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# New Jersey OUTDOORS





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**New Jersey Outdoors Magazine**

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## Fish and Game Dedicated Fund in Trouble

New Jersey's wildlife conservation programs have been traditionally financed almost entirely through hunting and fishing licenses. By law these revenues are placed into a "Dedicated Fund" earmarked for wildlife management purposes.

The current inflationary spiral, exceeding 10 percent each year, has placed the fund in serious jeopardy.

The Division of Fish, Game and Shellfisheries is doing everything in its power to economize on programs, and at present is cutting back only moderately in personnel and services. However, the handwriting is on the wall indicating that more money is badly needed if the wildlife needs of the state and sportmen's concern for "long term" wildlife conservation programs are to be met.

General hunting and fishing license increases will be requested of the 1975 legislature and if enacted will go into effect in July 1976. The recommended increases include an extra dollar on fishing licenses, a two dollar increase for a trout stamp, and three-dollar increase for a hunting license. Also a special \$5 stamp will be requested for hunters using certain designated wildlife management areas during the upland game bird season where artificially produced pheasants and quail are being stocked. This will in effect represent a program similar to the "trout stamp" to require the users of a resource to help pay their share. The article on page six by Paul McLain presents the details of the funding proposal and summarizes the various programs sportsmen and other wildlifers derive from these license monies.

Sportsmen are urged to support this proposed hunting and fishing license increases which are so urgently needed. Also, all other wildlife enthusiasts are asked to purchase licenses issued by the Division of Fish, Game and Shellfisheries. Monies derived from these dedicated funds are used in fighting environmental pollution detrimental to wildlife and protecting and enhancing New Jersey's environment for all wildlife, not just fish and game.

from the  
director



Division of Fish, Game and Shellfisheries

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*Ice fishing has a distinctive charm all its own—the setting is quite unlike that encountered in any other angling endeavor.*

# it's ice fishing time

**By Howard Brant**

There are those anglers who prefer to fish in the Spring or Summertime.

But there's yet another fraternity of angling enthusiasts—a special breed—oblivious to sub-zero temperatures, ice, snow and frostbite. This hardy specimen is willing to pursue his favorite sport despite what the elements produce. He's that stalwart member of the angling world known among his cohorts as an "ice fishermen" and now during the cold weather months is the time to enjoy this unique method of stalking gamefish in the frozen lakes of upstate New Jersey.

Ice fishing has a distinctive charm all its own—the setting is quite unlike that encountered in any other angling endeavor—the massive white plain of frozen water; the swirling shadow of wind-driven snow; the bleak and somber shoreline; the ominous winter storm clouds scudding overhead and the crisp, clear winter air which provide a fascinating appeal for those intimately familiar with the sport.



And don't let anyone tell you differently—all gamefish species strike well during the mid-winter "deep freeze" period. In fact, some years ago during January it was estimated that more than two tons of eastern chain pickerel were caught by ice anglers fishing Lake Hopatcong alone!

You may encounter a multitude of small to medium-sized pickerel during the spring and summer seasons but the opposite is true during the winter ice-fishing season. Giant-sized pickerel are commonly hauled from many upstate frozen waters. And although Eastern chain pickerel and yellow perch are the frostbite fraternity's mainstay, such other gamesters as largemouth bass, walleyed pike, trout and panfish will strike with surprising regularity during the ice fishing season too.

To be sure gamefish lack the fighting attributes they possess when stung by a hook during the warm weather months for the frigid water makes them quite lethargic. There's little comparison in the fighting qualities of a pickerel hooked on a tip-up rig during the ice fishing season, than one taken on light spinning tackle in the spring. But winter-time fishing offers an entirely different concept in angling. It's a group participating affair, where entire families or several fishing companions turn out in force simply to enjoy an outing amid the mid-winter scene.

Undoubtedly the most important thing to remember when taking to the ice is its thickness. Thin ice is obviously dangerous and when in doubt, stay off. A basic guide to safe ice thickness can be expressed by the traditional ice fisherman's axiom—one inch, stay off! Two inches, one may; three inches, small groups, and four inches, OK.

Ice angling techniques differ in various parts of the country but for the most part here in New Jersey the greatest majority of fishermen employ a rig known quite simply as a "tip-up." The tip-up is actually the angler's rod, reel, line and bait, rigged into a single unit.

The standard commercially-produced tip-up consists of a reel spool which nestles under water to prevent freezing, plus a pair of cross braces to hold it upright. A small red flag is further attached to a flexible wire fitting to a "trip" wire mechanism extending to the reel spool. When a fish strikes, it trips the wire and the flag springs up, signaling a strike—hence the ice angler's traditional cry—"Tip-Up!" Here in the Garden State ice anglers are permitted to use five tip-ups per angler. Each tip-up must be marked with the fisherman's name and address.

Most ice fishermen utilize some 75 to 100 feet of

15 or 20-pound test nylon line on each tip-up reel spool. To this they add a six-foot length of monofilament leader of a test sufficiently heavy for the gamefish he is seeking. Ten pound test monofilament is about average. Add sufficient weight to the leader about a foot above the hook to keep the bait down where the fish are. Tip-ups are usually rigged with live minnows or worms and the hook size depends on the gamefish sought. A size-four hook is about standard for Jersey ice fishing but perch anglers often turn to size-six or eight hooks.

When baiting a tip-up with a minnow be sure the bait is lively. Dead bait will not catch fish. Hook the live minnow behind the dorsal fin and just under its skin. Be careful not to hook it too deeply.

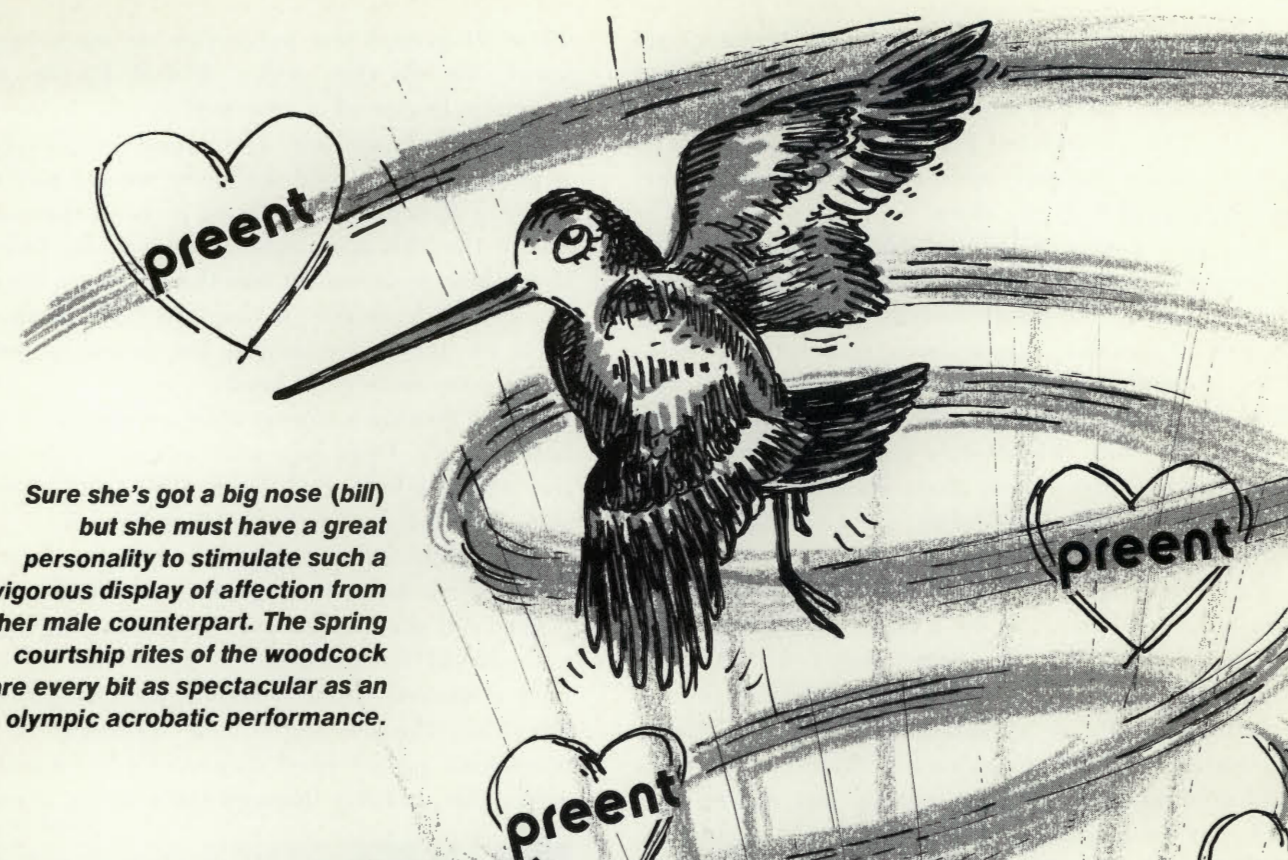
Now with tip-ups rigged, you'll also need something to cut holes through the ice. While some old-timers still use a hand-axe, its use can be dangerous and should be avoided. A "spud" or ice chisel is most commonly used as well as the latest angling innovation—the ice auger. The ice-auger is nothing more than a giant-sized carpenter's brace and it does a fine job, cutting through thick ice in a matter of

*(Continued on page 31)*



**Youthful Jimmy Hock of Mountain Lakes, shows the oldsters how it's done with his lunker four-pound trout.**





*Sure she's got a big nose (bill)  
but she must have a great  
personality to stimulate such a  
vigorous display of affection from  
her male counterpart. The spring  
courtship rites of the woodcock  
are every bit as spectacular as an  
olympic acrobatic performance.*

**pardon me dear  
but your bill's  
in my ear**







preent

BY JOSEPH M. PENKALA

*Assistant Wildlife Biologist*

March is a month that's neither here nor there. Hunting season's a memory and the trout opener is almost a month away. Winter has definitely worn out its welcome, and dreary, rainy days are all too frequent. Spring is waiting in the wings, thawing out the ground a little more each day but still not gaining the upper hand.

About this time of year waterfowl get a severe attack of wanderlust. As a result misplaced migrants begin to drop into the lakes and ponds in North Jersey. I've seen canvasback, redheads, buffelheads and goldeneyes on farm ponds and small lakes in this area. Definitely places where no self-respecting bay duck would be caught dead. I suspect that the stop-offs are dictated by fatigue rather than preference. I routinely visit these areas at this time of year to check on the progress of migration and speculate on just how far off spring really is.

I had just finished a check on a small lake near my home and I was thinking that I could just about make it home before darkness fell. The sun had dipped behind a mountain and a crimson glow warmed the sky. As I entered an abandoned field covered with shoulder high cedars and ankle high grass, the silence was broken by a metallic buzzing "preent". I stopped in my tracks; another "preent" was followed by a high pitched twitter. Out of a group of cedars in front of me a small brown bird, a woodcock, burst forth. The fluttering, batlike wing-beat coupled with a bill that looked too long to be useful confirmed my suspicions that the woodcock were back. The twittering sound increased in tempo as he spiraled upward, until he

looked like a fluttering moth. I raced to the spot where I thought he had taken off from and sat under a convenient tree. The twittering got louder as he spiraled downward, then two fluid "chirps" and he landed about fifteen feet from me. He looked around a bit and then began to strut and utter the nasal "preent" that first alerted me to his presence. After a minute or two he launched himself into another twittering spiral.

If your experience with woodcock is restricted to pounding the brush in October, this doesn't sound like any timberdoodle behavior that you've ever seen. In March of each year the woodcock visit New Jersey and put on an acrobatic courtship display that's hard to beat.

Exact arrival time depends on weather. A warming trend will usually do it. The males arrive before the females and can't resist practicing for the up-coming breeding activities. Abandoned fields with widely spaced evergreen trees and low grassy cover are the spots for these activities. Add a nearby swamp and you have a woodcocks' idea of conjugal bliss. The festivities begin shortly after sundown and continue until dark. The birds alternate the strutting, "preenting", and spiralling flights until dwindling light puts an end to the amorous overtures. If it happens to be a clear night with a full moon the display will continue long into the night.

The twittering sounds heard during the courtship ritual are made by air rushing through the very slender outer primary feathers on the wings of the males. The flights reach heights of one to two hundred feet and last for a few minutes. This is the time to get some cover near the point where the woodcock took off. Don't try to approach while the bird is on the ground as he will be spooked. Try to get closer with each successive flight. The bird will return to almost the same spot after each flight. I've had them land so close I could almost touch them.

So next time March rolls around and the doldrums set in, find an old field and a swamp and give it a try. The little dodger of the maple thickets becomes a real showman when spring turns his thoughts to love. □





the time  
is now

## **PROPOSED FUNDING PROGRAM FOR THE DIVISION OF FISH, GAME & SHELLFISHERIES**

**BY PAUL D. MCLAIN**

Federal Aid Coordinator

*No other state in the country is faced with the magnitude of problems which New Jersey must deal with in managing its fish and wildlife populations. Trying to provide the maximum recreational opportunities compatible with the resources in the face of an ever-expanding urban population, and also accommodating the many sociological considerations which exist where wildlife occurs in close proximity to humans, represents one of the most challenging and demanding efforts in the field of modern natural resource management.*



Photos by Author

*A trout fisherman fishing at the Ken Lockwood Gorge in Hunterdon County.*



*Two rabbit hunters look over their catch on the Glassboro Mgt. Area.*





*A young waterfowl hunter and a dog hunting on the Tuckahoe Wildlife Mgt. Area, part of the 27,000 acres of Division administered wetlands.*



*A father and son hunting pheasants on the Colliers Mills Mgt. Area in Ocean County.*

In a state where living space is at a premium and where there is intense competition for all forms of outdoor recreation, practical wildlife management is predicted on making every acre of land and water produce the maximum yield of wildlife. In addition, we must jealously protect every acre of existing habitat which supports our wildlife populations.

The Garden State is the most densely populated state in the nation and yet has some of the finest upland game, waterfowl, and deer hunting to be found on the east coast. Our fresh water fishing attracts over 200,000 anglers a year and the saltwater fishing supports over one million anglers.

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**The vast state-owned wetlands provide more public opportunities for waterfowl hunting than are found in Maryland or the Carolinas.**

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In what other state can you hunt quail in the pinelands, pheasants in the Piedmont, and grouse in the mountains, all in one day?

#### **400,000 License Buyers**

Providing hunting and fishing opportunities to 400,000 New Jersey license buyers is an expensive undertaking which is becoming more and more expensive. The intensive management and development of state-owned lands, the artificial propagation of over 80,000 game birds and one half million trout, and supporting a staff of 46 fulltime Conservation Officers, 29 fish and wildlife biologists, 95 conservation workers and an office staff of 30 people is an expensive but necessary part of providing public hunting and fishing.

#### **Income And Expenditures**

In 1973, the Division's annual income was \$3.77 million, over ninety percent of which came from the sales of hunting and fishing licenses. Approximately twenty-one percent of this income was spent on the artificial propagation of pheasants, quail and trout; 33 percent for research, development and management of land and wildlife populations; 16.5 percent for law enforcement, 3.6 percent for Information and Education, 12.4 percent for administration and employee benefits; and insurance and miscellaneous amounted to 13.1 percent of the total income.

In addition to managing the fish and wildlife resources of the state, the





research, enforcement and technical personnel possess the special training and expertise necessary to assist the Department of Environmental Protection with stream pollution and water classifications, riparian permit and grant reviews, highway and other environmental impact reviews and advice to other state and federal agencies on matters dealing with wildlife resource management. The Division has taken on a new look within the past few years directing its efforts toward over-all environmental protection with major emphasis on the resources of the state.

### **A Critical Period**

Presently, the Division of Fish, Game and Shellfisheries is at the crossroads of its existence and the next year may well determine whether the Division will continue to be an aggressive and progressive worker for the wildlife resources of the state and the sportsmen, or be relegated to a maintenance operation due to the lack of operating funds. Like every other governmental agency, private business and family, the Division has been caught in the same inflationary spiral and, without additional income, it cannot possibly continue to function at its present level.

The facts of the Division's budget are presented in the 1972-1973 Annual Report available at the Trenton office. This report shows that the Division's income amounted to about \$3.77 million in 1972-1973. The annual financial increase from the sale of hunting and fishing licenses has risen about one half a percent per year, but the costs of materials, supplies, services and salaries have increased about 10 percent. These rising costs are forecasting Division expenditures of over four and one half million dollars by July 1975.

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**This means the Division is going to spend over half a million dollars more than its income.**

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Based on the present inflationary trend, the cost of operating the Division by July, 1976, will be approximately five million dollars and, by 1979, it may reach over six and one half million dollars.

### **Inflationary Costs**

Why is the Division spending more money than it is taking in? First, the cost of game farm and hatchery food and wire has increased 100 percent; lime fertilizer and seed has gone up 40 percent, salaries 10 percent, fuel for field installations 25 percent, office rental 15 percent, and

vehicles 15 percent. In every instance, the cost of operating materials, supplies and services has increased. In addition, the Division is paying upwards of \$50,000 a year in pension and sick leave benefits.

### **Economy Measures**

Presently, the Division is practicing the strictest economy measures by not replacing retiring personnel, cutting back on travel requests, equipment orders, holding back on promotions, carefully evaluating every program to provide only the essential services.

In spite of these economy measures, the inflation-bred cost increases will deplete any unused balance in our budget by August, 1975, and the Division will be operating in the red.

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**At this point, some very serious and drastic measures will be required to balance our budget.**

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Without a question, every major program within the Division will have to be carefully scrutinized and reduced including the game farms and hatchery production; research and development programs will be cut back, enforcement efforts will be reduced, no replacement will be made of retiring employees, and quite possibly personnel layoffs might be necessary if money is not available to pay salaries. The fish & game future is bleak but these are the facts.

### **Additional Income Required**

It is obvious that additional income has to be found immediately if the Division of Fish, Game and Shellfisheries is to continue to function. There are two alternatives: One is to go to the legislature for general funding from the taxpayers. Since 1902, the Division has operated on a dedicated fund from the state of hunting and fishing licenses. The sportsmen have always paid their way and have jealously guarded their dedicated fund against political intervention. New Jersey sportsmen can point with pride to the thousands of acres of wildlife management areas acquired and developed, the research and management programs, the law enforcement efforts and the public information and education made possible only through the sale of hunting and fishing licenses.

### **General Funding or Dedicated Funds?**

Based on the experience of other

states which have gone to general funding, this has not been a practical or successful method of managing the wildlife resources. Here in New Jersey where anti-hunting sentiment is high and the numbers of sportsmen relatively low, legislative approval of a large sum of money to support hunting and fishing might not be successful.

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**The overwhelming attitude of the sportsmen of New Jersey has been that THEY want to support the wildlife resources of the state.**

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The other alternative is to increase the costs of hunting and fishing fees along with special licenses to provide the additional income to allow the Division to function at its present level.

■ With this in mind, three funding proposals were prepared and submitted to the Fish and Game Council for consideration. The first was an increase in all the existing licenses, permits and fees. This would have resulted in an added income of almost two million dollars.

■ The second proposal was to increase the existing commercial fishing fees and licenses. This proposal represented an increase in revenue of about \$46,860.00 and was approved by the Fish and Game Council.

■ The third proposal created new licenses and special fees which would result in an income of about \$1,372,000. If the three proposals were approved by the Council, Commissioner Bardin's office, and the legislature the Division could have realized about two and one half million dollars in additional income.

### **Council Meetings**

At the November and December Fish and Game Council meetings in Trenton, the three proposals were presented to the Council for consideration. Following much discussion, the Council members approved several of the major increases as proposed for the present license structure; approved on the commercial fishing license increase, and one of the new special license fee programs.

The total anticipated income from the increase in licenses, fees, permits and special use stamps as approved by the Fish and Game Council could result in a possible income of about \$1.25 million. However, there will probably be about a twelve percent loss in license sales the first year and the actual increased income to the Division would be about one million dollars.

Based on the calculations of income and annual expenditures, this million dollar increase will carry the Division



# PRESENT LICENSE SALES, FEES AND INCOME AND PROPOSED INCREASES

Type of License	Number of Sales	1974 Fee (in Dollars)	Income 1973-74 (in Dollars)	1976-77 Proposed Increase to (in Dollars)	1976-77 Possible Total Income (in Dollars)	Increased Income (in Dollars)
Resident Fish.	184,194	\$ 6	\$1,105,164	\$ 7	\$1,289,358	\$184,194
Resident Hunt.	165,667	7	1,159,669	10	1,656,670	497,001
Resident Trout	128,719	2	257,438	4	514,876	257,438
Resident Bow & Arrow	32,802	7	229,614	10	328,020	98,406
Resident Trapping	3,106	7	21,742	10	31,060	9,318
Non-Resident Fish	5,726	10	57,260	12	68,712	11,452
Non-Resident Trout	1,495	5	7,475	8	11,960	4,485
3-Day Fishing	1,141	3.50	3,993	5	5,705	1,712
Non-Resident Hunting	2,600	40	104,000	40	104,000	--
Non-Resident Bow & Arrow	360	40	14,400	40	14,400	--
Non-Resident Trapping	6	40	240	40	240	--
Duplicates	836	1	836	2	1,672	836
<b>SUB TOTALS</b>			<b>\$2,961,821</b>		<b>\$4,032,885</b>	<b>\$1,064,842</b>
Commercial Licenses and Fees						
<b>SUB TOTALS</b>			<b>\$44,850</b>		<b>\$86,585</b>	<b>\$41,735</b>
Wildlife Mgt. Area						
Game License	(estimated)					
<b>SUB TOTALS</b>	<b>25,000</b>			<b>\$5</b>	<b>\$125,000</b>	<b>\$125,000</b>
<b>GRAND TOTALS</b>			<b>\$3,006,681</b>		<b>\$4,238,258</b>	<b>\$1,231,577</b>

TABLE I

through 1976, at which time it will be necessary to again look for additional funding if the present inflationary trend continues. The Fish and Game Council recognized this situation and agreed to review the financial status of the Division in 1975 to determine what additional types of funding programs might be necessary to provide the necessary income to support the Division past 1976.

Table 1 shows that the resident hunting, archery and trapping license increases will result in \$1,064,842 income.

Also, shown in Table 1 is that by adjusting the commercial fishing licenses, approximately \$41,735 in additional income could be realized.

## New License Approved

The only new license approved by Council was the hunting of artificially reared game birds on selected wildlife management areas. This will be a special license of \$5.00 (in addition to the regular hunting license) to hunt on 24 designated fish and wildlife management areas where pheasants and quail are stocked. Presently, it costs the Division about one half million dollars a year to produce the 70,000 pheasants and 10,000 quail of which over 90 percent are stocked on state wildlife manage-

ment areas. It's estimated that about 25,000 hunters use the state wildlife management areas. Therefore, approximately \$125,000 will be realized from this special use fee directed at those sportsmen who utilize the Division's game farm production on wildlife management areas. Because exact figures are not available on hunter use of these areas, the income derived from this special use stamp will serve as a guide for planning of future artificial propagation programs.

## Immediate Action Required

It is essential that this legislation be enacted prior to June 1, 1975 as working time will be required to print the 1976 license, permits, fees and special use licenses incorporating the changes prior to January 1, 1976.

## These are the facts as simply as they can be presented.

Director Russell A. Cookingham, the State Fish and Game Council and the employees of the Division are going to be working hard during the next few months to acquaint the license-buying sportsmen with the proposed increases.

The entire public and especially the sportsmen of New Jersey have over 145,000 acres of management areas set aside for their recreational use and over 300,000 acres of state lands available for public hunting and fishing. The fish and wildlife biologists are working with the various resources to maintain them at the highest possible level. Our conservation officers are protecting the game and also the nongame species, and the Information and Education Section is endeavoring to keep the public informed on the state's wildlife resources and also the overall environmental programs and problems in New Jersey.

## It's Up To You

The major question now before the sportsmen of New Jersey is, "Is hunting and fishing worth the extra money?" If it is, they are urged to support the Division's funding program as approved by the State Fish and Game Council which represents the State Federation of Sportsmen Clubs and the license-buying sportsmen of the state.

The Division of Fish, Game and Shellfisheries is responsible for the wildlife resources of the state. The support of the sportsmen will determine how well and to what degree the Division can manage the wildlife resources of New Jersey for the benefit of all. □





PHOTOS BY HARRY GROSCH

A Cardinal and a Bluejay



Pigeon Hawk



American Kestrel





Bob Walters with a pair of sandpipers

# some talent with wood

By Steve Perrone

He placed the half-finished sandpiper on the bench alongside the six or seven other sandpipers and he began to explain how he took up woodcarving. The "he" is Bob Walters of Vineland in South Jersey, who decided to do something in his spare time after retiring from his regular job.

Bob said, "I had seen some bird carving at several local shows, and I had always worked with my hands and had a talent with wood. So I became a bird-carver."

"Why birds? I was a duck hunter some years ago and I have always been a birdwatcher."

So in April of 1973, Bob purchased some woodcarving tools, experimented with some woods, and began making birds. The first few were a little rough but they got better and better.

A year later, in April 1974, Bob decided to enter some of his better pieces in a World Championship Waterfowl Carving Competition in the Ward Foundation Show at Salisbury, Maryland. Because it was his first major show, he was entered as a novice.

His sandpiper took a blue ribbon, first prize, shore birds.

A pair of quail, first prize, game birds. A pigeon hawk, best in the division—novice birds of prey. A Carolina wren, third prize; a blue jay, second prize, songbirds. A cardinal took third prize, and was the only cardinal in the show (all classes) to merit a ribbon. The american kestrel, second prize . . .

Bob Walters had 14 entries and received 10 ribbons. Not bad for a novice.

On this day, Bob was working on an order for 12 sandpipers ordered at a local show and the delivery date was close at hand.

I asked some "how to" questions and he explained that he uses white pine and glues two or three pieces together to get the proper thickness, then trims with a high speed drill with a flexible shaft that utilizes a variety of cutting tools. But most of the carving is done with a special carving knife which he demonstrated.

For bird models he uses color slides provided by a neighbor, an Audubon member, who specializes in bird photography. And for coloring, he uses water colors which he felt most closely matched actual bird colorings.

He mounts most of his birds on pieces of driftwood and to me all the finished pieces looked like blue ribbon winners.

Bob said he "had some talent with wood" but more than that he's an artist who creates three-dimensional portraits in wood. □



Pair of Quail





***(Tagged deer). The success of the project depends upon individuals who report tag recoveries. By reporting tagged deer, you add to our knowledge of New Jersey's big game resource.***

# Capture and Tagging of New Jersey Whitetails

BY DAVID BURKE

Assistant Leader — Deer Project  
Bureau of Wildlife Management

Illustrated by KATHLEEN PAPE

At the turn of the century there were a few white-tailed deer in the remote areas of South Jersey's Pine Barrens and in private enclosures scattered throughout the state. With the introduction of strong laws, improved law enforcement and restocking programs, New Jersey's minimum fall deer population now numbers over 75,000 head.

To help insure the continued health and productivity of our deer herd, the Division of Fish, Game and Shellfisheries is engaged in a wide range of deer research activities. One of many current projects involves the capture and tagging of wild deer.

Although the capture of a wild deer in a box trap or landing net may seem far fetched to even the most ardent outdoorsman, 1,347 of New Jersey's whitetails have been captured, tagged and released, utilizing these techniques, in the past six years. Since January of 1969, 837 deer have been captured using large box traps baited with apples or apple mash in wintering areas throughout the state. On the average, it has taken six trap nights to capture a new deer. While

it is almost impossible to capture a well-fed deer, this procedure has been especially successful whenever quality food has been in short supply or when deer have been restricted to wintering areas by snow, low temperatures or wind.

A less expensive tagging procedure involves the capture of fawns during May and June in the farming areas of Hunterdon County. Since newborn fawns instinctively lie motionless when approached, they are easily captured in large landing nets. After tagging the fawns are released at the same location. This brief period of handling does not harm the fawn and has no adverse affect on its chances for survival. Over the past six years, 510 newborn fawns have been tagged requiring an average of 3½ hours search time per capture.

The Division's Deer Research Project has collected a variety of valuable data from the capture programs, including information on the major causes of death, life span, size of home range, maximum distances traveled, importance of wintering areas and physical



condition during the critical winter period (January through April).

From January 1969 through June 1974 a total of 270 tag recoveries were received. Tag returns have shown that sixty percent of the reported deer deaths were due to legal hunting, with the balance attributed to poaching activities, malnutrition or unknown causes. Unfortunately, many tagged deer deaths go unreported or undetected, so the importance of non-hunting mortality could be much greater than our current tag returns indicate.

Another important aspect of the tag return data involves the distance between the recovery site and the tagging site. Although the maximum recovery distance was thirty miles for one yearling buck, almost 65 percent of the tag recoveries were one mile or less from the initial capture site. Tag returns from one to five miles away made up twenty-five percent and the balance of returns were from greater than five miles.

Collection of deer condition information from box trapping during the winter months is also significant.

For example, fawns have been captured in February weighing as little as 19 pounds. Tag return information has shown that few fawns survive that weigh less than 35 pounds at time of capture.

Deer of the same age but from different areas, may vary considerably in weight and overall physical condition. The recapture of deer tagged as fawns in South Jersey's Pine Barrens has provided information on growth as it relates to habitat quality. Fawns which averaged 40 pounds when first captured, averaged only 63 pounds as yearlings (one year plus) and 75 pounds as adults (two years plus). Often blamed on "inbreeding" these small weight gains are really a reflection of the low quality diet upon which the "Pine Barren" deer must subsist.

The 70 deer that have been recaptured during one or more successive years verify that many return to the same area each winter. For example, two does, initially tagged in the West Plains of Burlington County during 1969, were recaptured several times in subsequent years, including 1974. These animals aged 6½

***(Boxtrap release). Field trips have provided the opportunity for interested individuals to witness the winter box-trapping operation. Project personnel stress that all deer are tagged and released at the capture site.***





**TOTAL NUMBER OF DEER CAPTURED, TAGGED AND  
RELEASED BY COUNTY AND YEAR (1969 - 1974).**

County	1969	1970	1971	1972	1973	1974	Total
Atlantic	—	20	12	—	25	3	60
Burlington	87	61	70	21	28	24	291
Cape May	—	—	—	—	12	—	12
Cumberland	—	—	—	—	24	5	29
Hunterdon	36	79	101	105	85	114	520
Morris	1	1	14	—	—	—	16
Ocean	20	82	59	13	9	6	189
Sussex	—	—	—	—	—	17	17
Warren	37	35	99	22	20	—	213
Total	181	278	355	161	203	169	1347

**SUMMARY OF TAG RETURNS BY YEAR TAGGED  
AND YEAR RECOVERED (1969 - JUNE 1974)**

Tag Recovery Year	1969	1970	Year Tagged				1974	Total
	1969	1970	1971	1972	1973	1974		
1969	21	—	—	—	—	—	—	21
1970	14	26	—	—	—	—	—	40
1971	2	29	38	—	—	—	—	69
1972	1	8	31	20	—	—	—	60
1973	3	7	10	33	21	—	—	74
1974	0	1	0	1	4	1	—	7
Total	41	71	79	54	25	1	—	271
Total Tagged/ year	181	278	355	161	203	169	—	1347
Percent Return	22.7	25.5	22.3	33.5	12.3	0.5	—	20.1

**SUMMARY OF DEER TAG RECOVERIES BY MORTALITY  
FACTOR FOR NORTH JERSEY AND SOUTH JERSEY  
(1969 - JUNE 1974)**

	CAUSE OF MORTALITY								Total
	Firearm Buck	Legal Harvest (Season)* Special Permit	Bow & Arrow	Illegal & Accidental	Car	Malnu- trition	Other	Unknown	
North Jersey									
Total	66	34	17	19	24	13	1	15	189
Percent	34.9	18.0	9.0	10.1	12.7	6.9	0.5	7.9	100%
South Jersey									
Total	41	0	4	11	9	5	3	9	82
Percent	50.0	0.0	4.9	13.4	11.0	6.1	3.6	11.0	100%
Statewide									
Total	107	34	21	20	33	18	4	24	271
Percent	39.6	12.6	7.7	11.1	12.2	6.6	1.4	8.8	100%

\*(162 or 59.9 percent of total was by legal means).



**(Fawn capture). 510 new born fawns have been tagged during May and June since 1969. The procedure does not harm the deer or affect its chances of survival.**

years and 7½ years in February 1974, returned to the same cedar swamps each winter.

In the future, more deer will be tagged and more information will be compiled adding to our knowledge of the white-tailed deer in New Jersey. The need for public cooperation cannot be over-emphasized, as the success of this research project depends upon individuals who recover marked deer. If you recover a tagged deer, please send the tag number, date recovered, location (local area, township and county) and lower jaw along with your name, address and telephone number to: The Division of Fish, Game, and Shellfisheries, P.O. Box 1809, Trenton, NJ 08625. By reporting tag recoveries you supply important information necessary to the management of New Jersey's big game resource. □



# You Too Can Build Your Own Firestick

BY BOB McDOWELL

Photos by Harry Grosch



*The top rifle is restored; the center rifle is original; and the bottom rifle is a brand new rifle built by Lou Cherepy*

It all started back in the 1920's in Colorado. Lou Cherepy was a boy. He and another youngster found a decaying relic of a rifle buried in the sand. This was the beginning of a lifelong interest in firearms and their history.

Lou's interest grew into a collection of antique firearms and the accessories that were needed to make them function. It was natural that from collecting he progressed to restoring old guns and finally, to build-

ing his own rifles.

Lou Cherepy lives in Franklin, New Jersey in Sussex County, where he took me down in his basement workshop to explain the time-consuming steps necessary in building a flintlock rifle. His workshop is also an informal museum of indian relics and old gun parts hanging from the rafters and stashed on shelves. He showed me how barrels are rifled on a machine of his own manufacture, copied after the equipment





*Lou Cherepy applying pattern to wood for gunstocks*



*Method used to cut rifling*

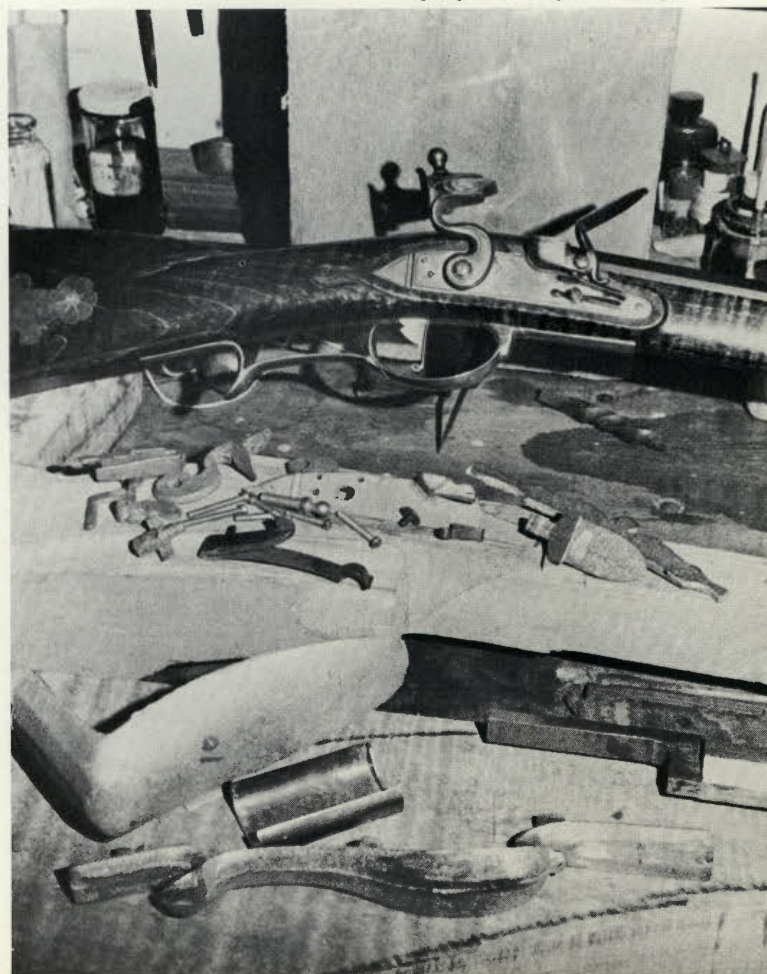
used in the 1700's to build the famous Kentucky Rifle. He demonstrated the laborious task of shaping and finishing the brass and steel parts of the rifle and he described the job of shaping, fitting, carving, and finishing the stock. The whole process of building the rifle takes several hundred hours.

After our trip to the workshop we took a rifle Lou had built for his son to the range. I was given the privilege of firing the weapon. The target was placed about 35 yards distant. I was instructed on how to load and fire.

This was an experience I will not soon forget. Upon squeezing the trigger there was a lot of clicking, hissing, and shooshing that finally ended in a bang and lots of smoke. Much to my surprise there was also a hole in the bullseye. Four shots later I had fired a two-inch group in spite of my constant flinching. In the hands of an expert this rifle is capable of much greater accuracy. And this is the reward of many hours of labor and tender loving care at the rifling bench.

It's comforting to know that there are dedicated people like Lou Cherepy in our state whose interests and hobbies are preserving skills, crafts, and history that were once a part of New Jersey's outdoors. □

*Rifle parts—before and after*







# Environmental News

## 'RIGHT -TO-SUE' BILL BECOMES LAW



WITH THIS PEN . . . Governor Brendan Byrne hands Commissioner David J. Bardin the pen with which he has just signed into law the "citizen right-to-sue" bill. Governor Byrne said the new law is "one of the most significant environmental protection measures enacted" during his first year of administration. State Senator Anne Martindell attended the December 9 ceremony at the State House in Trenton.

The measure known as the "Citizen Right-to-Sue" bill was signed into law by Governor Brendan Byrne on December 9, 1974. The new law (Chapter 169, PL 1974), titled the "Environmental Rights Act," grants New Jerseyans, including the Public Advocate, the right to bring suit against polluters.

In brief, the provisions of the new law:

- It permits any "person" (individual, corporation, company, firm, association, society, partnership and joint stock company, the state or any agency

of the state, and any political subdivision of the state or any of its agencies) to bring a legal action to either enjoin any actual pollution in violation of state and/or local environmental laws or to sue to prevent pollution not covered by law.

- Any "person" seeking to bring suit will be required to give at least 30 days written notice prior to such action to the state Attorney General, DEP, the intended defendant, and the municipality in which the alleged conduct has, or is likely to occur. However, if the plaintiff can show that immediate and irreparable damage would probably result, the court may waive the notice requirement.

- The court may require reasonable security of up to \$10,000 or up to \$500 in cash from the plaintiff.

- The court may award the prevailing party in a case—be it plaintiff or defendant—up to \$2,500 in court costs.

- The court may dismiss, on its own or on the motion of any party, any action which appears frivolous, harassing or wholly lacking in merit.

Commissioner Bardin praised the law as "responsive to the desire of New Jersey citizens to participate in advancing environmental protection. He pointed out that the new Department of the Public Advocate is a citizen under the law (Ch. 169) and will, therefore, be able to provide at state expense the leadership, service and competency needed to represent citizens with legitimate public interest concerns.

The federal government allows citizen suits against polluters as do eight other states (Connecticut, Florida, Indiana, Massachusetts, Michigan, Minnesota, Rhode Island and South Dakota). □

### Major revision of 1971 rules

## NEW WATER QUALITY STANDARDS SET

New upgraded quality standards which establish basic policy for protection and improvement of the quality of New Jersey's waterways went into effect this past December 2. The new standards represent the first major revision of the regulations by DEP in three years.

Some of the standards included are stringent criteria for ocean bathing waters and regulations for thermal discharge mixing areas in the state's waterways; specific criteria for toxic substances and heavy metals; and minimum oxygen levels.

*'We value these waters . . .'*

— Commissioner David J. Bardin

Commenting on the standards, Commissioner Bardin said they will serve as a basis for the development of water quality management plans throughout the state. In addition, Bardin said, they will have a direct bearing on DEP's enforcement activities, pollution monitoring, issuance of wastewater discharge permits and the design and approval of wastewater treatment facilities.

"These standards are important in assuring that there will be a return in the form of clean waters through the investment of the vast sums of money being spent for wastewater treatment plant construction in New Jersey."

Utilities and industries that discharge large volumes of heated waters into the state's rivers, he said, "are recognized as having special pollution problems. The question of thermal pollution and allowable thermal discharge mixing zones is given serious attention: the regulations call for evaluating mixing zones on a case-by-case basis. We believe the more flexible standards, which affect electrical utilities more than most industries, can be fairly administered and still allow them to live with a principal environmental concern—protecting aquatic life."

The bacteriological standards for surf bathing waters along the seashore areas

(continued to page 16C)

### TWO MORE ENVIRONMENTAL LAWS ENACTED DECEMBER 9

**Chapter 167, PL 1974**, provides an exemption from property taxes for facilities used for public recreation and conservation by organizations already exempt from federal taxes.

**Chapter 166, PL 1974**, appropriates \$7,974,635 from the 1971 Green Acres bond issue money for land acquisition. This appropriation closes out the account. The money from this final appropriation has been allocated to the following projects: Liberty State Park, Berkshire Valley Wildlife Management Area, Turkey Swamp Park, Appalachian Trail System, and the Wild and Scenic River System.



## DESIGN CONTRACT LET FOR LIBERTY PARK



**LIBERTY STATE PARK SITE.** Design work has begun for site development of New Jersey's first urban state park. Liberty State Park, along the Jersey City waterfront, will be readily accessible by public transportation.

The State of New Jersey and the Port Authority of New York and New Jersey have entered into a \$750,000 agreement for the Port Authority to perform engineering services for site development of Liberty State Park in Jersey City.

The design will include the bulkheading, demolition, and fill of approximately 500 acres along the Jersey City waterfront, directly adjacent to Ellis Island and the Statue of Liberty. On-site surveys and test borings have already begun.

The engineering services will include cost estimates for various phases of

construction. The Port Authority's services are expected to be completed by September 1975.

The agreement was signed on December 5 by DEP Commissioner David J. Bardin, A. Gerdes Kuhbach, Executive Director of the Port Authority and S. Leonard DiDonato, Director, Division of Building and Construction, Department of the Treasury.

The project will be funded under the State Park development portion of the 1974 Green Acres program. □

### ENVIRONMENTAL OVERVIEW

The key word in New Jersey's environmental philosophy is "balance"—balance between environmental concerns and those of the economy. The citizen's "right" to work goes hand in hand with the "right" to breathe clean air and drink clean water: these "rights" are complementary, not competitive.

DEP's programs in the coming year will continue to encourage environmental protection along with expanded economic opportunities. The sewerage plant construction program administered by DEP and the new Green Acres development program will stimulate hundreds of thousands of jobs in the short and long term and add millions of dollars to the economy while providing a clean water supply and needed outdoor recreation areas.

The initial processes have begun in the project to build the first urban state park—Liberty Park in Hudson County. The park is but one phase of a broad-scale effort to improve the quality of life for dwellers in urban areas. A comprehensive rehabilitation of the waterfront area is in the planning stage with several municipalities and other governmental agencies coordinating efforts for the park, and related housing, industrial, and commercial improvements. Again, "balance" is maintained—environmental quality and

economic health. Land use is the hub of environmental concerns.

Through the Flood Plains regulations, protection of the lands which hold flood waters will be possible. Flood damage is often the result of over-utilization of these lands (i.e. paved parking lots) which prevents the lands from performing their natural function.

The newly signed "Environmental Rights Act" grants citizens, including the State's Public Advocate, the right to bring suit against polluters. The law, which discourages "frivolous" actions, is fair to both plaintiff and defendant.

New Jersey is small, highly industrialized and highly populous. For these reasons environmental decisions must be made with the future in view. Environmental impact of projects such as Tocks Island or off-shore drilling refers not only to the immediate natural areas, but takes in land use—the secondary effects such as building up of the area, solid waste disposal, sewerage systems, air pollution control, water supply, transportation—a host of problems. DEP will continue to move carefully. Not to do so would endanger both the environment and the economy (i.e. Oil on New Jersey beaches could seriously harm the shore area's resort industry).

*"Balance," is the goal.*

### Federal matching program

## DEP OK's TWENTY OUTDOOR PROJECTS

Twenty outdoor recreation projects with a total construction value of more than four million dollars received preliminary approval from DEP in November/December. These are the first state approvals under New Jersey's current annual allocation of \$5.4 million from the Bureau of Outdoor Recreation (BOR), U.S. Department of the Interior.

Each project must receive final approval from the federal agency which then awards grants for 50 percent of the total cost from its Land and Water Conservation Fund Program: The municipality contributes the matching 50 percent of the cost. The federal program is administered in New Jersey by DEP. Commissioner David J. Bardin is state liaison officer to BOR.

The outdoor projects will serve all age groups by providing a variety of recreational opportunities including shuffleboard, bocce, hiking and biking trails, nature study areas, play areas for preschoolers and young children, and ballfields for those interested in vigorous group sports.

The Department of Labor and Industry estimates between 400 and 600 job opportunities in the construction phase.

Eighteen municipalities and two county projects received state approval. The municipalities involved are Atlantic City (Atlantic County), Bayonne (Hudson County), Brick Township (Ocean County), Cinnaminson Township (Burlington County), Fair Haven Borough (Monmouth County), Fair Lawn Borough (Bergen County), Franklin Township (Somerset County), Holmdel Township (Monmouth County), Maplewood Township (Essex County), Middleton Township (Monmouth County), Newark (Essex County), Princeton Township (Mercer County), Roselle Borough (Union County), Spring Lake Heights Borough (Monmouth County), Vineland (Cumberland County), West New York (Hudson County), Winslow Township (Camden County), Woodbridge (Middlesex County); also the counties of Cape May and Ocean.

To qualify for matching fund assistance from the federal bureau's Land and Water Conservation Fund Program, each development project must be in accord with the State Comprehensive Outdoor Recreation Plan—that is, it must meet high priority public recreation needs. The local participant must agree to dedicate the project permanently to public outdoor recreation use, and must assume responsibility for continuing operations and maintenance. The facilities must be kept open to the general public in accordance with federal guidance. □





#### DIRECTOR OF ADMINISTRATION

**Sidney Ytkin**, 49, of Trenton, became DEP's director of administration on January 1. Ytkin's responsibilities include overall supervision of the budget, fiscal, personnel, capital construction, and data processing functions of DEP. He will also assist the commissioner in evaluating the effectiveness of various departmental programs and recommending needed changes. Ytkin, a career employee with 16 years of state service, began in DEP's predecessor, the Department of Conservation and Economic Development. Just prior to joining DEP Ytkin was with the Department of Institution and Agencies as administrator of fiscal and management operations for the Division of Youth and Family Services. Ytkin was graduated from Rider College in 1950 with a bachelor of science degree in commerce/accounting. □

#### Commission reports

### 'BICEN' PLANS TAKING SHAPE

Two publicly owned bicentennial-related historic sites—Washington Crossing State Park and Batsto Village—and one new state park, Liberty Park, have been given top priority in the developing state plan for celebration of the nation's bicentennial.

In the state Bicentennial Commission's report to the governor, Richard W. DeKorte, chairman, said the commission has set aside \$50,000 for each of the three projects (total: \$150,000) to assist each project as the plans progress and cost estimates are developed.

DEP has developed master plans for

(continued on page 16-D)

#### Last county to be mapped

### CUMBERLAND COUNTY WETLANDS HEARING

A milestone in the state's wetlands program was reached on November 15 when proposed regulations for Cumberland County's 56,000 acres of wetlands were brought to public hearing in Bridgeton. Cumberland is the last county in the state with large tracts of wetlands to be mapped by DEP and it has the largest wetlands acreage in the state.

Over the past three years, 14 hearings have been held in 10 counties besides Cumberland—Salem, Ocean, Monmouth, Middlesex, Atlantic, Cape May, Gloucester, Burlington, Mercer and Camden. Involved in these hearings was a total of approximately 246,000 acres of mapped and classified wetlands. All of these areas are now under wetlands orders.

The regulations ban completely the dumping of garbage, trash or rubbish, discharging of treated or untreated sewage or industrial wastes and the application of persistent pesticides. Normal recreational activities such as boating, swimming, and shellfishing are exempted, as well as lands currently used in agriculture. Permits are required from DEP for certain other projects. □

#### To protect drinking water

### LANDFILLS TO INSTALL MONITORING WELLS

The department has ordered operators of 11 of New Jersey's largest landfill disposal areas to install monitoring wells as a means of safeguarding ground waters from potential pollution conditions.

Commissioner David J. Bardin pointed out that under the new regulations, landfills are not permitted to add contaminants to the ground water which would be a violation of potable water standards. "Our action requiring the cooperation of these major landfills," he said, "is another effort by the department to protect valuable water supplies against potential pollution from landfill leaching. The wells will provide a readily available check on the conditions of landfills and whether they are stabilized or are affecting the ground waters beneath them."

Bernhardt Lind, chief of the solid waste bureau, said written notices were sent to 11 landfill operations in the following counties: Camden, Gloucester, Middlesex, Monmouth, Morris and Ocean. Lind said that 17 landfills in the state have already installed monitoring wells either at the department's request or as a condition of registration approval.

#### Flood peaks:

### SPECIAL REPORT 39

The recent publication, Special Report 39, "Magnitude and Frequency of Floods in New Jersey with Effects of Urbanization," contains new information and procedures for predicting estimated flood peaks which will facilitate culvert and bridge waterway opening design; provide height of fill determination; assist in the delineation and management of flood plains and in design of dams, floodwalls and other flood control structures; and will aid in the estimation of flood risks for environmental impact studies, flood insurance programs, and planning activities, according to Dirk Hofman, chief of DEP's Bureau of Water Control.

The 46-page report was prepared by the U.S. Geological Survey at the request of DEP (which partially funded the project) for use in its flood plain management program.

The report is available free for official use by government representatives by written request to the U.S. Geological Survey, P.O. Box 1238, Trenton 08607. It is available to others at \$3 each copy from DEP's Bureau of Geology and Topography, P.O. Box 2809, Trenton 08625. □

#### NEW WATER QUALITY STANDARDS (continued from page 16A)

are more stringent than guidelines established by the federal Environmental Protection Agency (EPA). "We value these waters which are vital to recreation and tourism," said the commissioner, "and we have used our own baseline data collected over a period of years along the shore in setting the standards."

The new regulations set permissible levels of nutrients in lakes and ponds in an effort to retard eutrophication. The standards aim for strictly controlled levels of phosphorus to protect lakes from becoming clogged with algae and other nuisance plant life.

The new standards also describe which streams or other waterways are to be used for water supply, swimming, fishing, boating, agricultural needs and more. Fresh waters which meet certain aesthetic criteria are protected from any man-made wastewater discharges.

Requests for copies of the standards should be made to Ernest R. Segesser, assistant director, Division of Water Resources, P.O. Box 2809, Trenton 08625. A 24" x 42" state map showing waters subject to each classification may be purchased for 50 cents from the Bureau of Geology and Topography at the same address. □





### DEP STATE TRAIL BLAZER

The "New Jersey Trails System Act" was signed into law by Governor Brendan Byrne on November 14, 1974. The law, Chapter 159, P.L. 1974, directs DEP to establish a system of scenic and recreation trails both in the natural, remote sections of the state and in scenic areas in or near urban locations.

The law gives top priority to restoration of the Appalachian Trail located in the northwest section of the state. The trails act also provides for DEP's setting up connecting or side trails; designating, administering, regulating, and acquiring such trails and trail rights-of-way. Furthermore, Chapter 159 includes a penalty of up to \$500 or imprisonment for up to 60 days or both to any person violating any provision of the law or any rule or regulation promulgated under its terms.

No specific money amount was written into the law, but Chapter 159 permits the use of Green Acres funds for trail projects. □

### PARKWAY WINS ECOLOGY AWARD

The Garden State Parkway won second place honors in a national contest, sponsored by the federal Highway Administration, for its preservation of the environment in connection with its new 21-mile expansion (two-lane inner roadways north and south between the Raritan Toll Plaza and Asbury Park). There were 600 entries in the contest (a bikeway won first place).

John Gallagher, executive director of the toll road, said that thousands of trees and bushes had been spared by the contractors and thousands more transplanted while the new lanes were being built. The new roadways were opened the end of November 1974. □

### BIRDWATCHER HANDBOOK

A handbook for novice birdwatchers, small enough to fit in pocket or purse, is available from the federal Government Printing Office, Washington, D.C. and the Public Documents Distribution Center, 5801 Tabor Avenue, Philadelphia, Pa. Entitled, "Fifty Birds of Town and City," the book contains 50 four-color illustrations with a brief text on each bird shown. It sells for \$1.05 each in paperback, and \$4 each in hardcover. □

### LATEST POPULATION FIGURES SHOW NEW JERSEY IS GROWING

New Jersey experienced a 2.3 percent population growth rate during the past four years, according to figures released by the U.S. Census Bureau, Washington, D.C. The state's population at the time of the 1970 census was 7,168,000, according to the report: The latest population estimate, as of July 1, 1974, was 7,330,000. □

### BETTER SERVICE FOR BOATERS

There are now 56 places available to boaters for registration of their craft and for securing motorboat operator licenses. Effective December 1, 1974, the boating documents function was transferred from the DEP's Division of Marine Services to the state Division of Motor Vehicles (DMV)—boaters now can get the documents at any of the 55 motor vehicle agencies in the state, or by mailing in the forms to the DMV.

Even though DMV assumed the function of issuing registrations and licenses, both items will still be issued in the name of DEP and all funds received will accrue to the recreational boating fund to be used for the benefit of the boating public in New Jersey. □

### MARGATE'S GRANDE DAME TO BE REJUVENATED

There's a grand old Victorian lady down in Margate (Atlantic County) who is getting a new lease on "life" at the age of 92 (or 93!) thanks to the many people who fondly remember visiting her through the years. The lady, of course, is Lucy, the Margate Elephant, built in 1881-82 as a tourist attraction by real estate promoter James Lafferty.

Years and weathering took their toll and Lucy was condemned for demolition. A citizens "Save Lucy Committee" was formed and incorporated to raise funds and get Lucy on the state and national historic sites registers. Lucy is what is known as an "architectural folly" that is, an unusual whimsical building sometimes imitative of the bizarre or romantic. As such, the huge structure (65 feet high, 80 feet in body circumference, 38 feet long, and 90 tons in weight) met the requirements for inclusion on the registers.

DEP's Historic Sites section received notice in November that the federal government has granted \$46,515 to the state for restoring Lucy's metal "skin," making it completely waterproof, repainting, and making some carpentering repairs to the frame. The grant will be paid in three yearly installments. □

### FORESTRY PERSONNEL DOUBLING AS ACTORS

The Northeast Area Forest Fire Supervisors organization is producing a training film on the use of water on forest fires in New Jersey. DEP's Bureau of Forestry personnel are serving as "actors" in the film, which will receive nationwide distribution. The Northeast Area Forest Fire Supervisors organization is made up of representatives from 20 states extending from Minnesota in the northwest to Maine in the northeast; and from Missouri in the southwest to West Virginia in the southeast. □

### ATTENTION: SNOWMOBILERS

A listing of snowmobile trails on public lands; maps showing trails in the surveyed areas of High Point, Stokes and Ringwood State Parks; and rules and regulations for operating snowmobiles on public lands, are available from DEP's Bureau of Parks, Box 1420, Trenton 08625. (A reminder: Snowmobile owners must register their vehicles with the state Division of Motor Vehicles and carry liability insurance. Snowmobiles may be registered at any of the 55 motor vehicle agencies in the state.) □

'BICEN' PLANS TAKING SHAPE  
(continued from page 16C)

Washington Crossing Park and Batsto Village. At Washington Crossing Park plans include a visitors center, additional interpretive facilities (both exhibits and guides); also, additional sanitary facilities and parking areas. The historic site, located eight miles north of Trenton in Mercer County, is expected to be the prime New Jersey tourist attraction during the bicentennial period. Batsto Village in Wharton State Forest, Burlington County, is already being restored (workers' cottages): Additional restoration needs include reconstruction of the iron furnace, glass house and lime kiln, as well as an expanded visitors center and interpretive aids (guides, museum displays, etc.)

Liberty Park, a new 500-acre outdoor recreation area, will be built along two miles of Jersey City waterfront. The area, which is presently in a state of deterioration, will be developed by DEP into New Jersey's first urban park. (The Statue of Liberty and Liberty Island, which are part of New York State, are clearly visible from the New Jersey park site.)

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



# CO'S CORNER

by Conservation Officer Carlton Smith



## To paraphrase a popular old song . . . **WON'T YOU COME HOME, BILL NEVINS?**

That could be a musical question your wife might pose, CO Nevins, judging by the time you must have to spend away from the fireside in your role of Hunter Safety and Education Coordinator for New Jersey. I got that impression after reading a report of your monthly activities in what surely is a demanding and all-important post and wondered how you get time enough to get it all done. Of course, I realize that all the COs cooperate with you and your new partner, CO Bob Burns, by taking as much of the work load off your shoulders as possible. But, even with our help it's a big job to implement the Hunter Education Program. It would seem, Bill, that as a state coordinator you've got as many duties and responsibilities as when you were a field CO—the difference being, of course, the type of work rather than the volume. Surely no one can argue with the never-ending need for safety in the field. □

## **YOU CAN'T BE TOO CAREFUL!**

Safety First is a familiar old slogan but its importance is timeless and its practice never out of date. The constant observance of Safety—first, last and always—should be the hunter's main concern at all times. The Hunter Education Program conducted by the New Jersey Division of Fish, Game and Shellfisheries stresses the vital need for every hunter to practice extreme care in following every safety rule whether he hunts with gun or bow. Unfortunately, when he fails to do so, accidents occur. Some are minor, others more serious, and still others tragic. Two tragedies happened recently in Sussex County where CO Hawkswell conducted an investigation of two hunting accidents resulting in fatalities. The cause—careless and negligent use of a bow and arrow in one case and a shotgun in the other. As CO Hawkswell wisely expressed it . . . the only way to keep hunting safe is to hunt safely! Amen to that, Brother Hawkswell. □

## **A BLESSING IN DISGUISE!**

That is probably the most appropriate description of a recent incident reported by CO Arthur Wendelken. It seems Officer Wendelken had apprehended a hunter for a violation. In the process of checking the hunter's shells and shotgun, the officer noticed that the end of the shotgun barrel was obstructed with mud. Actually, the gun barrel was plugged solid with frozen mud that had apparently lodged there earlier when, as the hunter recalled, he had stumbled striking the ground with his gun barrel. Despite receiving a citation from CO Wendelken, the hunter, realizing the grave consequences possible if he had fired his gun, was sincerely thankful for the officer's alertness in preventing a serious—even fatal—mishap.

There was an explosive situation that was "defused" by a CO doing his duty—a real blessing in disguise which that certain hunter will never forget. □

## **DEER JACKERS BEWARE!**

COs are again proving their conscientiousness and dedication by literally working night and day on deer violations. As a result many arrests have been (and continue to be) made with substantial fines and penalties imposed. Space doesn't permit listing all of these apprehensions, but here are a few:

■ CO Huljack and Deputy COs Griffith and Hymer apprehended five deer jackers who paid \$1,250.00 in penalties. COs Jess and Beebe, while on stakeout for illegal deer hunters using a machine gun, apprehended three men attempting to rustle a steer.

■ COs Gallo and Perrone arrested two jackers skinning two illegally shot deer.

■ DCO Russack teamed up with COs Beebe and Hedden and apprehended three deer violators who were also under the influence of alcohol. Each was released on \$500. bail after spending the night in jail.

■ ADCO Amory working with COs Torluccio and Young and Deputy COs Balfrey and Thompson made several apprehensions of deer jackers in possession of stolen guns.

■ And in the spirit of cooperation that exists between our COs and officers in neighboring states, ADCO Bill Jeschke assisted Pennsylvania Game Protectors in investigations and apprehensions of several New Jersey residents illegally killing deer in Pennsylvania.

Needless to say, these and all the many other arrests made by our COs and Deputy COs are a source of gratification and pride to Chief Conservation Officer O'Dowd and Division Director Cookingham. We're sure that these same sentiments are shared by New Jersey's thousands and thousands of true sportsmen. □



Recreation in '74

# WHAT DID YOU

DAVID A. O'NEILL



***A couple of Huckleberry Finn characters, John Romano, 15, and Paul Clark, 15, from Gloucester Township made some spending money last summer trapping snapping turtles in the northern branch of Timber Creek in Camden County. When asked how they disposed of some of the "monsters", which weighed as much as 40 pounds, they replied that they sold them to local restaurants and housewives. Can you visualize a housewife preparing turtle soup from a 40-pound snapper? In the picture above Paul Clark demonstrates how to bulldog a snapper.***

***A relaxed Pete Trinkwalder waiting for a bite.***

DAVID A. O'NEILL



***Paul Williams proudly displays a 13-pound, 9-ounce brown trout from Lake Hopatcong.***





# DO LAST YEAR IN N. J. ?

HARRY GROSCH



*Julian hauls up his line and Len nets the crab.*



*Our youngest crabber, Rhett Todd, demonstrates how to grasp a crab without getting nipped.*

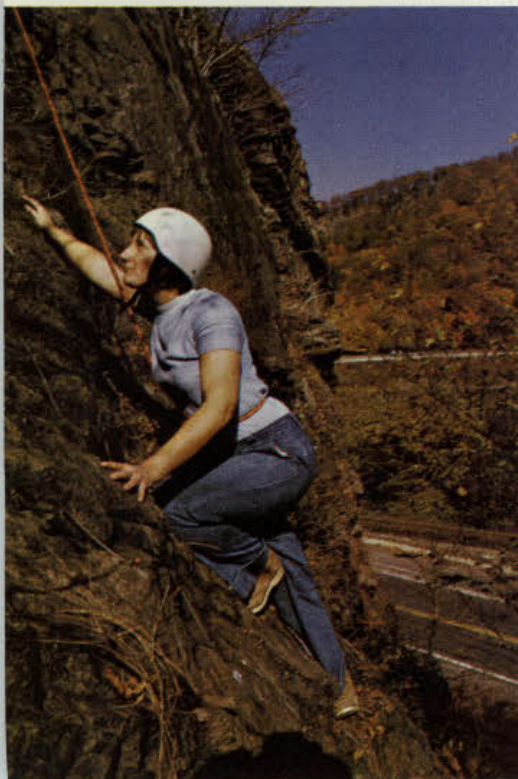


*Joe gets one too.*

HARRY GROSCH

***A crabbing outing in Great Bay produced a couple of bushels of crabs, a group of happy young crabbers, and a couple of cases of sunburn.***

HARRY GROSCH



*Rock climbing in northern New Jersey at the Delaware Water Gap.*

*Julian Maressa, Len Westman, and Joseph Maressa display their crab catch.*







English Setter — Hillsdale Sniffer

Photos Supplied by Author

# Bird Dogs Are Beautiful...

*(But Are You Sure You Want to Train Your Own?)*

**BY LEN RUGGIERO**

Dogs are *individuals*. No two are the same any more than is the case with people. Those of you who have tried to train a bird dog via the written word have probably found this out the hard way. There are some wonderful books on training, but even the most gifted trainer-author can't put all the subtleties of training into words. This is why the importance of experience cannot be overemphasized.

My past experience has lead me to the somewhat hard-to-swallow conclusion that professional training is often very desirable and sometimes downright necessary. I realize these are harsh words for many people who understandably want to do it themselves. I'm not trying to dampen your enthusiasm for the task at hand. In fact, you can do it if you want to badly enough, if you aren't a complete neophyte, and



if you can meet the prerequisites.

To illustrate how well-trained dogs increase the pleasure of the hunt, let me tell about a recent pleasant hunting experience. New Jersey's fine upland game shooting set the stage for my invitation to hunt on a small but productive private hunting club. The farmland habitat, which supports an abundance of quail and pheasant, looked inviting. I invited Guy Buonocore and Assistant District Conservation Officer Matt Ferrigno, both long-time friends and deer hunting companions, because I was anxious to show off my brace of German short-haired pointers to these two doubters.

The frost crunched beneath our feet as I signaled my bird dogs, Dawn and Tommy, to break away and begin to hunt. Not much later, as Matt was teasing Guy about his marksmanship I blurted out "*point.*"

Almost in shock, Guy and Matt looked up as if to say, "oh really?" "Where?"

I don't think they really expected to see much of a bird dog performance. Tommy, with his shiny liver-colored head, stood ahead with a calender perfect point. With a high tail and head, and front paw frozen in the air he was staring fixedly into an expanse of

wheat stubble. Tommy's point was stylish indeed, and the scene was enhanced by the steadfast "back" which his brace mate had established. As we approached the dogs, I heard Guy's safety click off.

"Go ahead Guy, you take him," Matt said in his typical gentlemanly way.

I suggested both shooters get ready because we might be approaching a covey of quail instead of the expected pheasant. Matt stood to the right of the intensely quivering dogs as Guy went into flush whatever it was. With the same startling quality of a cement block thrown into a quiet pre-dawn pond, quail exploded out of the brush in all directions. Guy's first shot wouldn't have hit the side of a barn, but he demonstrated that our teasing was unfounded as he neatly dropped a double with his next two shots. Matt was busy enjoying the scene and teasing Guy but he still managed to casually drop a late flusher. Guy was about to gather up his quail, as most bird-dogless hunters must, when I asked him to hold on.

"Teach you and teach you and you never learn nothin'," I said jokingly. "Can't you see the class standing all around you?"

Accepting the usual back-busting, Guy looked



English Pointer — *Windscent Jake*



German Short Haired Pointer — *Happy Ridge Nyk-Dee*



around to see Tommy and Dawn still standing where they established their "point" and "back". Marking the spots where quail had fallen, the dogs were anxiously awaiting the command to retrieve. With three birds down I sent both dogs on to "fetch" and two quail were promptly delivered to my outstretched hand. I sent Tommy back out and after a brief search Matt's quail was added to the bag. It wasn't a bad way to start a hunt and Guy and Matt were experiencing that ancient bird dog induced malady—"backbone-a-tingle." The dogs didn't hang around for their well deserved round of praise—there was more hunting to do. Matt and Guy were pleasantly surprised to see that these dogs were different from some so-called bird dogs. So far we had spent all our time hunting birds and no time hunting the dogs. Also, rather strangely, there had been no birds "bumped" by the dogs and caused to fly into the next county. And, oh yes, no dogs beneath our feet either.

Well, it's time to stop boasting and give some credit where it's most due. I was a freshman in college when I first met the man most responsible for my fine dogs. New Jersey is a small state with many big bonuses for the sportsman. Professional bird dog trainer Dick Farr of Colt's Neck is one of those bonuses. I set out to buy a puppy from Dick after I decided to own and train my own bird dog. I had no idea what was ahead. Dick sold me a good pup and gave assistance by allowing me to use his training facilities and ask him questions. The only thing I had going for me was a basic feel for dogs and a lot of enthusiasm. Providence had it that was all I needed, as the next thing I knew I was Dick's apprentice. Four years later I was a fledgling professional trainer. I say fledgling because experience is the secret to top quality training and I was just a beginner.

Post graduate study in wildlife biology was also in the cards for me so I took what Dick had taught me and went off to Virginia and then to Utah where I now follow pointers along the benches and up the draws of the Rocky Mountains. Training has become more arduous for a Jersey boy who's used to flat farmland. Between Virginia and Utah I worked professionally with Dick for about a year. My experiences with Dick and with dogs from the Atlantic coast to the mountain West have taught me a few things. I'll pass some of these things along for those of you who are aspiring bird dog people or already eyeball deep in getting a dog ready for the next upland season.

As I said earlier, dogs are *individuals*. And there

are three absolute requirements for successful bird dog training—*lots* of time, *lots* of birds, and *know-how*. Assuming you have enough know-how, then time and birds become critical. A potential swimmer can't learn to swim without water—so too it is with bird dogs and birds. Furthermore, any athlete needs a great deal of time to develop his potential. Shortcuts simply don't exist. The professional has know-how and kindred experience as well as lots of birds and lots of time. So go slow because some training mistakes are very costly in terms of progress and others can cost you a good bird dog. These facts aren't intended to discourage the would-be trainer, but they are things you'll have to know.

What these facts do mean is you should look before you leap. Be honest with yourself and your potential hunting companion. If you can meet the requirements, then get started. If you can't, it just doesn't make sense economically or logically to take the chance. A good bird dog is an object of total pride and joy for many years. Good dogs are produced by good trainers who have good stock to start with. Once again, if you can meet the requirements then by all means you can do it. Most people meet some but not all of these dictates.

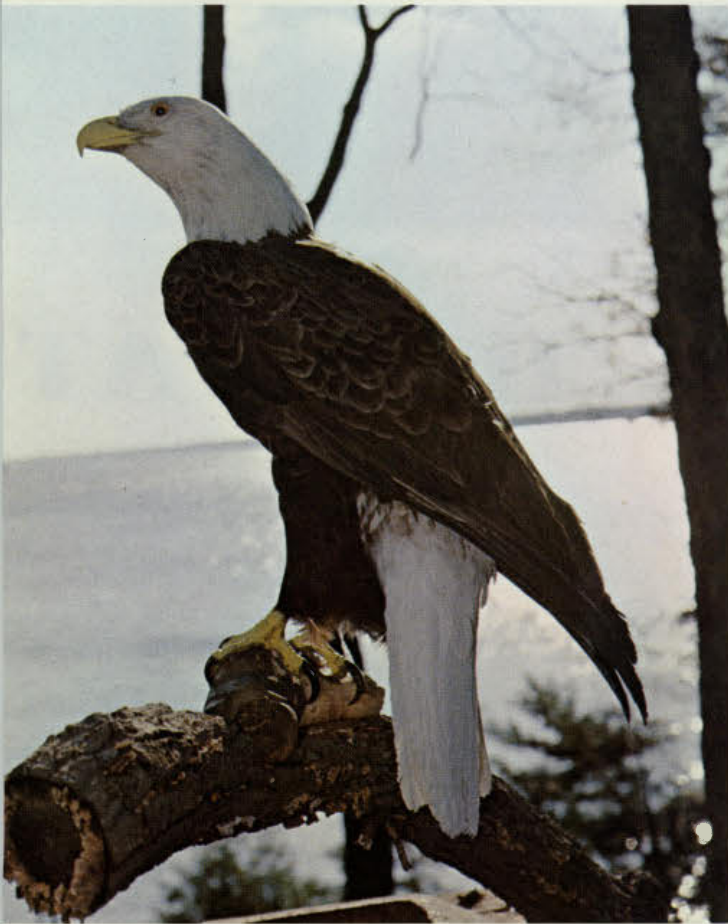
For example, very few non-professional trainers have a constantly available supply of birds—all kinds for any situation. Working your dog on wild birds is good, in fact it's necessary, but there are times when you need a lot of birds in the hand, not in the bush. In my present situation, even with time and know-how, I'm not training simply because I don't have the birds. Other people might have birds and know-how but not enough time. In this context, hunting time and training time aren't quite the same. For example, after a person has spent three hours walking what seems like 100 miles in quest of a pheasant he is probably not thinking about what his dog is doing while that cackling rascal is flying away. In this situation, training will have to be dealt with at another time. This kind of thing happens a great deal; that is, if the untrained dog doesn't flush the birds before you get there! I'm saying that hunting and training don't always go together.

In summary, bird dogs aren't plentiful and they don't come easy. The pro exists because of this reality and he is the best bet for quality training. However, many sportsmen have trained their own bird dogs so it's certainly possible. Consider how refined a dog you want and how you stack up as a trainer. Regardless of how you reach the end point, there is no experience afield quite like the thrill of hunting over a class bird dog. □



# Bald Eagle Status in Doubt

By Paul D. McLain



*In the future our only view of eagles may be stuffed bird pictured above.*

The southern bald eagle, the nation's symbol, appears to be passing out of existence in the United States. It has been placed on the Federal Endangered Species list and been afforded the strictest protection ever given a species of wildlife. To be caught with as much as a single eagle feather could result in a \$5,000 fine and a year in jail.

Yet in spite of the strict protection, the eagle may not respond. The eagle is a specialist that requires big woodlands, tall dead trees, fertile and clean estuaries in which to fish, and plenty of room to live. It may not be possible to provide these basic requirements in time to keep the eagle from following the great auk, Labrador duck, heath hen, and passenger pigeon into extinction.

It would seem that the cards are stacked against the majestic eagle. This bird requires specialized

ized nesting areas where big dead trees are located away from human disturbances. Modern forest management is directed at removing the dead trees to make room for the marketable young. Some biologists suspect that when an eagle loses its nesting site, it may simply fail to search for a new one.

Eagles nest in the early spring in a large stick nest atop the highest tree in an area. They lay two or three eggs which are incubated by both adults for 34 to 35 days. The young eagles require about 11 weeks of daily feeding until they develop to the extent when they can start to fend for themselves. Even after the young begin to fly and search for food, they are dependent on the adult for several more weeks.

Along the coastline the eagle is primarily a fish eater. What he can't catch himself he will steal from other birds like the osprey. The great amount of food required to sustain the eagle is also contributing to the bird's demise. The pesticides like DDT and Dieldrin which may be picked up and stored in the fatty tissue kill the embryos in the eggs. The DDE, the more stable breakdown product of DDT, causes the liver to produce enzymes, primarily estrogen, which causes abnormal calcium metabolism whereby the birds cannot produce an egg shell thick enough to withstand incubation.

It would seem that our national symbol is following our wilderness out of existence. In parts of Maine, the Chesapeake Bay, and in Florida and along the shores of the Great Lakes, there have been losses of eagle populations ranging from 50 to 90 percent. Here in New Jersey there was only one eagle nest last summer which was known to have hatched young birds.

What can be done? The use of persistent pesticides has been greatly reduced, but some are still being used. Poisons of other types are still reaching our estuaries, and constant surveillance will be necessary. The protection of nesting trees and acquisition of nesting sites is essential, and then protecting these areas from human interference is a must. There is also a need for better public understanding of the value of all the raptors, and also stricter enforcement of existing laws. Whether the bald eagle can be saved is still very much in doubt. The damage may have been done and populations may be too low to allow for a significant recovery in spite of the present concentrated effort.

If nothing else, we may learn from the noble eagle that because of habitat deterioration, over-crowding, and public indifference, a major species of wildlife can disappear in a man's lifetime. □





Fig. 1.

# QUAIL HABITAT

by Steve Perrone

A unique research and development program now underway at the Greenwood Management Area will eventually provide 1,000 acres of ideal quail habitat for the New Jersey hunter. According to biologist Rodgers Todd and Charles Menzer, wildlife management foreman at Greenwood, 1000 acres of woodland are being developed for quail management of which over 200 acres are presently cleared.

The clearing and development of the area is being completed in five-acre lots. The entire 1,000 acres have

been plotted and divided into 400 x 500 foot areas (Figure 1); then each area selected is cleared by a variety of land management techniques such as burning or mowing. Some of the techniques require bulldozing (Figure 2) to remove trees and tree stumps first; then each field is prepared for planting by discing and harrowing (Figure 3).

Menzer explained that each five-acre plot is divided by two 20-foot hedgerows which extend over the entire width of the plot (see Figure 1). The hedgerows are



Fig. 2.



Fig. 3.





photos by Harry Grosch

# AT GREENWOOD

designed to provide cover for the quail but can also be utilized by the hunter and his dog during hunting season to flush the quail.

A simplified map of the entire 1,000 acres would resemble a great checkerboard. The areas being presently developed are identified by the rows of hedgerows. The cleared areas between the hedgerows will be seeded in several varieties of permanent experimental grasses such as: Side Oats Gama, Weeping Love, Blackwell Switch, Paddock Green Pasture

and others. The plantings are maintained by mowing and fertilizing to maintain a lush growth in early spring (see Figure 4).

During the upland game season these areas are stocked with quail. Then licensed hunters on foot (no auto traffic is permitted) with their dogs can hunt the area.

The program is managed by the Division of Fish, Game, and Shellfisheries and funded jointly with the Federal Government under Federal Aid 51-D and 52-R. □

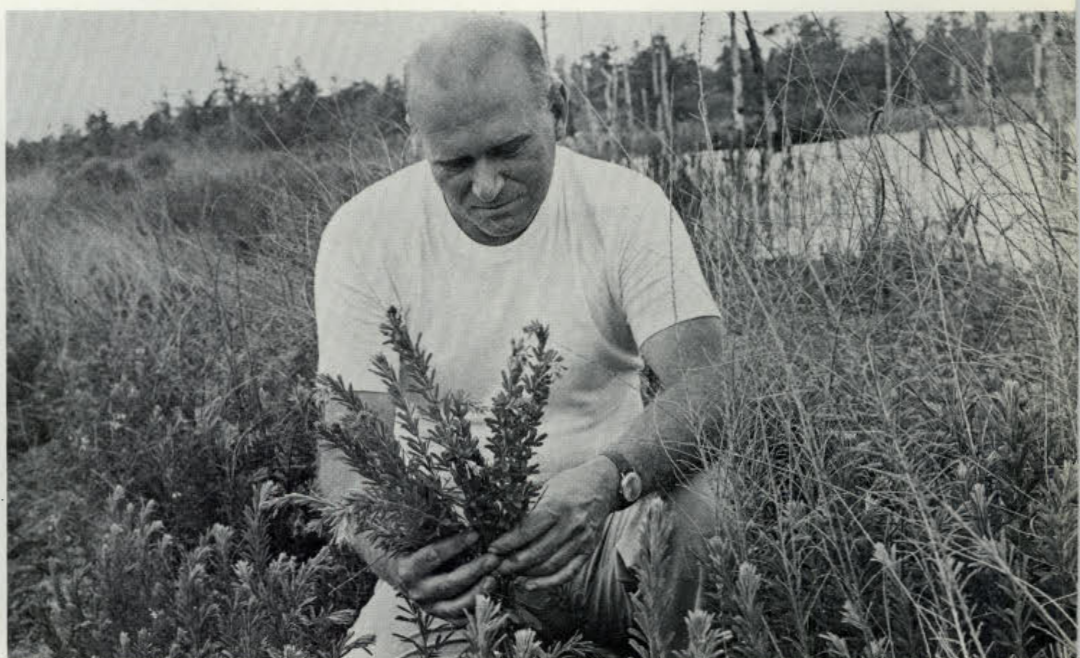


Fig. 4.





# The Great Swamp Deer Hunt

Text by Bob McDowell  
Photos by Harry Grosch

At 11 A.M. on December 10th 1974 Wildlife Conservation history was made at the Great Swamp National Wildlife Refuge. The long delayed deer hunt began with a few faint shots heard in the distance by the observers, objectors and wildlife personnel from the state and federal wildlife agencies.

The final appeal in a four-year legal battle between animal protection organizations and wildlife management agencies was heard at 9:30 a.m. on December 10th. The three-judge panel in Philadelphia's 3rd District Court of Appeals decided the hunt should proceed.

The hunt was conducted for six days and a total of 127 deer were harvested. This will lessen the threat of disease and malnutrition that was decimating the refuge herd. It will also lessen the threat of the refuge deer population becoming a disease-spreading seed that might spread to the healthy deer populations surrounding the Morris County Great Swamp Refuge.

This successful hunt was highlighted by the safety and sportsmanship displayed by the hunters.

The dire predictions made by some opposed to the hunt never materialized. The safety of neighbors of the refuge and school children was not threatened. Predictions of hunters only killing trophy animals did not come true. Hunters harvested a complete cross-section of the population taking animals of both sexes and all ages. This was as it should be to properly manage the population. Finally, the gloomy forecasts of large numbers of wounded deer also did not happen.

The Division of Fish, Game, and Shellfisheries views the hunt as the first step in bringing this deer herd up to the standard set by the well-managed herd present in North Jersey.



Rubbing elbows at the Great Swamp Hunt, Tink Nathan of National Rifle Association and Gisela Karlan, Humane Society.



CO Harold Chitwood inspects hunter Tony Mick's load as observer stands by.





**George Howard, Assistant Chief of the division's Bureau of Wildlife Management inspects a deer shot near the boundary of the Great Swamp National Wildlife Refuge during the hunt. The growths are paplomas and are caused by a virus transmitted from deer to deer. The incidence of disease is higher in deer ranges with over-populations of deer.**



**Maurice Mills, National Fish and Wildlife Service Biologist, getting exact location where deer was bagged.**



**Bob Lund, Wildlife Biologist, Division of Fish, Game and Shellfisheries, weighs deer taken during first hour of Great Swamp hunt.**



**New York City Network TV interviews Ben Gage, Great Swamp Refuge Manager.**



**TV news crew interviews hunter in field.**



# ENVIRONMENTAL IMPERATIVES — CAN

By Edward J. Ambry, Director The New Jersey State Council  
for Environmental Education Montclair State College

## THE NEED FOR ENVIRONMENTAL EDUCATION

*In the coming years, concern for the environment will persist as a dominant social issue. But the problem is no longer definable in the traditional terms of Conservation or Natural Resources: It is now the quality of man's life . . . the livability of the environment, particularly the urban environment.*

Much environmental legislation has been enacted in recent years. Departments and agencies have been restructured. Appropriations for environmental protection have passed the congress and state houses. Unfortunately, while the resulting programs have raised hopes for a better environment, improvement which can be smelled, heard or tasted has not kept pace with an ever accelerating deterioration.

### ENVIRONMENTAL DILEMMAS

In New Jersey, the environmental dilemmas are many. The State is the most highly urbanized, most highly industrialized and the most densely populated state in the country. If recent projects of further population and industrial growth are even close to the mark, it is difficult to see how the state's already stressed air, land and water resources will bear the burden.

There has been much said and written about these problems. Yet there remains the difficulty of fusing a deep concern for the environment with the tools of understanding and skills of good environmental management. Seeing the problems, how can educators respond with real programs—programs which close the gap between rhetoric and reality, idea and actuality, which address the problems of TODAY in the environment, which treat the learner to the process of critical analysis—in short, programs which promote environmental literacy.

### MASTER PLAN

Over the past several years, the New Jersey State Council for Environmental Education has faced these questions, and others, more specific to the educational needs of the State. During 1970-1971, after a three year needs assessment, the Council produced the New Jersey Master Plan for Environmental Education.

As a primary objective, the Plan aimed at the "creation, in the most rapid and efficient way possible, of an environmentally literate citizenry—a citizenry which understands its interdependence with and responsibility for the total environment, and which possesses the knowledge and concern to solve existing problems and to prevent future ones."

### TECHNICAL ADVISORY COMMITTEE

The Master Plan has resulted in the creation of a Technical Advisory Committee to the Commissioner of Education, the encouragement of Concerned Citizens Committees on the local school district level, the establishment of a network of agencies and organizations to carry out long-range programs, and the development of a K-12 curriculum in environmental education available to all schools and classrooms in New Jersey as Computer Based Resource Units.

A 1972 survey of all school districts in New Jersey reported major obstacles to including environmental curriculum in schools: These were staff qualifications and lack of curriculum materials.

### TEACHER TRAINING

To bridge the gap in *teacher preparation*, the Council worked with a number of colleges and universities in the development of Master's Degree programs, pre-service and in-service courses. With the State Department of Education's Division of Curriculum and Instruction, in-service courses were conducted over a ten-week period in the tri-county area of Morris, Middlesex and Burlington. In a large-scale outreach program, the Council purchased the copyright to "Man and Environment", a 15 minute documentary television series, tied to supplemental educational texts, designed



# EDUCATIONAL SYSTEMS REALLY RESPOND?

and produced through a consortium of 100 community colleges, under the direction of Miami-Dade Junior College in Florida. Adapting the program to use in New Jersey, the Council arranged with the Public Broadcasting Authority and the Public Broadcasting Service to televise these programs on a semester schedule, five times each week (for periods of 18 weeks) over Channels 23, 50, 52, and 58 (PBA), and WNET's Channel 13. Promoted among the state's colleges, the "Man and Environment" course offering has been coordinated with programs in Environmental Education, Science and Society, and teacher training. The Council has produced teacher's guides, student study guides and in-service guides which, supplemented by a full text, prepared at Miami-Dade, complete a "Man and Environment" package which has been extensively used across the state and introduced widely in the northeast.

During 1974, collaborators from the Council, the State Department of Education, the Northwestern and Southern Educational Improvement Centers, County Superintendents and County Helping Teachers trained close to 10,000 teachers in Environmental Education Computer Based Resource Units. The majority of these teachers have been able to use Environmental Education Resource Guides in their classrooms; every school district in the State has received at least one training package for continued use, and more programs are being developed.

## CURRICULUM DEVELOPMENT AND DELIVERY

To satisfy the need for *curriculum materials* was a most difficult challenge, in relation to both development and delivery. The Council sought the advice of numerous environmental interest groups around the country and embarked on the development of thirteen units which should provide a basis for interesting and lively classroom content and activities for youngsters in the New Jersey schools. What emerged from this process was the ENVIRONMENT AND THE QUALITY OF LIFE series containing units on Population, Natural Resources, Industrial-Economic Impact, Pollution, Land Use, A River Basin-Tocks Island, Pinelands, Wetlands,

Energy-Technology, Energy-Society, Energy-Transportation, Primary Ecology and Environmental Law.

Basically, the curriculum is designed to: use data and concepts from the social as well as the physical and biological sciences; meet the needs of teachers and students in urban areas (since 70% of New Jersey youngsters attend school in the ten largest cities); focus on real problems relating to science, society, economics, physical and psychological health, values and group psychology associated with environmental problems; provide the opportunity to select from among alternative solutions, based on the exercise of critical skills and the clarification of values; be used in small group or individual instructional situations; and be easily revised and updated.

To accomplish this design, an extensive investigation of delivery systems was undertaken. At one point, it was thought that a series of monographs on chosen environmental themes should be produced for all teachers. The traditional textbook presentation received extended consideration. Because of the criteria and the very nature of information on environmental problems, it was decided to produce a curriculum which could be computer stored. This would provide a product which was rapidly retrievable, able to be tailored to the needs and interests of individual users, and easily accessible to all New Jersey teachers regardless of their location or teaching circumstances.

## COMPUTER BASED RESOURCE UNIT

The underlying principle of the Computer Based Resource Unit system is that it allows for teachers, working with their students, to select objectives for the classroom from a long list of alternatives. Once the teachers and pupils have decided on the objectives, a teacher requests materials, related to the objectives chosen, on the basis of student interests. For instance, the teacher may record the reading levels of the class, and, together with other variables, these will key the computer to print materials at that level. When the request for material is completed by the teacher, it is sent to a center which prints a teacher's guide. Each Computer Based Resource Guide ordered by the teacher is comparatively inexpensive. It can be used in a



variety of ways for large and small group instruction or for individual instruction. If a teacher wishes, *individual* guides may be ordered for particular students. The material does not prescribe a method of presentation and is adaptable to the teacher's own methods — though it is very useful for individualizing instruction. From start to finish, however, the teacher is the final decision maker.

### TEACHER INVOLVEMENT

Prudently, classroom teachers were invited to contribute to the construction and development of each Computer Based Resource Unit. Teacher committees organized across the state assisted in developing activities for young people in grades K-12. Since it is almost impossible to identify an "average" teaching style, Computer Based Resource Guides have greatest dimension in teacher-pupil planning, individualized instruction, remediation and enrichment, but may be used in the so-called "traditional" classroom as well.

### EASY UPDATING

Studying about the environment is a new and fluid curriculum opportunity. Environmental data changes each day and new studies contain more current statistics, improved projections and fresh approaches to problems. The great advantage of the Computer Based Resource Unit Delivery System, is its susceptibility to revision. New materials can be added and old ones removed without the interminable lag associated with updating a textbook. This feature alone would make the Computer Based Resource Guides an attractive alternative in future curriculum planning. It also means that new themes can be incorporated in the system as soon as their need is felt.

Beyond the flexibility involved, however, the key to the success of these materials will be the skill of the teacher in planning and ordering objectives with students and in cooperative selection of the activities in which the youngsters will engage. □

***Every year, following the annual selection of permittees for the one-day Special Either Sex Season, we receive many letters from disappointed applicants. This is not surprising, since obviously in any type of system employing random selection, many will be unsuccessful. However, all applicants would greatly increase their chances of selection if they would follow instructions and take more care in completing the application form.***

A survey of the 21,785 permit applications received for the 1973 Special Season, indicated that 4,752 or 22.0 percent were unacceptable and never considered in the final selection. This means 22 percent did not follow directions.

The following list summarizes the errors made by applicants for the 1973 one-day Either Sex Season:

1. <i>Hunting License Stub</i> not included with application	60.3%
2. Application Filed Early or Late	24.6%
3. Application Card Mutilated, Incomplete or Incorrect	7.6%
4. County Applied for has Closed Season	6.0%
5. No County Listed on the Application	1.5%
<b>TOTAL</b>	<b>100.0%</b>

## so you didn't get a special deer permit

By Robert C. Lund  
and David Burke

Obviously, failure to submit a current license stub with the application was the single-most important cause for rejection. A total of 2,865 hopeful hunters "blew their chances" by forgetting the stub.

Other reasons for application rejection include mutilation of the appli-

cation card. Since all applications are selected and processed by machine, cards that are folded, bent, taped, stapled or torn will cause a malfunction, destroying not only the mutilated card, but several others as well. Because of this an attempt is made to remove and discard all mutilated cards before processing.

You will increase your chances of success by following the instructions as outlined on the application card. Fill it out completely, including your current firearm hunting license number and the Zone Number (formerly County name). If you make a mistake, don't try to correct it, fill out a new card. Altered cards won't process. Mail it on time and be sure to *include the stub* from your current firearm hunting license.

Give yourself a break. Follow instructions and increase your chances of success. □





**Thin ice can be dangerous—Here an unsuspecting angler is being hauled from the frigid water after he broke through thin ice.**

*(Continued from page 3)*

minutes. There are also gas-powered ice augers available which are quite capable of boring through many inches of ice in seconds and are utilized today primarily by the ice angling pros.

You will also require what is termed an "ice skimmer"—to remove skim ice as it forms in the ice holes, plus a minnow pail to carry bait. Ice creepers are equally essential. Walking across glaze ice can present a problem but with creepers fastened to your boot bottoms you can actually run over ice without risking an unexpected spill.

Another handy item is a "depth finder." Nothing fancy, it can be simply a four or five-ounce sinker attached to a stout line. The line is knotted at one foot intervals. Simply lower the sinker into the water and count the number of knots which slip through your fingers as the sinker drops to the bottom.

Remember too, that it is going to be cold, so dress warmly. Down-insulated clothing is best. Be sure the jacket boasts a fur-type collar too. Add a down-insulated cap or hat; a pair of warm pants, gloves, heavy socks and insulated rubber boots. A pair of sunglasses are also necessary when the winter sun dances over the frozen surface.

Include a tackle box with a few extra hooks, leaders, and split shot and you are in business, except that you have to transport all this paraphernalia on the ice. And the best way is either with a pack basket



**Pickereel and perch are the ice anglers mainstay—but largemouth bass and trout can add an exciting bonus to the day out of doors. The ice auger is shown at top.**

or knapsack or better yet, with a sled. Veteran ice anglers have such sleds rigged with all the ingenuity of a Rube Goldberg invention—complete with gas stoves, barbecue grills, folding chairs, etc.

As an added precaution add a stout length of rope to your ice gear just in case someone does manage to break through thin ice. While I have personally carried a rope for years, I never had the occasion to use it but one feels a bit more secure having it along.

When traveling upon any frozen body of water bear in mind that its depth varies and that gamefish "hang out" in certain depths at certain times and in particular portions of any impoundment. Pickerel are primarily shallow water fish. Seek them in coves and sheltered bays. Perch, on the other hand, travel in schools and are generally found in deeper water. Bear this point in mind when staking out tip-ups. Tip-ups should be set in varying water depths, from shallow to deep. Use your depth finder to determine depth and set the tip-up lines so that the minnow-baited hooks ride about a foot from the bottom or just above the weed line.

It isn't necessary to cut large holes through the ice either. Most ice augers cut a six or eight inch hole, which is ample. If using an ice chisel, cut the hole cone-shaped with the smaller opening at the ice surface.

To be sure the tip-up rig is most commonly em- ➤



ployed on the ice, but another equally effective method of ice angling is with the use of an "ice-jigging" outfit. It is deadly on schooling perch and works equally as well with trout, panfish and large-mouth bass. The jigging rod can be anything from a simple stick, to the tip section of a fly rod, or an ultra-light spin rod.

While a short length of line can be attached to a jigger's rod tip and used with success, most veteran jiggers prefer an ultra-light spin or small baitcasting reel or a single action fly reel loaded with six or eight-pound monofilament line. Some experts even use two or four-pound monofilament, claiming better action when using small jigs.

Ice jigging lures range from small spinners and spoons to conventional ice lures which resemble salt-water mackerel jigs. Ice jigging, however, entails considerable work since the jigger must search out schools of feeding perch by constantly cutting holes through the ice. And he must continue cutting additional holes in an effort to follow the moving schools.

An ice-jigger must never stay in one location too long. Cut an ice hole, drop in the lure and deftly twitch the rod tip so the miniature jig "dances" enticingly. Continue jigging at varying depths and if a strike does not occur in a reasonably period of time, cut another hole at a new location and begin again.

All the more popular upstate lakes contain a vast variety of gamefish worthy of seeking during the winter ice fishing season. Lakes Hopatcong, Greenwood, Musconetcong, Big Swartswood, Wawayanda, Bear Pond and Cranberry, to mention a few, all provide fine sport. And don't forget the fishing preserves either. Ice fishing at these pay-as-you-go trout fishing preserves can also provide equally exciting sport during the cold weather months.

So when the annual deer season is history and the upstate ruffed grouse covers lie deep in snow, turn to the frozen waters of our lake country for a winter experience to be long remembered. Ice fishing is a rigorous pasttime, particularly suited for that special breed who enjoy wintertime in the out-of-doors. □

## A NEW PLANT FOR SONGBIRDS

For songbirds and homeowners who enjoy their feathered entertainers there is a unique honeysuckle that performs as a "living feeder station". Called Rem-red Amur honeysuckle, this plant grows abundant bird food of special value during the winter months.

Rem-red produces deep red berries maturing in October and November. The fruits dry like raisins and cling to the bush through severest weather. They provide plenty of nutrition well into late winter as other songbird fare is in short supply.

This new variety was developed by workers at plant materials centers of the U.S.D.A. Soil Conservation Service. Like many other songbird shrubs this plant can be used for screening and landscaping backyards and along woods as border plantings. Not only does it provide food but choice nesting sites as well.

Information on where to get Rem-red Amur honeysuckle and other bird feeding plants is available from Dan Jones, District Conservationist, U.S.D.A. Soil Conservation Service, Whitesville Road, Toms River, New Jersey 08753.

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## CORRECTION

The article "Surf Fisherman's Paradise" in the September-October 1974 issue contains several misleading statements: Sandy Hook State Park is no longer a state park. It is now part of the Gateway National Recreation Area, although much of the literature and some of the road signs still identify it as Sandy Hook. Beach buggy owners occupying Island Beach State Park may sleep in their vehicles overnight but only in a designated area (bath house parking lot #2). Our article did not specify this designated area.

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**FRONT COVER** *An icicle bush in Northern New Jersey—Harry Grosch, Nikon F2, Kodachrome II*

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**BACK COVER** *National Wildlife Week 1975—National Wildlife Federation*





## YCC comes to New Jersey

BY BOB MCDOWELL — PHOTOS BY HARRY GROSCH

This past summer the Youth Conservation Corps worked on conservation projects in Stokes State Forest in Sussex County. This is a federally funded program directed by the Department of Environmental Protection's Bureau of Parks.

Forty high school students from all over New Jersey were chosen on the basis of environmental interest to participate in the program. In addition, 12 college students with similar interests were employed as counselors.

The purpose of the project was to provide interested, active students summer

employment in the conservation field doing real and necessary work. The projects included stream improvement work, building camping shelters, clearing trails, building parking lots in recreation areas, and erecting wood duck nesting boxes.

The program coordinator Lou Cherepy, Superintendent of Stokes State Forest, said the program was a tremendous success. "The members of the YCC program accomplished much for the benefit of New Jersey's resources and the citizens using our recreational facilities."







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