the state line; the roadsides in Oregon's neighbor states are still littered with bottles and the omnipresent beer can.

As chairman of the Oregon House Environment and Land Use Committee, I receive many letters praising the Bottle Bill, other suggesting refinements in the legislation, but none asking for repeal.

The container-control law is one of the simplest, most workable, and potentially most significant legislative instruments available to help conserve both energy and resources. Moreover, it is self-enforcing. Understanding that good intentions alone do not keep the world clean, the drafters of the Bottle Bill devised a law that would work on more fundamental precepts—that you get your own, or (in the case of the thousands of kids who now comb the state collecting bottles and cans) somebody else's money back when you recycle the containers. It's a modest

start on the widespread reuse that ultimately must include all sorts of containers, if we are not to be buried in our own garbage. Standardization of containers (begun with the Oregon Bottle Bill for beer and soda bottles) eliminates time-consuming and costly sorting according to brand names, and allows refilling at the nearest plant.

Rather than opposing the Bottle Bill outright, one brewery tried to change the proposal from a ban on non-returnables to a container tax, which would be used to finance litter pickups. Such a tax might appear on acceptable second choice, but, in fact, it evades the real problem: We do not need more bureaucracy to collect trash; we need more consumers to pick up after themselves. The Oregon Bottle Bill is a self-enforcing measure that gets at the root of the solid-waste problem by assuring that litter is reused. A small boy eagerly collecting bottles to earn popsicle money is much preferable to squads of state employees putting in their eight hours a day toting litter to bigger and bigger dumps.

When the bill was being debated in committee hearings, high-level executives flew in from all over the country to warn of the dire economic effects such legislation would produce. Often this VIP testimony backfired. One executive announced that he was especially qualified to speak upon the subject of litter because he was his company's Western Region's Corporate Director of Environmental Affairs. But his credibility shattered like a beer bottle on concrete when he was asked how long he had held this position.

"Two days," was his answer.

"And who was your predecessor?"

"There wasn't any."

The Madison Avenue types, the economic soothsayers, and the company "environmentalists" just weren't convincing.

But the citizens of Oregon were convincing. They had decided that the Bottle Bill was a good idea and they told their legislators so. Moreover, the issue appealed to all age groups. Even grade-school youngsters presented well-reasoned testimony to legislative committees.

A rockhound was particularly convincing; he held up an Indian arrowhead that was older than the pyramids of Egypt, yet still strong and sharp, and said, "This arrowhead is made out of the same stuff as a beer bottle." The archaeologist of the future, he implied, will find telling testimony about twentieth-century culture when he excavates our roadsides.

The provisions of the Bottle Bill are straightforward:

- Beer and soft drinks cannot be sold in Oregon in

non-returnable cans or bottles. All containers must be clearly marked with their redemption value.

- A dealer must refund deposits on any empty beverage containers of the kind, size, and brand he sells.
- A distributor must pick up and refund deposits to his dealers on any empty beverage container of the kind, size and brand he sells.
- Retailers, if they wish, can contract with private redemption centers that are registered with the Oregon Liquor Control Commission. Any person may return empty containers to such centers and receive payment of the refund value.

The 1973 legislature strengthened the original Bottle Bill in two ways:

- It changed the word "consumer" to "person" in all sections of the bill dealing with payment of refunds because some retailers refused to pay refunds on beer cans to minors because the minors were not the original "consumers."
- It amended the bill to permit a two-cent refund for standard reusable containers (those certified by the state and used by more than one bottler) in lieu of the usual five-cent refund for cans and non-standard bottles.

The U.S. Environmental Protection Agency studied the effectiveness and impact of the Oregon Bottle Bill, and published the first of two reports in April, 1973. (The second, joint report by EPA and the State of Oregon should be released in May, 1974.) The 1973 report, "Oregon's Bottle Bill: The First Six Months," uses data from industry and from monthly litter surveys made before and after the effective date of the Act (October, 1972) along randomly chosen one-mile sections of Oregon roadways. (Just which sections were used for the survey is a closely kept secret so no one can manipulate the results.)

The report shows a reduction in beverage-container litter along Oregon highways of at least 81 percent. The percentage jumps to 96 percent when non-returnables purchased out-of-state or before the effective date of the law are discounted. The report also shows a reduction in all roadside litter. Opponents of the Bottle Bill have circulated material throughout the country alleging that litter "percentages" have increased. Governor McCall has called the opponents' material "a shockingly distorted view of what's happening."

The EPA six-month study estimates that the Bottle Bill has eliminated about 142 jobs in the can industry. It does not, however, estimate the number of new bottling or handling jobs that have been created by switching from 35- to 40-percent use of cans to about 95-percent use of reusable glass bottles.

Despite the EPA's positive findings and the governor's statements that industry spokesmen are distorting the facts, the misrepresentations continue to appear in trade magazines, in the popular media (like *Time* and *Newsweek*), and in legislative hearing rooms. Apparently this misinformation comes from lobbyists, press releases, and advertising sponsored by groups like the American Iron and Steel Institute, brewers and soft-drink associations, glass manufacturers, and some segments of labor—the same interests that vigorously opposed the Bottle Bill in Oregon.

These recycled rumors first came to my attention last

spring when I attended a seminar in Washington, D.C., sponsored by the Council of State Governments and federal environmental agencies. I traveled to our nation's capital eager to discuss land-use planning, but soon discovered that everyone who found out that I was from Oregon was interested in only one thing—the Bottle Bill.

A freshman state congressman from the South sheepishly explained that he had introduced a bottle bill in his legislature before he realized how much the Bottle Bill had upset Oregon's economy. And was it really true, he queried, that people were drinking 30 percent less beer in Oregon than before enactment?

After trying to convince the doubtful Southerner that people still drink beer in Oregon, I was stopped a few steps farther along by the legal counsel for a legislative environment committee of a New England state.

"Is it really true," she asked, "that beer sales have dropped 30 percent in Oregon?"

So went the week.

When I returned home from the seminar, I did some research. Not being much of a beer drinker myself, I really had not been able to respond with authority to all the rumors, rumors like "Budweiser has boycotted Oregon" and "Beer sales have dropped 30 percent." At my grocery store I found plenty of Budweiser, along with domestic and imported beers, all in returnable bottles.

According to the Oregon Liquor Control Commission, beer sales have actually increased in every month since the bill was enacted in October, 1972, except during December of 1972, when sales dropped 13 percent because of unusually cold weather. Our neighbor state of Washington (which has no bottle bill) experienced a 20-percent decrease in beer sales that snowy December.

While sales have increased, prices have stayed on par with those of Washington. Soft drinks have not significantly increased in price; beer prices have increased slightly. Most of the price rise went to help retailers with increased handling costs.

During the 1973 legislative session, a bill was introduced to require the distributor to pay the grocer a one-cent handling fee. This bill was defeated for a number of reasons. First, many considered that this matter should be handled in the market place, rather than by the law. Just as the state does not tell you to turn in your empties (if you don't, some little kid will), it does not and should not tell the distributor how much he should pay the dealer or what price he should charge. Second, although this amendment was proposed at the request of the independent grocers' lobbyist, opponents maintained it actually would hurt the independents since it would raise the price of their beverages by one cent. Such an increase would give a clear price advantage to chain stores that do not use distributors.

The constitutionality of the Bottle Bill has been challenged in the Oregon courts by a coalition of container and beverage manufacturers who argued that it favored local businesses at the expense of interstate operators, that it violated the equal protection clause of the U.S. Constitution by differentiating between carbonated and non-carbonated soft drinks and between reusable and non-reusable containers, and that it violated due process by lacking a real and substantial relationship to the objectives

sought by the law. The plaintiffs lost their case in an Oregon Circuit Court on September 1, 1972, one month before the effective date of the law. The Oregon Court of Appeals upheld the lower court's decision.

Although the Bottle Bill is usually thought of as the Oregon Bill, our state was not the first government to ban non-returnables. Twenty years ago, Vermont passed a bottle bill that never took effect because the bills' opponents took it to court. Vermont now has a new bottle law that is likewise involved in court challenges. In 1970, the one-house parliament of British Columbia unanimously passed a litter law requiring deposits on all beverage containers sold in that province.

Just before the passage of the Oregon Bottle Bill, an initiative measure in the state of Washington banning non-returnables came within two percentage points of passing. The victim of a tremendously expensive counter-campaign, as well as poor drafting, the Washington initiative showed the Oregon supporters and drafters the kind of work and care that would be required for passage.

Hard work in campaigning and great care in drafting the Oregon Bill resulted in a 54-6 vote for passage in the Oregon House and a Senate vote of 22-8.

At last count, at least 39 states were considering bottle bills, but Vermont is the only other state besides Oregon where such legislation has been enacted.

The Oregon Bottle Bill is significant not only as an anti-litter measure, but it also has important implications in the current energy crunch. Every year we throw away vast amounts of both natural resources and energy along with the 59.9 billion disposable containers we discard—the equivalent of 1.7 billion gallons of gasoline, or enough electricity to supply the electrical needs of 9.1 million relatively affluent Americans.

The Oregon Bottle Bill is creative legislation. It prevents needless waste of resources and energy, significantly reduces litter, and does not cost the taxpayer anything but his deposit. If he does not want to retrieve his investment, the popsicle corps is ready and waiting to reap the rewards of cleaning up Oregon. □

OUTDOOR BRIEFS

waterfowl seasons to continue

New Jersey's 1974 waterfowl seasons can continue as scheduled, but for awhile it was in doubt.

Agreement was reached on October 24 in U.S. District Court, Newark, when a four-group protectionist coalition, which had brought suit to halt the waterfowl hunting seasons in New Jersey and the rest of the United States, withdrew its request for an injunction.

The protectionist groups originally wanted the duck season cancelled because the U.S. Department of the Interior apparently failed to issue an environmental impact statement when the 1974 regulations were promulgated last August. The suit was directed against Interior Secretary Rogers C. B. Morton.

The New Jersey Department of Environmental Protection entered the suit as an intervening defendant. Commissioner David J. Bardin asked the Attorney General's Office to protect the waterfowl interests of the state, saying a closure in mid-season would be an unreasonable imposition on thousands of citizens who either hunt for recreation or derive economic benefit from the waterfowl resource.

All parties to the suit agreed that an environmental impact statement would be prepared by the U.S. Fish and Wildlife Service prior to promulgation of next year's regulations.

The groups involved in the suit before Judge Frederick B. Lacey were the Fund for Animals, Inc., the New Jersey Branch of the Humane Society of the United States, Wildlife Preserves, Inc., and Deer, Ecology, Environment and Resources, Inc., known as DEER, Inc.

☆☆☆☆☆☆☆☆☆☆

painting presented to Governor Byrne

Ralph H. Stewart, president of the National Wildlife Art Exchange, recently presented the original framed painting of the Eastern Goldfinch, the New Jersey state bird; to Governor Brendan T. Byrne. The governor accepted the painting by artist Ron Jenkins for the State of New Jersey in a ceremony at the State House attended by Robert C. Hughes, National Wildlife Chairman of the Sierra Club, and Steve Perrone, Editor of *New Jersey Outdoors* magazine. The March/April issue of NJO will feature the Eastern Goldfinch on the cover.

CO'S CORNER

by Conservation Officer Carlton Smith



EVER MEET A DEPUTY CO?

Chances are that you have for there are approximately three and one-half times as many deputy conservation officers as conservation officers. These dedicated unpaid and unsung volunteers are the CO's good right arm. New Jersey's deputy conservation officers are trained in all phases of their authority and responsibilities by the division's training officers. They are qualified and conscientious and their deep interest in and concern for the environment and its creatures make them invaluable in implementing proper wildlife management and law enforcement practices.

So the next time you meet a deputy conservation officer (or a conservation officer, of course) in the field, remember that he's out there to serve your best interests.

Proud As A Peacock . . . Is Peter . . .

and no wonder, for not only is Peter a peacock and one of the world's handsomest birds, but he's living like a king as a pampered guest of Deputy CO George Alsheimer. The story of Peter began when Deputy Alsheimer received a report that a strange bird with a long tail was perched on a rooftop near his home in Jamesburg. That was the start of an intensive 3-day search for this bird which was reported in a dozen different locations before finally being captured by Officer Alsheimer and brought to his home for care and feeding. To date all attempts to learn where this truly exotic member of the pheasant family came from have been unsuccessful. So Peter still struts about proud of his good fortune in living like a king as a special member of the Alsheimer family.

TO HOUNDS! TO HOUNDS!

That cry has long been associated with the traditional English sport of fox hunting. But CO Charles Torluccio recently called for hounds for use in quite another way. It happened when Officer Torluccio was attempting to apprehend a deerjacker who fled into dense woods. Officer Torluccio enlisted the aid of Ocean County Sheriff's Officer Hooper and his tracking hounds. In short order the hounds located the hiding jacker and CO Torluccio had his man.

Moral—Sometimes it's good when things "go to the dogs".

BOOT CAMP, FISH & GAME STYLE!

As mentioned in an earlier issue of NEW JERSEY OUTDOORS, a group of new conservation officer appointees was then about to begin their training. We don't wish to appear boastful, but the New Jersey Division of Fish, Game & Shellfisheries' training program is among the most rigid and comprehensive anywhere. Conducted under the direction of CO Arthur Wendelken, the program has been likened to the tough military boot camps. Could this comparison be related to the fact that training officer Wendelken is a former Marine Corps officer?

But to be more serious, the division demands that its officers receive the best possible training in all aspects of conservation law enforcement and in the many other related duties and responsibilities that accrue to the force. To that end, following their successful completion of the division's training program, all new COs must also attend an approved county or state police academy for additional training. But that's still not all. They, along with all present COs are given periodical and continuing in-service training. This assures consistently well and properly trained COs to competently meet today's needs and challenges.

never underestimate the female of the species.

Just as has happened in many other previously all-male occupations and professions, the field of conservation law enforcement has been "invaded" by the female of the species. She is Mrs. Thedora Moritz, college graduate, qualified zoologist and now a full-fledged New Jersey Conservation Officer. Her appointment is a notable first for New Jersey and possibly the country. Officer Moritz' duties will deal principally with administration and enforcement in the division's new exotic and non-game project for which, we might add, she is especially well qualified.

• Welcome aboard, CO Moritz, Maam!

LETTERS, WE LOVE LETTERS!

Got something on your mind? Why not tell us about it by sitting down right now and dashing off a letter to CO's CORNER! Whether you want to sound off on a fish & game topic, ask a question, make a comment or suggestion, or possibly even pay us a compliment, we'll welcome your letter. Furthermore, we promise to reply either by mail or perhaps here in CO's CORNER for the benefit of other *New Jersey OUTDOORS* readers. We think it's a good idea to keep in touch, so let's be pen pals. Address your letters to CO's CORNER, c/o New Jersey OUTDOORS, Box 1809, Trenton, N.J. 08625.



Environmental News

\$200 MILLION GREEN ACRES BOND WINS APPROVAL

The good news is just in—New Jersey voters in the November 5 general elections have approved the 1974 Green Acres bond issue proposal. This is good news for the local matching fund program as well as the state's because, by law, Green Acres offers equal benefits to both. The result is that New Jerseyans in every part of the state—whether inhabitants of crowded cities, suburbia or farm areas—will have greater recreational opportunities to enjoy in the years to come.

DEP Commissioner David J. Bardin said, "The people of New Jersey, by their favorable vote for the Green Acres program, have shown that they want a balance between economic growth and sound environmental planning—and feel that providing public

outdoor recreation areas is one way to assure that a good portion of the state remains "green" and accessible to all."

Howard J. Wolf, special assistant to the commissioner, heads the Green Acres Local Matching Fund Program. Wolf said that mayors of municipalities throughout the state have written the department asserting their support of the program, and inquiring about procedures to obtain matching fund assistance. Wolf said, "Application forms for the Local Matching Assistance Program are in preparation and we should be able to respond to requests in the near future."

For information write—
Howard J. Wolf, DEP, Green Acres Program, Box 1390, Trenton 08625.

DEP Guidelines Issued INDUSTRIAL POLLUTION CONTROL FINANCE LAW

The department issued guidelines implementing New Jersey's Industrial Pollution Control Financing Law (Ch. 376, P.L. 1973) in early October.

The guidelines, effective at once, spell out the procedures industries must follow in applying for DEP project certification under the financing law.

Environmental Commissioner David J. Bardin said these guidelines explain department requirements and should help industries in their environment clean-up efforts. He said that two projects in Cumberland and Warren counties have already received DEP approval, and enabling resolutions are under consideration on several other counties. (Owens-Illinois, Inc., Bridgeton, Cumberland County, will construct air pollution control facilities costing \$5.5 million. J. T. Baker Chemical Company, Philipsburg, Warren County, will install 1,000 feet of 78-inch concrete sewer pipe costing \$550,000.)

The New Jersey Industrial Pollution Control Financing Law applies to all forms of pollution abatement including air, water, solid waste, thermal, noise
(continued to page 16C)

AIR POLLUTION TESTS UPHELD BY SUPERIOR COURT

A ruling handed down by Judge Sidney M. Schreiber, Superior Court, Jersey City, Hudson County, upheld the validity of DEP regulations which prohibit the emission of excessive visible particulates found in smoke plumes. The case involved a DEP enforcement action against the Lloyd A. Fry Roofing Company plant in Kearny. The court opinion was rendered September 20, 1974.

In his opinion, Judge Schreiber concluded that field-trained smoke "readers" from DEP's Bureau of Air Pollution Control can determine opacity of plumes accurately, within close range of scientifically precise opacity.

(continued to page 16C)

DELAWARE AND RARITAN CANAL STATE PARK

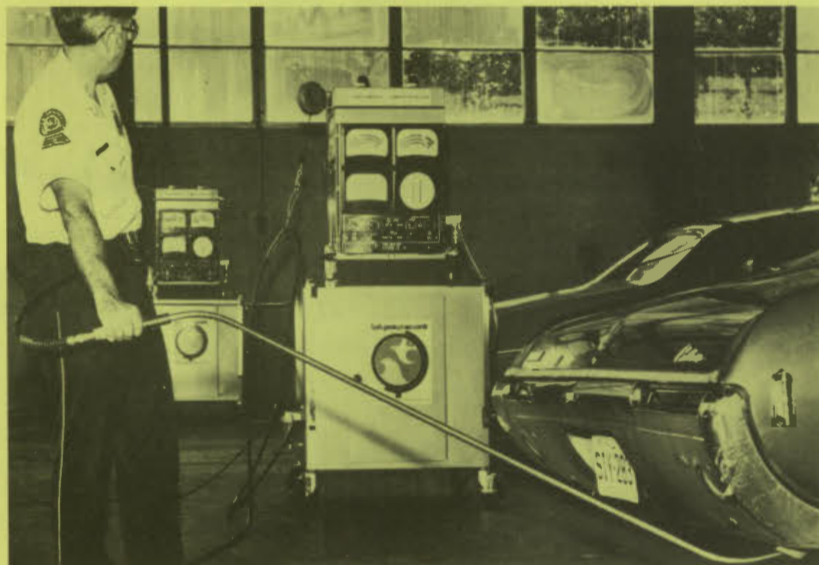
The historic Delaware and Raritan Canal system and its towpath became a state park on October 10 when Governor Brendan Byrne signed into law legislation preserving the waterway and its adjacent lands as a recreational site. The new law, Chapter 118, P.L. 1974, also creates a nine-member Delaware and Raritan Canal Commission to control development of the park and land use in the adjacent area. (DEP commissioner David J. Bardin is to serve as a commission member ex officio, together with eight citizens of the state to be appointed by the governor.)

The law also provides that the canal park be operated and maintained under the jurisdiction of the Department of Environmental Protection; that DEP has the power, with approval of the canal commission, to take such measures as necessary to preserve, maintain, improve and enlarge the park. The canal commission is to prepare, adopt and implement a master plan for physical development of the park. Initial appropriations of \$25,000 to DEP and \$50,000 to the canal commission were provided.

Governor Byrne said, "As the most densely populated state in the nation, New Jersey has a particular responsibility to preserve open space and to protect the environment." Noting that the canal serves as a source of water supply for municipalities and industry, Byrne said he "expects the commission to judiciously balance the environmental protection objective against other needs of the region." The governor said he would give top priority to appointing members of the commission.

The Delaware and Raritan Canal was placed on the New Jersey Register of Historic Places in November 1972 by DEP. The canal, which began operations in June 1834, achieved national recognition on the eve of its 139th anniversary by being placed on the National Register of Historic Places in May 1973. The newly-enacted "Delaware and Raritan Canal State Park Law of 1974" (Chapter 118, P.L. 1974), will provide even more protection against federal, state, county and municipal encroachments. □

AUTO EXHAUST TESTS HELPING TO CLEAN AIR



ALL IT TAKES IS HALF A MINUTE. Motor vehicle inspection attendant demonstrates how a probe is placed in the exhaust pipe of an auto to measure exhaust emissions at the engine.

Since February 1, 1974 every car passing through any of New Jersey's 39 motor vehicle inspection stations has been tested for excessive emissions of two air pollutants—carbon monoxide and hydrocarbons (unburned fuel). Any vehicle that fails to conform with the state standards for these pollutants does not pass inspection, and has to return for reinspection.

John C. Elston, principal environmental engineer in DEP's Bureau of Air Pollution Control (Division of Environmental Quality), has served as supervisor of the motor vehicle inspection program since the Motor Vehicle Law dealing with air pollution control became effective in 1966. Elston said, "The department is heartened by the initial findings of the first six months of the mandatory program: It is estimated that emissions have been reduced at the rate of 10,000 tons per year of hydrocarbons (HC) and 94,000 tons per year of carbon monoxide (CO)."

Elston said, "An important by-product of the program has been a gasoline savings of approximately 12.9 million gallons per year this year with an estimated eventual savings of 50 million gallons per year within three years." Most of the reduction in gas consumption can be attributed to improved combustion resulting from engine tune-ups. Elston pointed out that emission control equipment on motor vehicles only

works correctly when the engines are tuned properly.

New Jersey's problem is special

Elston explained that although emissions from a single vehicle are not significant, "crowd 3½ million vehicles into a state the size of New Jersey and you have problems. We have the highest motor vehicle density of any state in the nation, averaging 467 vehicles per square mile (3,400 vehicles per square mile in Hudson County)." It's not hard to understand then, that New Jersey faces a monumental vehicle pollution problem requiring far-reaching transportation control strategies.

The inspection program presently is the sole strategy for control of motor vehicle emissions which New Jersey has implemented thus far to achieve and maintain ambient air quality standards set by the federal government. The state has been given until 1977 to meet the federal requirements.

The Program

The Department of Environmental Protection, by law, was directed to develop the technical requirements and standards necessary to implement a motor vehicle emissions inspection program. The responsibility for carrying out the testing and enforcement was assigned, by law, to the Division of Motor Vehicles (Department of Law and Public Safety).

The standards promulgated by DEP

became effective July 1, 1972. The program provides for the rather lenient initial standards in effect from February 1, 1974 until January 31, 1975 to be tightened in two more phases. Phase II to begin on February 1, 1975 and Phase III on February 1, 1976. A rejection rate of approximately 10 to 12 percent is predicted during the current Phase I (The actual rejection rate during the first six months was 11.97 percent—or about 12 flunks per 100 cars.); 20 percent during Phase II; and 33 percent during Phase III and thereafter.

- The regulation requires new car dealers to see to it that new cars conform to the state's emission standards and that they meet manufacturer's specifications before making delivery to customers.
- In addition, the code restates what has been true since 1938—that no person may operate his car on the public highways if it emits visible smoke. This portion of the regulation is enforceable by state and local police. New Jersey does not require the addition of any control devices.

Reinspection

Each motorist whose vehicle fails the emission test is given an explanatory pamphlet and, a list of service facilities equipped with DEP approved test equipment. The car must be reinspected, within the proper time limit, after the problem has been corrected.

Elston said that though the reinspection failure rate has come down from 22 percent to 19 percent in recent months, it is still excessive. To aid the citizen, DEP has instituted the following programs: an auto emissions telephone hotline (609-292-6715) on which trained technical personnel receive complaints and advise motorists; free emissions tests and engine diagnosis demonstrations are provided utilizing a mobile van equipped with the same analyzer used in the inspection stations; and a program to train mechanics in state-supported manpower skill centers. DEP personnel conduct instructional visits to and equipment checks at state-listed service facilities.

The automotive service industry has cooperated to the extent that more than 2300 facilities have purchased approved test equipment and trained their personnel to use it properly. □

3,000,000 Gallons Recycled

CONTAMINATED POND "SAVED"



BIG JOB, BIG MACHINE. The carbon filter machine shown above filtered organic chemicals out of 3,000,000 gallons of pond water leaving it cleansed and safe. John Vernam, (right), senior environmental technician with DEP's oil and hazardous materials section, checks the cleansed water with the EPA biologist operating the machine.

A pond, located in rural Clarksburg (Millstone Township, Monmouth County), with a volume of three million gallons of water recently was completely recycled and made safe from a massive herbicide chemical runoff in time to avoid serious pollution of outlet streams.

Swift cleanup of the pond was made possible through the use of a 50-ton carbon filter machine, owned by the U.S. Environmental Protection Agency (EPA). It was so huge (60 ft. long, 8 ft.

FEDERAL PRAISE FOR N.J. AUTO EMISSIONS PROGRAM

The administrator of the U.S. Environmental Protection Agency (EPA), Russell E. Train, has praised New Jersey as a "national leader in air pollution control." In a letter to Governor Brendan Byrne, Train pointed to the state's motor vehicle emissions inspection program as an example of the type of leadership New Jersey has shown other states.

In a statement released October 30 Governor Byrne said he is gratified at the commendation from EPA. He said New Jersey will continue to take the lead in cleaning up the environment. □

wide, 13 ft. 6 in. high) that it had to be trucked in from Milwaukee, Wisconsin with special permission of the Division of Motor Vehicles, state and local police, and the New Jersey Turnpike Authority.

Credit for the swift cleanup and the emergency weekend arrival of the big filter machine from Milwaukee went to specialists from EPA, Region II and the Oil and Hazardous Materials Unit of the DEP which coordinated the action. Also cooperating because of the fear of possible contamination of 12 home wells in the pond's immediate area were state and local health officers and representatives of DEP's Bureau of Potable Water.

The big machine was put to work immediately on arrival and in a week's time effectively cleansed the pond through an "activated carbon absorption system which filtered out toxic impurities," according to Karl F. Birns of the oil and hazardous materials task force.

While the machine was filtering three million gallons of water, samples taken from the pond and surrounding wells were being analyzed at EPA laboratories in Edison. The well waters were unaffected. □

AIR POLLUTION TESTS

(continued from page 16A)

The court rejected the company's arguments that inspectors making observations of plumes were engaging in unconstitutional acts because they had no search warrants. He said no advance warnings were needed by DEP inspectors to make observations. Judge Schreiber said that similar standards in the air pollution laws of other states had been upheld in court.

The judge fined the company \$2500 for smoke stack violations on March 13 and June 15 of this year, and asked the company and DEP to submit plans to the court and a timetable for installation of air pollution control devices by October 20.

Deputy Attorney General Michael Gross who handled the case for DEP noted it was the first time the opacity regulations had been challenged in New Jersey. Gross said the case establishes that smoke plumes can be accurately read by air pollution investigators to determine violations of the state's air pollution control code. □

The Price is Right

FEDERAL FLOOD INSURANCE PROGRAM

As of October 16 there were 286 New Jersey municipalities enrolled in the federal flood insurance program. But more than 200 towns have yet to join: Applications should be made by July 1, 1975.

"There is no cost to the town in this program," said Clark Gilman, supervising engineer of the flood plains program within the Division of Water Resources.

"The application is not difficult to complete; and other requirements such as a brief flood history of the area, can (continued to page 16D)

DEP GUIDELINES

(continued from page 16A)

and radiation controls. Projects are funded by the issuance of tax-free bonds bearing municipal-type, lower-than-market interest rates. In order to issue these bonds a county industrial pollution financing authority must be created by resolution of the county board of freeholders. Neither the authority nor the county bears liability for payment of these bonds; the industry involved is "directly and solely responsible to the bondholder."

DEP must approve each project and certify that the type of facility proposed is "the proper method of solving the problem under consideration with respect to the reduction, abatement or prevention of pollution," and that it does not "conflict with, overlap or duplicate any other planned or existing pollution control facilities undertaken or planned by another public agency or authority."

To apply for DEP certification, an industry must submit a detailed letter of application stating that the pertinent county pollution control financing authority has approved the project; that the industry is aware of all federal, state and local permit and other applicable regulations; that, on the basis of information provided, the facility is a pollution control facility within the definition of the Act, and that it does not conflict with, overlap or duplicate any other public agency's proposed or existing facilities.

Copies of the complete guidelines (Docket #DEP 007-74-9) can be obtained from Steven Corwin, special assistant to the commissioner, Division of Water Resources, Box 2809, Trenton, N.J. 08625. □



WATER RESOURCES RESTRUCTURED

DEP's Division of Water Resources has been revamped to provide for more functional operation. It has been separated into four elements: Water Pollution Control (Monitoring, Surveillance and Enforcement); Public Wastewater Treatment Facilities (funded and nonfunded projects); Planning and Management; and Water Supply and Flood Plain Management. □

SHORE PROTECTION

The construction of approximately 765 linear feet of new stone revetment and two stone groins along the Hereford Inlet, North Wildwood (Cape May County), was completed in mid-September. The cooperative project involved the state and the City of North Wildwood and cost \$401,104: the state funded 75 percent of the cost and the local government contributed 25 percent. The program is administered by DEP's Division of Marine Services.

NOTE: A revetment is a facing of stone to sustain an embankment or seaward end of a timber groin. A groin is a wood or stone structure built out perpendicular to the shore to protect it from erosion by current, tides or waves or to trap sand (as for making a beach). □

WATER COUNCIL HEARING

The state Clean Water Council held its annual public hearing on September 19 in East Brunswick. The hearing topics dealt with an appraisal of the operations of the water pollution control program administered by DEP. James Crane of Toms River is chairman of the council which is an advisory agency to the department on water pollution policy matters. □

AIR BUREAU REORGANIZED

The Bureau of Air Pollution Control within the DEP Division of Environmental Quality has been restructured to contain four operating sections: Air Quality Services and Evaluation; Mobile Source Control; Stationary Source Control; and Local Program Development and Training. □

A GIFT OF OPEN SPACE FROM UNCLE SAM

President Gerald Ford on September 26 announced a federal grant of 308 acres of surplus military property in New Jersey to the state and to the Borough of New Shrewsbury, Monmouth County, for use as public parks. Two separate parcels, one each from Ft. Monmouth and Ft. Dix, made up the grants. New Shrewsbury received 17 acres from Ft. Monmouth to be used to create the largest recreation facility in the borough. The state received 291 acres of former Ft. Dix land valued at \$320,000. The property, located in Manchester Township, Ocean County, is heavily wooded and will be incorporated into Lebanon State Forest. □

DEP TASK FORCE

Commissioner Bardin recently established an Offshore Oil and Gas Task Force by executive order. The task force, made up of ten departmental personnel, will advise him on policy relating to offshore oil and gas exploration and production. Dr. Glenn Paulson, assistant commissioner, was named chairman of the group, and Thomas M. O'Neill, executive assistant to the commissioner, was designated vice chairman. Dr. Kemble Widmer, chief, Bureau of Geology and Topography, will represent the commissioner on the Outer Continental Shelf Research Management Advisory Board of the U.S. Department of the Interior's Bureau of Land Management. Also serving on the task force are: Harold Barker, chief, Bureau of Marine Lands Management; Karl Birns, head of the Office of Special Services; Walter Dryla, supervisor, coastal zone management; Donald Graham, acting director, Division of Marine Services; Dr. Ralph Pasceri,

supervisor, air quality services and evaluation; Bruce Pyle, chief, Bureau of Fisheries Management; and John Serkies, supervisor, planning and evaluation, air pollution control. □

'BICEN' GRANTS

Seven grants totaling \$25,900 have been awarded by the State Bicentennial Commission to aid in restoration and interpretation of seven historic sites. The grants, awarded on a matching basis, were: Proprietary House, Perth Amboy, \$5,000; Miller-Cory House, Westfield, \$3,600; Douglass House, Trenton, \$5,100; Bordentown City Hall, \$5,000; Ivanhoe Paper Mill, Paterson, \$5,000; Whitlock Seabrook Homestead, Middletown, \$1,500; and the Passaic County Park Commission received \$700 for five living history programs at the Dey Mansion, Wayne. For information write to NJ Bicentennial Commission, 379 W. State St., Trenton 08625. Walter T. Peters, Jr. is executive director. □

FEDERAL FLOOD INSURANCE PROGRAM

(continued from page 16C)

be written by any knowledgeable person — it need not be elaborate. Furthermore, there is no application filing fee."

Before the federal insurance plan went into effect, homeowners in affected areas bore the damage themselves as insurance was not available to flood plain residents. The coverage, once in the program, would immediately be up to \$35,000 for flood damage to a home and up to \$10,000 for flood damage to the contents of a home.

Gilman pointed out that failure to join the plan would bar lending institutions in the state from issuing any home mortgage including government-sponsored home mortgages such as Federal Housing Administration (FHA) and Veterans Administration (VA) in a community located in an identified flood hazard area.

For further information write to Clark Gilman, Flood Plains Program, Division of Water Resources, 1474 Prospect St., Trenton 08625. □

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



Touring a wildlife management area

CONSERVATION OFFICER TRAINING HIGHLIGHTS

From Clinton for habitat lectures to Island Beach State Park for boat handling instructions — and on to Cape May for gunnery. The new CO appointees are subjected to a rigorous and intensive training program in all sections of the state.



Graduation Day — Back Row: Paul Collins, John Mihatov, and Glen Hawkswell. Front Row: Frank Shoemaker, Thedora Moritz, and Greg Huljack; Dir. Cookingham, Chief O'Dowd.



JOE KLIEM

Gunnery instruction for CO Hawkswell

PHOTOS BY HARRY GROSCH



Boat Handling Instructions for new CO's



Biologist Fred Carlson lecturing on habitat



▲ *The start of the group ski tour.*

◀ *A brief stop to admire the snow-blanketed countryside.*

▼ *A pause to refresh at a cold, cold spring.*

Photos supplied by Author



CROSS COUNTRY SKIING IN NEW JERSEY

BY JIM MERRITT

Ski touring or cross country skiing as it is sometimes known is one of the fastest-growing winter sports in the world. The freedom associated with the ability to glide over almost any snow covered surface is partly responsible for this rapid growth. Ski touring is especially popular as a family sport because children can learn to ski very quickly and are then able to accompany their parents on short tours. Low cost is also a factor in making ski touring available to a wide range of people.

A good basic set of touring gear consisting of skis, boots and poles can be purchased for less than half the cost of downhill ski equipment. Old sweaters and dungarees are substituted for the fashionable parkas and tailored ski pants seen at commercial ski areas. Not required, also, are the \$10 lift tickets for the chairlift ride to the top of the mountain. Fear of injury so often associated with downhill skiing is all but eliminated in touring. This is due to the low speed at which the skier is traveling and the lightweight non-restrictive equipment.

With a little help most people can learn to ski tour quickly enough so that after a short practice session they can go on a tour with a group of more experienced skiers. An exaggerated walking motion is all that is needed to get the ski tourer moving. When this walking motion is extended and the poles are used to help push the ski tourer can glide quickly and easily on level terrain. Wax is applied to the ski bottom to help it glide more easily on the level and downhill and yet prevent it from sliding backward while climbing uphill. Selection of the correct wax makes this possible. Ski waxes vary in hardness to allow for variations in temperature and snow condition. This may at first seem com-

plicated, yet once a person has had a little experience with a variety of skiing conditions, selecting the proper wax will become quite easy.

Even though New Jersey does not get as much snow as the New England states, there are still many times throughout the winter when ski touring is possible in our state. With only an inch or two of snow skiing may be done on lawns, golf courses or unplowed roads. When the snow gets deeper farm fields, hiking trails and powerline cuts become potential ski touring trails. Tourers should of course always ask permission before skiing on private land. Most property owners will grant permission because ski touring is an activity which is in harmony with the land.

The hills in northwestern New Jersey are ideal for ski touring. Gently rolling terrain through dense forest provides fantastic scenery. Several county parks have opened trails through their natural areas to ski tourers. Roads in State forests and parks which are not plowed are ideal for ski touring even though the snow is not more than three inches deep. In some regions specific areas have been set aside for ski touring. Stokes State Forest, for example, has ten miles of ski touring trails in the southern part of the forest.

The following are some of the scheduled tours which will be conducted in Stokes State Forest and High Point State Park. All participants should have their own equipment including a selection of waxes. Tours take at least three hours so a lunch should be carried. Beginning ski tourers are advised to practice in wide open gently sloping terrain before attending any of the tours listed below.

NEW JERSEY SKI TOURS — WINTER 1975



JAN. 5 STOKES FOREST, N.J. WILDLIFE IN WINTER TOUR

This five mile tour, suitable for novice and intermediate skiers will be led by Robert McDowell of the New Jersey Division of Fish, Game and Shellfisheries. In addition to lunch and regular ski touring gear, please bring field glasses. This tour will take place regardless of snow conditions. Meet at 9:00 a.m. in the parking lot of the overflow camping area near the Stokes Forest Office on Route 206.

Leader — Robert McDowell 201-948-4001
Co-Leader — Jim Merritt 201-948-6507

JAN. 11 HIGH POINT STATE PARK, N.J. NATURAL AREA TOUR

This is a five mile tour which explores a unique ecological area. Kuser Natural Area is a swamp which has a boardwalk trail winding through the dense cedar forest. This tour will run regardless of snow conditions. Meet at 9:00 a.m. with lunch at the High Point State Forest Park Office just off Route 23.

Leader — Carolyn Crowl 201-948-4041
Co-Leader — Jim Merritt 201-948-6507

☆

JAN. 19 STOKES STATE FOREST, N.J. TOURS

A pleasant ski tour for all ability levels will be held only if snow conditions permit. The tour will be three to five miles, but additional trails will be explored as time and conditions permit. Meet at 10:30 a.m. in the parking lot of the overflow camping area near the Stokes Forest Office on Route 206. Call the leaders or Stokes State Forest Office for snow conditions.

Leader — John Tiernan 201-584-0369
Co-Leader — Jim Savage 201-992-8442

☆

JAN. 25 STOKES STATE FOREST, N.J. TILLMAN'S RAVINE NATURAL AREA — TOUR

Tillman's Ravine is a beautiful narrow valley with a rushing brook. Huge hemlocks provide a canopy over the valley floor causing the snow to remain much longer than in other places in New Jersey. This five mile tour is suitable for intermediate skiers and will take place regardless of snow conditions. Meet at 10:00 a.m. in the parking lot of the overflow camping area near the Stokes Forest Office on Route 206.

Leader — Regina Kelly 201-948-4646
Co-Leader — Jim Merritt 201-948-6507

☆

FEB. 1 & 2 DELAWARE WATER GAP NATIONAL RECREATION AREA, N.J. SKI CAMPING

Expert skiers with winter camping experience will enjoy this twenty mile tour which parallels the Appalachian trail from Route 206 to Millbrook. The trip will become a backpack hike if there is insufficient snow. Please call two weeks in advance for details.

Leader — Jim Merritt Home: 201-948-6507
Office: 201-948-4646

☆

FEB. 9 STOKES STATE FOREST, N.J. TOUR

The nine miles of closed forest roads in the southern end of Stokes State Forest make for ideal touring for all types of skiers. This is one of the few areas in New Jersey which has been designated for use by ski tourers and snowshoers only. Meet at 10:30 a.m. in the parking lot of the overflow camping area near the Stokes Forest Office on Route 206. This tour will be conducted only if snow conditions permit. Please call on Saturday evening, Feb. 8, for details.

Co-Leaders — John Tiernon 201-584-0369
Jim Savage 201-992-8442

☆

FEB. 15 STOKES STATE FOREST, N.J. SKI ORIENTEERING

Before the tour begins you will be taught how to use an orienteering compass and how to read a topographical map. After the instruction period, you will be divided into teams to make your way through the southern part of Stokes State Forest going from checkpoint to checkpoint. The team which finds the most checkpoints in the shortest amount of time wins. Accuracy is more important than speed so you don't have to be a cross country racer to do well. If there is no snow, but there is sufficient interest we will orienteer without skis. Call at least a week in advance for details.

Leader — Reggie Kelly 201-948-4646
Co-Leader — Jim Merritt 201-948-6507

☆

FEB. 23 DELAWARE WATER GAP NATIONAL RECREATION AREA, N.J. SKI TOUR

A seven mile intermediate-advanced tour from Blue Mt. Road to Millbrook Village. Tour will be held only if snow conditions permit. Call the leader for details and snow conditions.

Leader — Reggie Kelly 201-948-4646

☆

Photos by Harry Grosch

*Pointing to location
where deer was taken*



**why
must**

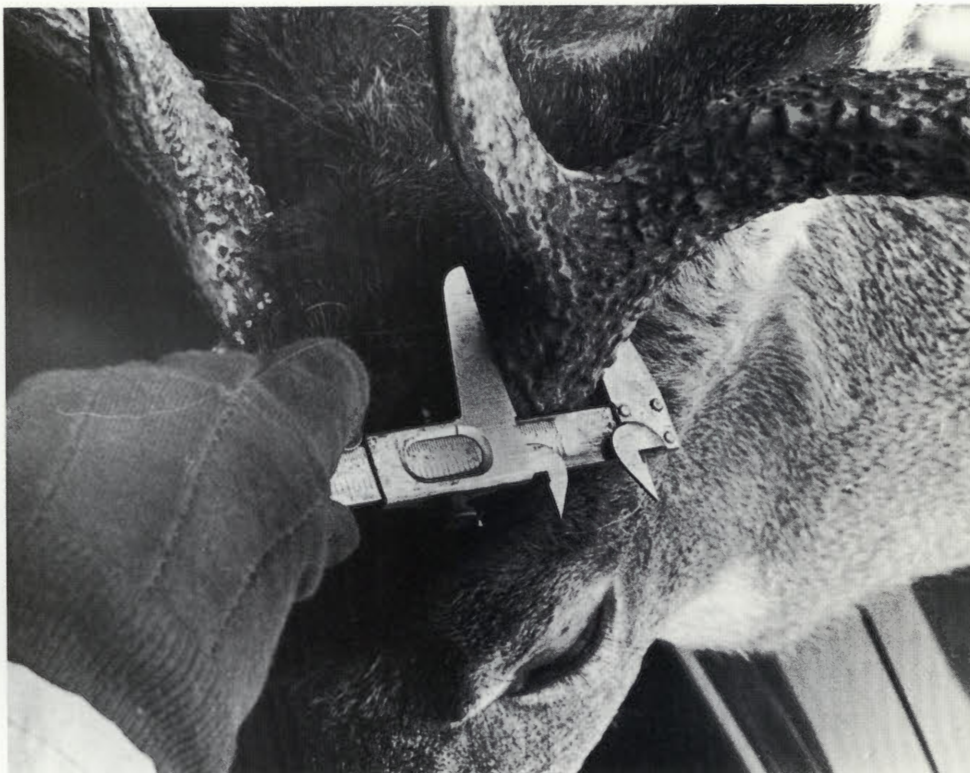
I ✓ my deer?

BY ROBERT C. LUND Senior Wildlife Biologist

Cold, wet and tired, a successful deer hunter emerges from the woods after dragging 100 pounds of venison a mile to his car. At this point, he feels like waiting in line at a checking station about as much as he'd like a sharp stick in the eye. Some hunters view the new mandatory check station system as unnecessary inconvenience. However, with the ever increasing demands being placed on New Jersey's white-tailed deer resource and habitat, it is imperative that high quality information be continuously collected and analyzed if management programs are to have a solid foundation in fact.

By complying with the new mandatory check station regulations, the deer hunter is making a valuable contribution to the deer management program. And the major goal at this program is to develop and maintain a healthy and productive deer population for all citizens of New Jersey, both hunter and non-hunter.

*Measuring deer antlers
at check station*



DEER CHECK STATIONS

Prior to 1972, all successful hunters were required to report their kill on a post-paid report card within 48 hours. The only exception to this regulation was during the special one day either-sex season, when the hunter was required to report to a check station.

The postcard system was convenient for both the hunter and the deer biologist, but it developed several shortcomings. First, it became increasingly apparent from field checks that a significant number of deer taken were never reported. Whether this was a result of mail foul-ups, carelessness or deliberate disregard for regulations makes little difference. What was important was the fact that valuable information was being lost, and efforts to determine the size of the legal harvest, and other pertinent facts regarding white-tail population dynamics were being thwarted. Table 1 lists the percent of successful hunters during the 6-day firearm buck season which did not report their deer. For example, in 1971, 35.6% of the successful Burlington County hunters checked in the field did not file a report. This represents an estimated 171 deer. The number of deer not reported on a statewide basis for the three years of the survey was 1,753 (26.9%) in 1969, 1,482 (23.3%) in 1970, and 2,189 (30.9%) in 1971.

A second problem with the postcard reporting system was that it was becoming increasingly difficult for biologists to examine an adequate number of deer during the hunting season to make an accurate assessment of the age structure and condition of the populations inhabiting the various counties. Biologists were dependent on locating kills in the field, at club houses, locker plants and other similar locations. However, more and more hunters were taking their deer directly home and doing the butchering themselves so there was little opportunity for an examination to be made.

It was because of this need for more accurate and complete biological information, coupled with the desire for a more enforceable deer reporting regulation, that the mandatory deer check station system was adopted by the Fish and Game Council and implemented for the first time in the fall of 1972.

Although the new check station system was first seen in the field of 1972, the planning for the changeover began in the summer of 1968. A survey of 48 state fish and wildlife agencies was made to determine what methods they

TABLE 1.
The Percent of Successful Firearm Deer Hunters Which Did Not Report Their Kills During the Fall of 1969, 1970 and 1971. (Antlered-bucks only season).

County	Year		
	1969	1970	1971
Atlantic	16.4	16.2	29.4
Burlington	38.5	35.3	35.6
Camden	inadequate sample	17.6	44.4
Cape May	16.1	15.6	27.8
Cumberland	21.2	20.3	30.0
Gloucester	inadequate sample	20.0	15.4
Hunterdon	19.1	16.4	24.3
Mercer	20.8	20.0	33.3
Middlesex	17.4	31.8	39.1
Monmouth	29.5	37.9	33.3
Morris	33.0	22.4	30.8
Ocean	40.7	31.5	40.6
Passaic	16.7	08.0	34.6
Salem	16.1	31.8	18.5
Somerset	28.6	27.3	36.3
Sussex	32.9	31.1	32.1
Warren	25.0	17.6	32.3
State-wide Average	26.9	23.3	30.9
Estimated Number of Deer not Reported	1,753	1,482	2,189



Fish and Game personnel checking age of deer

were currently employing to obtain annual deer harvest totals and if they felt that these methods were providing the desired results.

Survey results indicated that a mandatory check station system was employed by 17 states (35.4%), and was the most frequently employed means of collecting deer harvest information. This was followed by questionnaire surveys used by 11 states (22.9%) and the postpaid report card, also used by 11 states. Table 2 summarizes the results of the survey relative to type of system employed. Of the 17 states using check stations, 15 (88.3%) felt it superior to other systems they had tried, one state was undecided and another did not feel the information obtained was an

accurate measure of total harvest.

Based on the experiences of other states and our dissatisfaction with the system we were using, New Jersey decided to adopt a mandatory check station system. A network of 74 stations were established state-wide, with one criteria of location being that a hunter would have to travel no more than ten miles to check his deer. Gas stations, sporting goods stores and other private and government locations were utilized. Consideration was also given to the availability of adequate parking facilities, willingness of the operator to assist when needed, daily hours of operation and the acceptability of conducting examinations and removal of tissue from the deer at the site.

As with any new system, some unforeseen problems developed. However, for a first time effort the results were gratifying. Utilizing division personnel from several different bureaus, including Fisheries, Information and Education, Non-Game, and Game Management, stations were manned on heavy-load days, such as the opening day of the bow and arrow season, the first and last day of the firearm buck season, and the one-day either sex season. This permitted collection of samples of biological information on a state-wide basis, including location of kill, age, sex, weight, number of embryos per doe, and other pertinent data. Student volunteers from Rutgers University and Stockton State college were most helpful, especially at the busier stations.

During the remaining days of the season, and especially during the five week fall bow and arrow season, information such as date, location and sex of the deer checked was collected by the station owners. These individuals took time from their businesses to assist the division in its deer research effort, and we could not function without them. Their efforts are sincerely appreciated.

A number of changes were made for the 1973 season,

TABLE 2.

Summary of Deer Reporting Systems for 48 States in Order of Most Frequently Employed (Hawaii and New Jersey Excluded). Based on 1968 Survey.

<u>Reporting System</u>	<u>No. of States</u>	<u>% States Employing System</u>
State-wide mandatory check stations	17	35.4
Questionnaire	11	22.9
Post paid report card	11	22.9
Questionnaire and report card combination	04	08.3
Report to conservation officer	01	02.1
Deer camp permits and conservation officer reports	01	02.1
Hunter interview	01	02.1
Game manager and biologist estimates	01	02.1
No reporting system	01	02.1
TOTALS	48	100.0%

TABLE 3.

**The Number of Legally Harvested Deer Reported in 1973
by Check Stations and Season.**

COUNTY	STATION	SEASON			TOTAL
		Bow & Arrow	Firearm Buck	1-day Either Sex	
Atlantic	Buena	5	82	—	87
	Mays Landing	11	112	—	123
	Northfield	25	82	—	107
	Hammonton	28	91	—	119
Burlington	Pemberton	8	46	—	54
	Green Bank	19	116	—	135
	Chatsworth	9	89	—	98
	Tabernacle	20	129	—	149
	Medford	21	59	—	80
	Bordentown	19	74	—	93
	Camden	Atco	34	91	—
Cape May	Swainton	7	44	—	51
	Tuckahoe	19	95	—	114
Cumberland	Bridgeton	38	138	—	176
	Mauricetown	29	109	—	138
	Dividing Creek	6	59	—	65
Essex	Pine Brook	7	19	—	26
	Belleville	89	15	—	104
Gloucester	Clayton	16	44	—	60
	Mullica Hill	11	32	—	43
Hunterdon	Milford	25	160	162	347
	Frenchtown	39	115	—	154
	Ringoes	36	127	—	163
	Croton	56	204	—	260
	Whitehouse	54	141	—	195
	Clinton	152	380	283	815
	Flemington	—	—	227	227
Mercer	Pennington	125	278	276	679
Middlesex	Piscataway	8	41	—	49
	East Brunswick	27	56	—	83
	Jamesburg	22	58	77	157
Monmouth	East Keansbury	10	19	—	29
	Freehold	5	38	—	43
	Wall	17	43	20	80
	N.A.D. Earle	8	8	18	34
Morris	Stirling	4	11	—	15
	Long Valley	32	210	135	377
	Denville	28	86	12	126
	Ledgewood	70	237	106	413
	Great Swamp NWR	12	22	26	60
Ocean	New Egypt	3	28	—	31
	Lakehurst	17	65	13	95
	Tuckerton	3	50	—	53
	Manahawkin	8	15	6	29
	Barneget	—	79	—	79
	Bayville	3	16	—	19
	Jackson	7	61	12	80
Fort Dix USA	7	32	24	63	
Passaic	Haskell	14	59	—	73
	Newfoundland	22	199	92	313
	West Milford	14	87	49	150
Salem	Quiton	45	151	—	196
Somerset	Neshanic	16	61	—	77
	Greenbrook	58	119	99	276
	Princeton	11	56	68	135
	Bedminster	41	220	301	562
	Bernardville	6	29	—	35
Sussex	Layton	6	85	—	91
	Branchville	11	132	188	331
	Mantague	8	72	—	80
	Vernon	5	41	10	56
	Franklin	1	33	—	34
	Sparta	6	37	—	43
	Newton	14	85	56	155
	Stillwater	13	143	42	198
	Springdale	8	83	—	91
	High Point Park	4	40	—	44
	Warren	Great Meadows	26	128	68
Hope		32	146	—	178
Washington		52	226	145	423
Blairstown		30	237	204	471
Belvidere		13	109	—	122
Ciano Ranger Sta.		18	90	68	176
Alpha		21	60	—	81
TOTALS	74 Stations	1,694	6,834	2,787	11,315

and additional help was assigned to the busiest stations. Some locations were dropped and others added to improve the distribution of the station locations and to make checking a deer as convenient as possible for the hunter. The many helpful suggestions received both from division employees and the public were adopted, where possible, to help smooth out the rough spots in the system. Subsequently, 72 stations were operated in 1973 and though there are still some problems, we now feel we have a sound, workable program.

WAS IT WORTH THE TROUBLE?

This question can probably best be answered by comparing the reported deer kill figures prior to 1972 with those for 1972 and 1973. Until 1972, the firearm buck season harvest totals rarely exceeded 5,500. However, in 1972, the first year that check stations were made mandatory for all seasons, the reported harvest was 6,972. This was an all time state record, an increase of 42.2% over the 1971 reported harvest of 4,904, and an increase of 31.0% over the past ten year average of 5,323.

Again, in 1973 a record buck harvest was recorded, 6,837 the second highest on record. Obviously, these figures do not reflect an increase in deer population as much as they illustrate what a change in reporting requirements can do to harvest estimates.

WHAT CAN THE DEER HUNTER DO TO HELP IMPROVE THE REPORTING SYSTEM?

Most of the common complaints, such as long waiting lines, can be alleviated by the hunter himself. For example, many hunters wait until the end of the day to check their deer and thus create or get caught in the 5-7 p.m. crunch. In some cases this can't be avoided, but all hunters should check their deer as soon as possible.

Second, it appears that many hunters take their deer to a "familiar" station, passing several others in route. The result is that some stations are flooded while others check relatively few deer. It would be to the hunters advantage to know where all the check stations in his area are and to plan on an alternate station if the "favorite" is busy. An examination of Table 3 will help indicate which stations to avoid, and those which receive little pressure.

Third, have your transportation tag filled out completely and correctly, and be prepared to locate your kill on a county map. Much time is wasted attempting to locate kill locations, especially when the hunter has little knowledge of where he was relative to a road or other identifiable landmarks.

If these few suggestions are followed, checking a deer won't be half so time consuming. The Deer Check Stations locations are listed in the 1974-75 game code.

The new mandatory deer checking station system is a major step in the improvement of our overall deer management program. Coupled with modern data processing and analysis techniques, the new check system has helped to make New Jersey's program one of the most progressive in the northeast. However, without public support and cooperation, no system, regardless of the quality of its design, can succeed. We as deer managers depend on you for information so that we can develop and maintain deer populations for all the citizens of New Jersey. We look forward to the continued support of those who have been in the forefront of the wildlife conservation movement for decades—the New Jersey hunter. □

Editorial Comment: A fungus disease, probably introduced in this country by a cargo of Asian chestnuts into New York City around 1900, has all but destroyed the American Chestnut as a major forest species. (*The Destruction of the American Chestnut*, by Robert Fales; *New Jersey Outdoors*, March/April 1974) SP.

CHESTNUTS IN NEW JERSEY

BY
FRANK SIEBENTRITT,
New Jersey Nut Growers Association
RICHARD F. WEST,
Head, Forestry and Wildlife Section, Cook College, Rutgers

Largest living American Chestnut Tree

During the spring and summer of 1973, the New Jersey Nut Growers Association conducted a contest to locate the state's largest living American chestnut tree. The contest, given good publicity, prompted some 400 entries from all sections of the state. When the identification of the trees was checked, however, only a small percentage actually proved to be American chestnut — most of the rest were Asiatic species. Cash prizes for the winning trees were donated by the Flemington Fur Company, and the Flemington Fair supplied space for an exhibit.

Measuring trunk diameter of largest American Chestnut Tree is Otto W. Kunkel, Bureau of Forestry, discoverer of the tree.

AMERICAN CHESTNUTS

Most sizable American chestnuts in New Jersey are in the hilly northern and western sections of the state, where in previous years they were quite abundant. Such trees are generally growing in their original habitat but exist today on an edge of that environment adjacent to a pasture or road. They receive a good supply of sunlight, accounting for their better growth in comparison to understory chestnut sprouts. These trees are thus coppice growth from blighted root stock rather than escapees of woodland seedlings. Some of the specimens reported still have blighted small-diameter poles standing with them which can be used to evaluate their history in previous sproutings prior to their present development. The time required for growth of large size sprouts, however, is still uncertain. As commercial development of New Jersey proceeds, converting additional woodlands to residential areas, reports of chestnut trees of this size probably will increase.

Very large trees reported to the contest generally checked out to be Japanese chestnuts. The locations of others were usually given so vaguely that the trees couldn't be found.

One entrant reported a tree supposedly five feet in diameter and over 100 feet tall, located on an abandoned farm. Judges could not verify this report, however, because of heavy understory development since the last sighting 10 years ago. Another check will be made during the fall or winter when the woods are open. If this tree exists, it is undoubtedly an old farmstead chestnut, and would be of interest since the surrounding woodland consists of mixed hardwoods including substantial chestnut-sprout growth.

Large escapees—if existing—would be difficult to locate. Their foliage would be high and not easily recognized and their trunk and bark characteristics are unfamiliar to most people today. The only clue to location would be burrs beneath the tree. Escapees are thus not considered as a potential source for future chestnut breeding, and we must rely on the perimeter chestnuts which have gone thru successive sproutings to attain interesting size. The New Jersey chestnut trees in the following table are considered to have attained the size and characteristics conducive for potential breeding stock.

LARGE LIVING AMERICAN CHESTNUTS IN NEW JERSEY

LOCATION	DIAMETER IN INCHES AT 4-1/2 FEET	SIZE	CHARACTERISTICS
1. Hopewell Township Mercer County	13.3	30 ft. from road in managed woodlot; soil Stockton loam.	Tree is 74 ft. tall with crown in upper surrounding forest canopy. Has smooth bark and four calloused blight areas. Produced many empty burrs in fall of '73.
2. Bernardsville Somerset County	10.2	Open area in rear of house adjacent to woods. Soil is rocky gneiss	Tree is heavily blighted—trunk appears rusty. Contains second large trunk and many smaller live poles encompassing a circle 5 ft. in dia.
3. Lebanon Township Hunterdon County	10.1	Edge of woods bordering a pasture. Rocky soil; southern exposure	Has two slightly smaller trees in area 8.8" and 4.2". Main trunk has calloused blight area.
4. Helyar Forest, Rutgers Middlesex County	9.7	Tall dominant tree growing in former opening in woods. Surrounding 11.5-acre section has 83 chestnut sprouts, of which only 3 trees were over 30 ft.	Bark beginning to roughen—initial blight attack occurred in 1973—has 3 sprouts on trunk 1½ ft. from ground.
5. Lebanon Township Hunterdon County	8.8	Edge of woods bordering a pasture. Rocky soil; southern exposure	Has twin trunks, very rough bark, badly blighted but healed. Grows within 50 ft. of tree number 3.
6. Panther Valley Warren County	8.7	Edge of heavy forest near base of slope. Soil is glacial moraine.	Tree is clean, blight-free, smooth-barked. Is surrounded by many intermediate-sized sprouts.
7. West Milford Morris County	8.7	Level sandy clay with western exposure supporting mixed hardwoods; past opening in stand.	Healthy—no basal sprouts. Bark roughened to 10 ft.
8. Washington Township Bergen County	8.1	Growing in woods on level sandy loam 16 ft. from road.	Healthy and sound. Has old blight wound on base which appears to be healing. Bark on bottom 8 ft. of trunk is roughened.
9. Atlantic Highlands Monmouth County	8.1	On edge of wooded slope.	Badly blighted from base half way up the trunk. Has 3 sizable dead and 6 live basal sprouts.
10. Oak Ridge Sussex County	7.0	On residential front lawn in 15-yr. old development cleared from woods.	Healthy with one apparently healed blight attack. Few basal sprouts. Relatively smooth-barked. Tree sets heavily with empty burrs.

ASIATIC CHESTNUTS

The Japanese and Chinese species were found to be distributed randomly in all areas of the state. Most of the newer plantings are Chinese chestnut although old Civilian Conservation Corps plantings of the 1930's also contain Chinese

chestnuts, usually associated with red pine. The blight resistance of these particular Chinese chestnuts is less than desirable. One planting, of a variety which produces nuts similar in size to those of the American, is growing tall but

slowly, having trunks 8-12 inches in diameter. Low-branching specimens in the same planting have trunks up to 20 inches in diameter. In general, however, the Chinese trees are small and have been planted mostly as ornamentals in residential landscaping. In most cases, the present owners do not know the species or variety of these trees.

The largest specimens of Japanese chestnut were found in western New Jersey, away from the urban areas. The usual site is a farm or farmland recently subdivided for development. One of the best Japanese specimens is located in the Princeton area, having the shape of a "stone row oak." Fruiting characteristics are not generally known.

CLUMP CHESTNUTS

There are numerous chestnut sprout clumps or bushes growing in the state, primarily along roads. These clumps consist of as many as 30 sprouts of various heights and thicknesses, indicative of virile growth and excellent root stock. Two of the larger clumps show characteristics of interest, with sprouts exceeding 4 inches in diameter and healing of as many as four blight attacks per trunk. These clump chestnuts are growing in the open along roads, usually with good exposure to sunlight and little competition from other species. They often have large deep green leaves up to a foot or more in length, and normally produce empty burrs. Evidently these clumps are supported by roots of previously large, well-rooted trees. Generally, when the

trunk of a large chestnut is blighted, basal sprouts appear and the blighted trunk dies. In the case of these clump chestnuts, a succession of basal sprouts have appeared, possibly with each new infection of a large trunk. The old stems have not died, but growth then is stunted because of the excessive demands on the root system of each sprout, whose large leaf system creates a high water demand. Clump chestnuts may possibly be cultivated into large trees by severe pruning of the smaller basal sprouts, leaving one or two main trunks. Two fine examples grow in Hunterdon County, one in Clinton Township on Cokesbury Road and another in Readington Township on Pleasant Run Road. (See also the Bernardsville tree.)

OTHER CHESTNUTS OF INTEREST

European Chestnut

The largest European chestnut found, is located in Dover, Morris County, growing to the rear of a house in an urban location. It is 22 inches in diameter at four and one-half feet height, approximately 50 feet tall, and is blight-free as far as can be seen.

European-American Chestnut

Growing in the Milford area this tree is 10.1 inches in diameter at three feet in height and is said to be about 16 years old. It sprouted from a nut from a large tree which was 30 inches in diameter and was cut down by a local road department about eight years ago. The pollen source for the parent tree is unknown. The tree is relatively smooth-barked and lived with blight from no bark fissures. It has a western exposure on a residential property at the base of a slope containing mixed hardwoods. Soil is typical Delaware Valley soil—Stockton sandy loam. The tree bears, but the pollen source is unknown. Its large leaves are indicative of obvious hybrid vigor.

Japanese-American Chestnut

This tree is 11.0 inches in diameter at four and one-half feet in height and grows along a road in Washington Township, Morris County. It grows in the open with a slight southern exposure. It has been severely blighted for many years. The bark is very rough. Despite the blight, it bears no basal sprouts. The surroundings contain mixed hardwoods including American chestnut sprouts, none of which have carried pollen. No other chestnuts exist within a mile radius as far as can be determined by road; residences are few and mostly under six years old. This tree is reported for one reason only: it has set 20 per cent full burrs each year for at least 10 years with no apparent pollen source, indicating self-pollination. The seedlings from this tree display either pure Japanese or pure American characteristics, based on examination of the mature leaves. New growth characteristics indicate that the Japanese breeding is missing from the American-type seedlings. However, some Japanese-type seedlings do not have the typical red coloration.

CHESTNUT RESEARCH PROGRAMS

A cooperative chestnut research program is being initiated by the New Jersey Nut Growers Association, the Forestry Section of Cook College at Rutgers, and the New Jersey Bureau of Forestry. It will involve several steps. First, an attempt is being made to cross-pollinate four of the most promising trees in order to start a breeding and selection program.

Secondly, release cuttings will be made to favor the growth and development of chestnut sprouts and stems of good size. All of the largest trees found were growing near or in openings in the forest where they received ample sunlight. In contrast, understory sprouts in deep shade rarely grow to over one inch in diameter and 15 feet tall. If it were possible to grow American chestnut rapidly to pole-size trees in the

forest before they succumbed to the blight, production of posts, rails, and small-size lumber—for which a ready market exists—could be feasible. And it is possible that successive sprouting might develop increased resistance to the blight.

Also we will continue to locate additional American chestnut trees of promising size and resistance. The cooperation of interested persons and groups is solicited in the hope that this great American tree can once again be grown for man's pleasure and welfare. Large American chestnut trees can be reported to the Forestry Section at Cook College, Rutgers, New Brunswick. Please include some leaves and twigs so their identification can be checked, and specific location of the tree. □

For Late
Autumn Angling

beat the bottom for the big 'bows

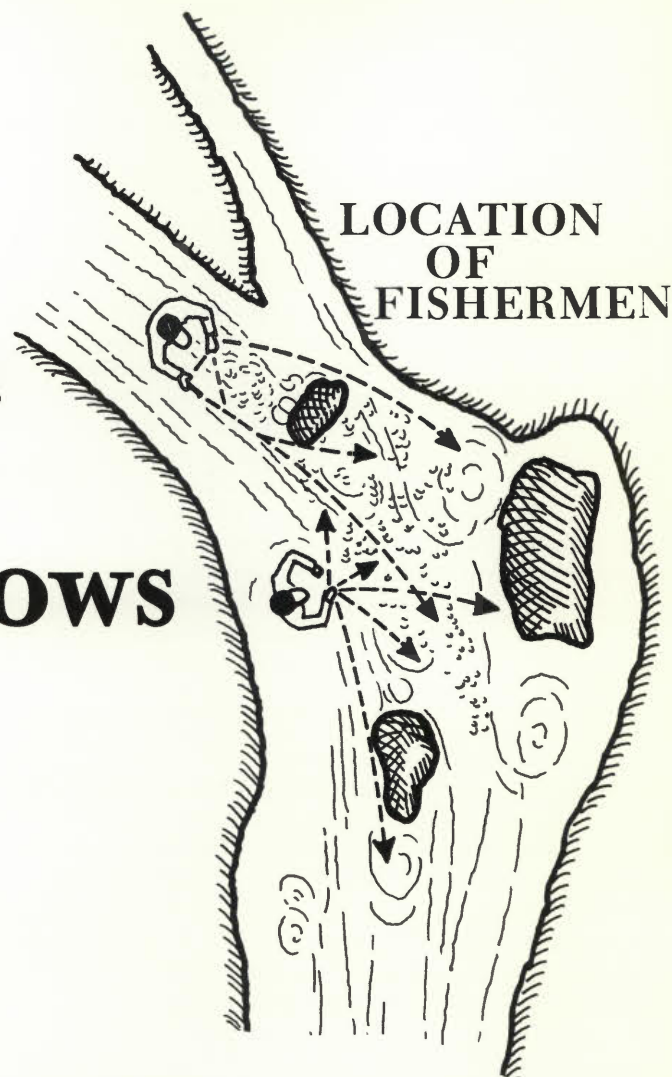
BY ART WEILER JR.

Over the past several years my fishing buddy and I have developed a method for catching large rainbow trout from New Jersey streams. Now I couldn't guarantee that the methods we use will be successful for any time of the year and for any kind of fish, but if you want to try for 'bows in the two pound and over class we're talkin' turkey. Last year I hooked into two big silvery-red, rod thumpin', head shaking, jumping beauties just long enough to see a snapped off leader come flying back at me. That may not seem like much to brag about, considerin' that the fish out-foxed me, but it's all part of fishing. Later I heard that someone luckier than me nailed one of the 'bows and that it went three and a quarter pounds. Not bad for a stream fish!!

Late autumn is when we like to cast our flies for *Salmo gairdnerii*, better known as the rainbow trout. All the runts are caught by then and the fish are less skittery. With nobody much around, you can slow down and really work each hole. The rainbows at this time of the year are gorgeous hooked-jawed, scarlet-slashed gems with cold water fighting spirit.

This is the time of year to fish the larger streams such as the "Muskie", the South Branch of the Raritan, and the Flatbrook. A medium-light 8 foot fly rod with sinking line will put you in business, but anything you've got handy will do. Remember the fishing motto "You can't catch fish without your line in the water."

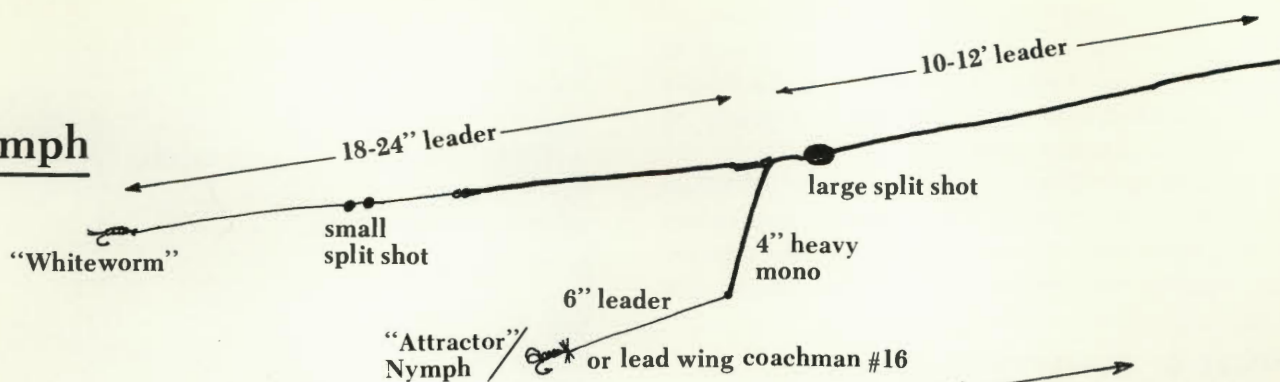
That's the rule to follow when the cold winds and rain may blow about your neck. Don't move around too much! Locate a nice hole 4-6 feet deep, not one of those big washed out pools everyone fishes, but a



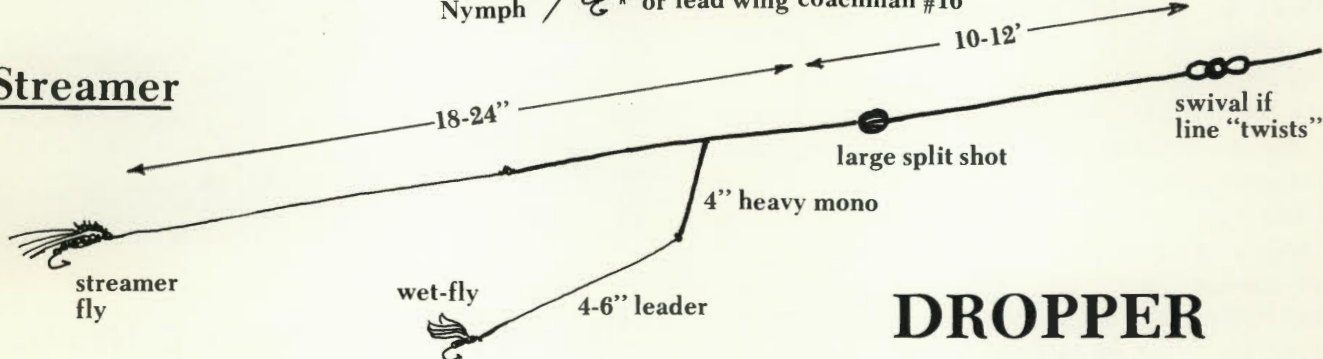
medium sized hole with lots of rocks or tree stumps or an old log jam. These places are hot spots!!

Before I even talk about what type of flies to use, I'd like you to think about stream strategy. Yes, strategy! You've got to use every skill you have to out-think these big 'bows. Teamwork is essential. Teamwork means two fisherman double teaming their flies—you know a "dropper" fly can really increase your chances. Two fishin' fools can make "luck" happen when they work together. Here's how we do it. Approach the hole you've located from upstream with both men wading in the center of the stream. Go slow unless you like to swim in ice water. When you get 50 or so feet from the head of the pool one of the men splits and works across and downstream so he ends up alongside the middle of the pool but well back so he won't spook the fish. The upstream man wades to a position near the center of the stream but 20 to 30 feet upstream from the hole. This wading should put both men in about the positions as shown in the diagram. Then after both men are still for a few minutes to let things calm down, the upstream member of the team begins to "beat for

Nymph



Streamer



DROPPER RIGS

SOME OF THE FLIES WE USE

ATTRACTOR NYMPH: dropper



Hook size #14-10
 Body —Dark brown mohair
 Tail —fluorescent green/orange wool loop
 "Legs"—black or brown hackle

LEADWING COACHMAN: dropper



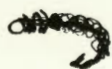
Hook size #14-16
 Body —Peacock herl
 Tail —wood duck
 Wing —steel gray duck

WHITEWORM: (laddis)



Hook size #6 + 8 + 10 (streamer)
 Body —cream mohair
 Head —Black thread & peacock herl
 Tail —porcupine hair

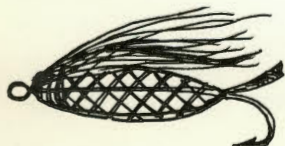
GREEN STONEWORM:



Hook size #12
 Body —Med. green silk or nylon floss (Reeds "solu floss")

No tail
 Gold oval wrap of body optional.
 Tied with gray "nymph nylon"

MYLAR MINNOW:



Hook size #6 + 8
 Body —silver mylar piping
 Tail —red feather
 "Wing"—black & white kip tied with black 3/0 nylon

'bows"—he kicks the bottom of the stream stirring up sand and turning over rocks and discoloring the water. As this discolored water nears the downstream man, he quarter casts and works a large nymph with a small attractor nymph as a dropper just on the fringes of the discolored water as the upstream man works a streamer fly with small wet fly dropper across the width of the discolored water.

Patience is important. Sometimes no action takes place for thirty or so minutes. Other times you connect as the discolored water nears the center of the pool. Keep the flies on the bottom or near it. Don't rush the flies through the water. Let the current give life to the hackle and hair by moving your rod tip up and down. Try pulling the line in a few inches at a time—slowly. Beat the bottom again. Still no results? The upstream man can switch to a shiny streamer and fish it rapidly near the surface of the water while the downstream member changes to different nymphs.

No luck???

Light up your pipe and enjoy the solitude of the crisp autumn air. Perhaps this is the day you should have gone duck hunting. Remember—all the joys of fishing can not be measured by the weight of the creel. I still mark that fall day when kneeling down to clean my lone fish, a brown flash caught my eye and for a few quick minutes I observed a fellow fisherman—the wild mink! Joys such as this bring fullness to a fisherman's days. □

continued from page 5

a lengthy chronicle of battles waged over land use. In many cases, an individual property owner may wish to maximize the value of his investment, but his neighbors feel that development threatens the desirability of *their* property as a place to live.

Besides the basic Constitutional question of individual property rights and due process, development raises the "plus" of increased taxes for hard pressed municipalities against the "minus" of possibly making the community a less desirable place to live.

TRANSFER OF DEVELOPMENT RIGHTS

The transfer of development rights is a new technique to help solve this fundamental dilemma without violating basic rights and due process as guaranteed under the Constitution. It combines planning with certain aspects of property law.

The basic process is initiated when the municipality designates an area of open space and prohibits development therein. *Then*, the residential development potential in that area is transferred to another district or districts where the municipality agrees that development is feasible.

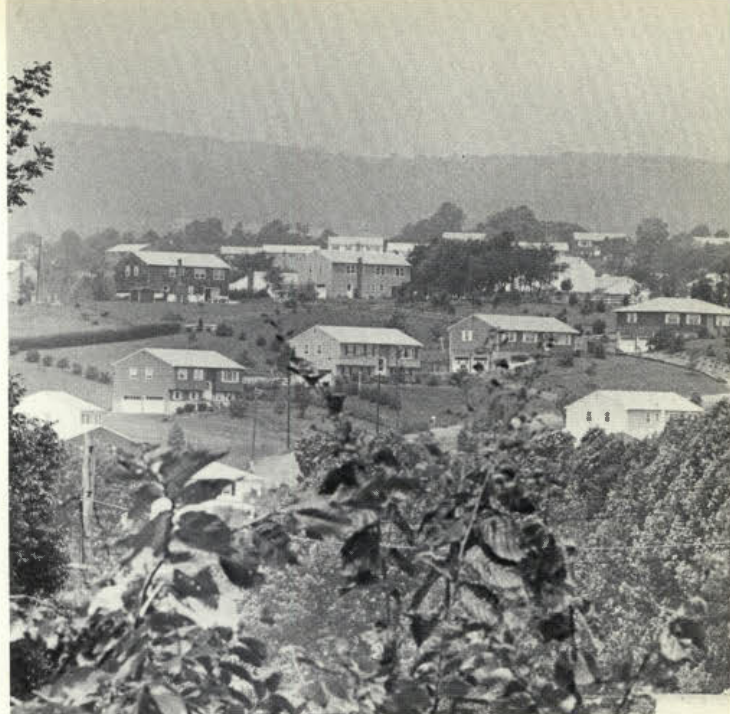
Landowners in the preserved areas, who will continue to own their land, may sell their rights to further development to other landowners or builders who wish to develop those areas in which development is agreed on.

THE "DEVELOPMENT RIGHT" APPROACH

Transfer of development rights (often known as TDR) helps a community plan its growth. The net effect is the preservation of environmentally important areas with equitable compensation for the owners. There is no cost to the taxpayers since no acquisition by government is involved. And at the same time the housing needs of a growing population can continue to be met.

A technique of this type has been adopted in New York City whereby air rights (one form of a development right) are transferred from districts where strict height limitations are set (similar to open areas that are to be kept open) to districts where new higher height limitations are permitted. Since land values in New York are extremely high, the builders' incentive to purchase air rights is very great.

Another example is Southampton Township in Suffolk County, Long Island, which has adopted a zoning ordinance with an optional transfer of development rights to preserve prime agricultural lands. Farmers are given the option of developing entire tracts under conventional zoning or of clustering development potential within an area between 20 and 40 percent of the entire tract.



Suburban sprawl can

This resembles cluster zoning, but in certain cases farmers can transfer the development potential (rights) of their lands to another tract in a different district where a higher density is permitted. The farmland would then be placed in a municipal land trust and held as farmland in perpetuity. The farmer could continue to farm and pay a nominal annual rent, all the while benefiting from the development taking place on the off-site tract.

The Southampton ordinance is the first to apply the concept of transferring development rights offsite, but it does not assure the preservation of farmland.

The first state legislation to create districts within which development rights would be transferred was introduced by Senator William J. Goodman in the Maryland Senate in January, 1972. Essentially the bill provides for the designation of planning districts where development would be permitted. Landowners would receive development rights in proportion to the amount of land owned, measured as a percentage of total acreage in the district.

These development rights must be purchased by builders, since no building would be permitted unless enough rights were obtained by the builder. This in turn would guarantee a specified amount of open space. The value of the development rights would be determined by market conditions, but local officials would set the open space requirement.

NEW JERSEY'S RECOGNITION OF NEW APPROACH

The New York City, the Southampton Township, and



BECOME URBAN BLIGHT

the Maryland proposed legislation came to the authors' attention in early 1972. There was emerging a greater recognition of the enormous development pressures on New Jersey and the consequent impact on the rate of land so committed.

Land values were beginning to soar. Over 1.2 million acres of the State's 4.2 million acres were already developed. It was estimated at the time that most of the remaining usable land would be committed to development by the year 2000. The most vulnerable land in this context is agricultural land which requires minimum site preparation and construction costs, unlike swamps, marshes, steep slopes, etc.

Also, agricultural lands in many cases consist of large tracts under single ownership and are very attractive to large scale builders. Experience indicates that this is especially true in New Jersey, and therefore, the main thrust of a transfer of development rights proposal would be to preserve the prime agricultural lands and woodlands of the state.

NEW JERSEY LOSES 10,000 ACRES OF FARMLAND EACH YEAR TO DEVELOPMENT.

The College of Agriculture and Environmental Science and the Cooperative Extension Service of Rutgers University have in recent years initiated research and programs in land use and resource management, especially with a view to preserving prime agricultural lands. At the same time the State has created a Blueprint Commission on the Future of Agriculture in New Jersey which is exploring ways to preserve agriculture in the State.

The objective of these groups is to preserve agricultural land, not merely for the production of food and its contribution to the economy, but to ensure the health and safety of citizens in the most densely populated state in the nation. Research is indicating that strategically located areas of agricultural lands and woodlands in an urban setting not only provides open space, with all its aesthetic values, but also provides a psychological uplift and an ecological balance. Furthermore, by keeping open large land areas, normal development can occur in a less sprawling pattern and reduce, to some extent, costs of services such as utilities, school costs, roads and other transportation facilities. Moreover, and perhaps most importantly, our legacy to future generations would not be a completely developed state where the only choices would be living with past mistakes or creating open space at an extremely high economic, social, and political cost. Rather, we would leave future generations the option of what to do with the preserved agricultural lands as dictated by their needs.

THE NEW LAND USE MANAGEMENT CONCEPT: HOW IT WORKS

A development right is basically a creature of property law. It is one of the numerous rights included in the ownership of real estate. A development right is the right that permits the owner to build upon or develop his land.

All rights of ownership of land are subject to reasonable regulation under the police power and are also subject to the governmental power of eminent domain. Rights of ownership in land may be separated from other rights and regulated by government or sold by the owner and transferred separately.

For example, an owner of land may sell his mineral rights or air rights and still retain ownership and use of the land surface. A common example involves an owner's sale of an access easement to a public utility so that utility lines can be established and maintained on the owner's property. Similarly, an owner may sell all of his rights to develop his land and these rights may be bought and sold by persons other than the owner who still retains the ownership to the land.

The transfer of development rights, as proposed for New Jersey, is essentially a system that identifies a right to develop and creates a market for such development rights. The owners of developable land are then required to buy development rights from owners of "preserved open space" as a prerequisite of development.

Under the proposed system a zoning district is established for preservation of open space in which all development other than farming is essentially prohibited. The residential development potential of the zoning district before its open space designation is calculated as follows: for each residential dwelling eliminated in such a preservation district, a substituted dwelling is added to a developable district of the community. Moreover, the residential development potential of the preserved area is transferred to other districts in the community. A development right is created for each dwelling unit eliminated in the preserved district and is distributed to the landowners in the preserved district. To build a substituted dwelling in the developable part of town a development right is necessary along with the appropriate zoning.

Thus, a builder who proposes to construct at a higher density based on the new capacity or density resulting from the establishment of the preserved area must also purchase development rights to equal the increased density and at a price arrived at through the bargaining process of the market place. The builder has the right to develop at the lower density permitted by the old zoning regulations, but he cannot build the higher densities unless he has development rights. Finally, the continued value or marketability of the development rights are insured by adequate "incentive zoning" in the developable districts.

IMPORTANCE OF OPEN SPACE

An examination of the benefits to be gained through the retention of productive open space in an area of vigorous economic growth has taken on new meaning. Generally, the argument for the preservation of open space has been based on an aesthetic notion that we must preserve our scenic areas. Certainly this is important, although not so critical as to justify very restric-

tive zoning regulations. However, we are now discovering that the wise, productive, and beneficial use of open space is essential to maintain an ecological harmony, to improve the quality of air and water as well as the psychological well being of the population. Open space breaks in an otherwise endless stretch of subdivisions are becoming imperative.

Pollution in many areas of New Jersey is almost an accepted condition of life. We know that if the population continues to increase all of these problems will be intensified and will endanger basic health and safety. This recognition of the health and safety aspects of open space preservation must be clearly documented and accorded considerable weight in the judicial balancing process.

A LEGISLATIVE PROPOSAL

For a period of about 10 months a small committee of specialists working with the authors conducted an extensive and intensive review of this revolutionary new land use control concept. At the same time the authors spoke before many groups and organizations to get questions, reactions, and a general feedback which were reviewed and analyzed by the committee. To the best of the committee's ability every critical element and principle of this new device was thoroughly analyzed, resulting in a legislative proposal which is considered to be valid and workable. This proposal is now being reviewed by the legislature.

Copies of the legislative proposal and other information on this subject can be obtained by writing to the authors at the Cooperative Extension Service, Cook College, Rutgers University, P.O. Box 231, New Brunswick, New Jersey 08903. □

FRONT COVER

Pheasant hunting on the Flatbrook-Roy Management Area—Bob McDowell, Nikon F2, Kodachrome II

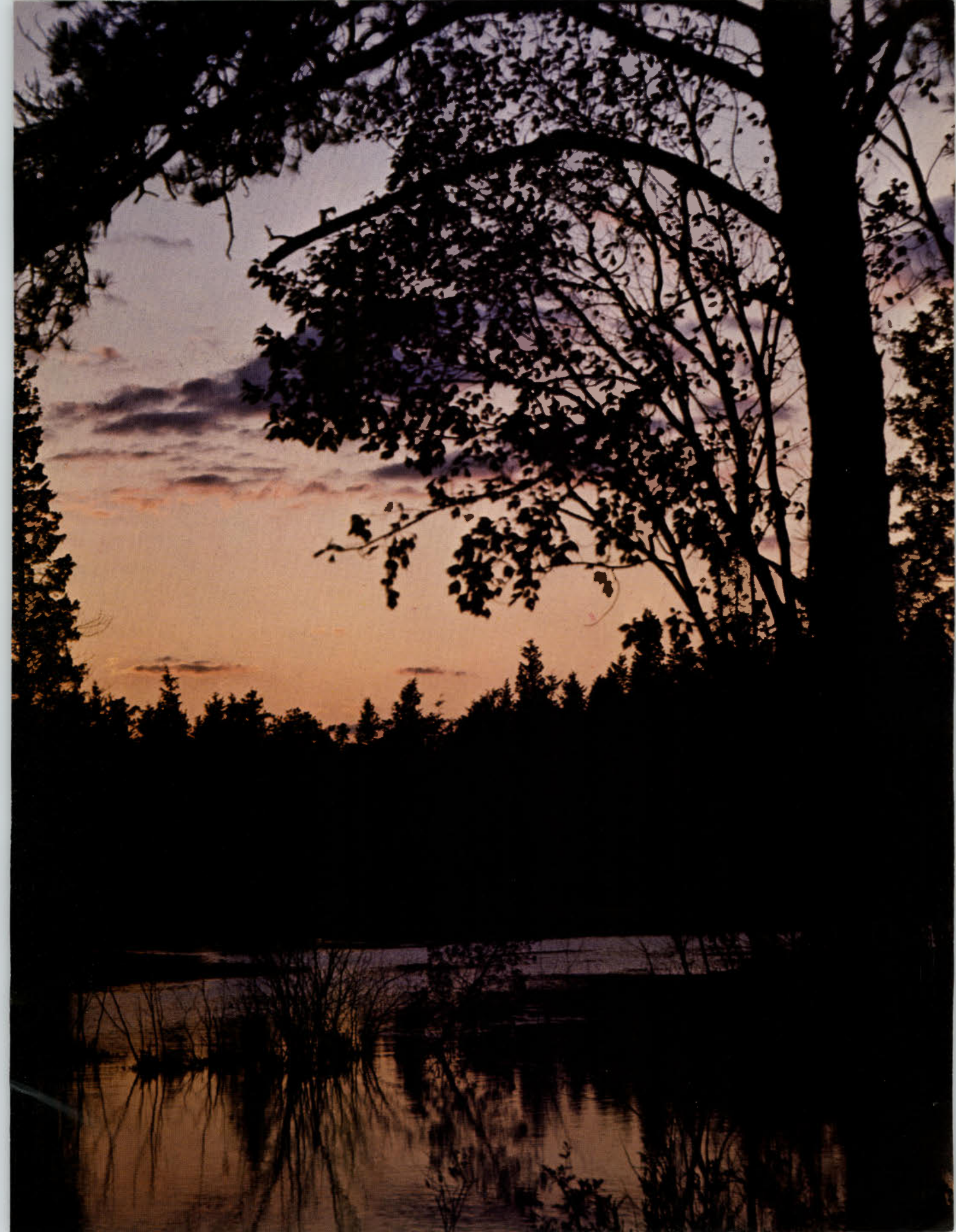
INSIDE BACK COVER

Sunset at Goshen Pond, Atsion, N.J.—Leo Seese, Mamiya C33, 1/60 at F5.6, High Speed Ektachrome

BACK COVER—PEREGRINE FALCONS

For the past three years Tommy Nobis of the Atlanta Falcons has given his off-season time to mentally retarded children throughout the state of Georgia. These children are special to Tommy and he enjoys serving and giving his time in their behalf. Now you can help Tommy in his untiring efforts to help his young friends. And you can do it by buying a fine art print of the Falcon for \$60.00. One-half of the proceeds of the sale of these prints, in the form of a donation from the National Wildlife Art Exchange, Inc., Vero Beach, Florida, to Tommy, will be utilized for the express purpose of seeing that these deserving children may participate in recreational experiences provided by the Georgia Special Olympics. Checks should be made payable to: SCORE, INC., Post Office Box 89144, Atlanta, Georgia 30312. The price of each 20" x 24" print is \$60.00 each or multiples thereof. This amount includes packaging and delivery charges.

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F. JENKINS
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