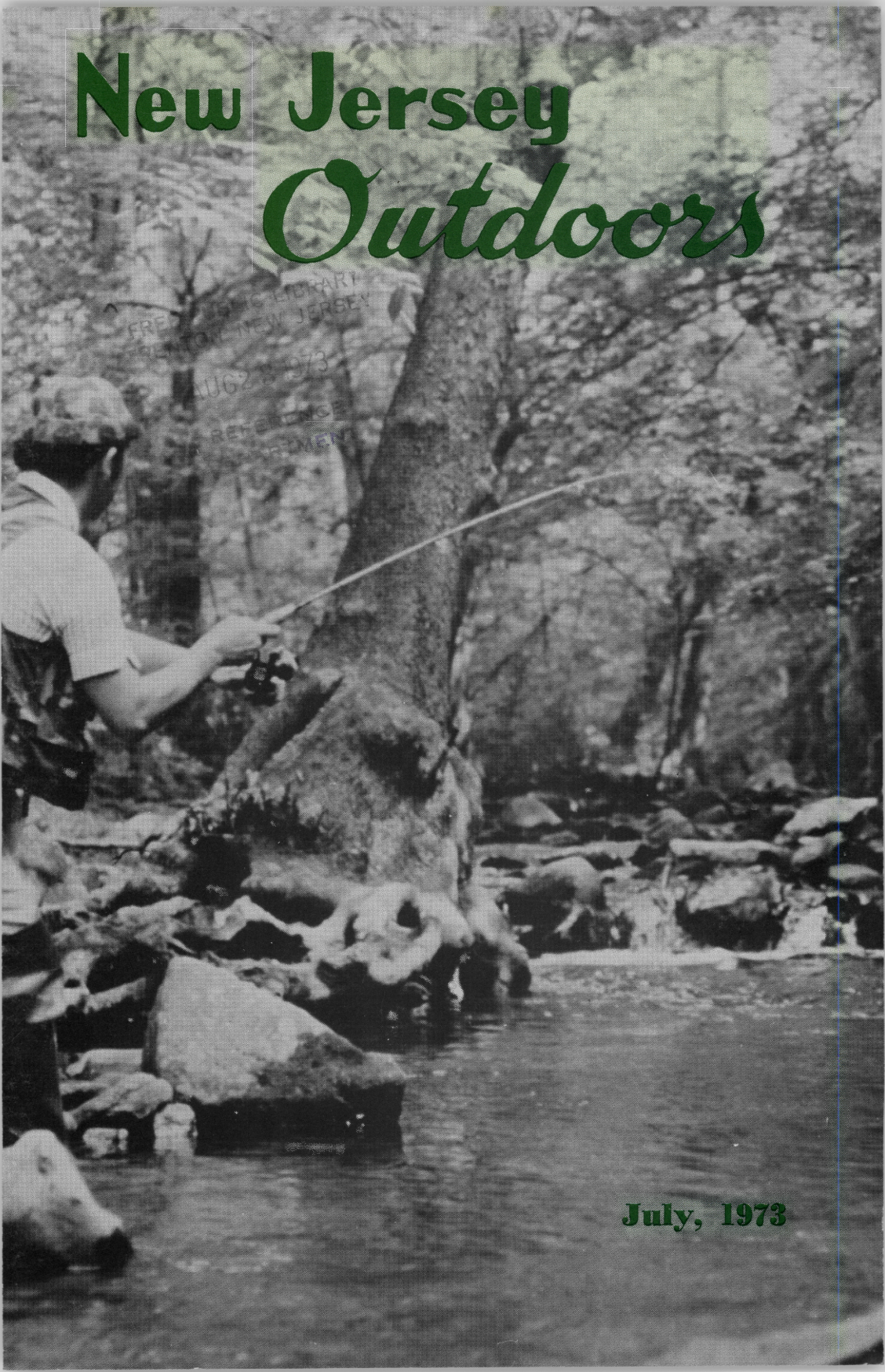
New Jersey Outdoors



July, 1973

New Jersey Outdoors Subscribers

We are now up to date on our publication **New Jersey Outdoors** and hopefully all subscribers have received their issues through June. In our attempts to get current, we had to combine the February-March and April-May editions. To alleviate the problem of subscribers contacting the Trenton office with inquiries, please be advised that all subscriptions will be extended for an *additional two months.*

Problems may arise because of the extra bookkeeping work that will be involved and a few subscribers may experience difficulties with their subscriptions. We hope to keep these at a minimum and ask your indulgence while we attempt to straighten out the situation.

However, should someone experience problems with the magazine, please let us know by dropping a line to *New Jersey Outdoors,* otherwise we will assume everything is satisfactory.

We appreciate the cooperation of our subscribers during this period and will continue in our efforts to provide a quality publication.

Russell A. Cookingham
Director

New Jersey Outdoors

New Jersey Outdoors is published monthly by the New Jersey Division of Fish, Game, and Shell Fisheries of the Department of Environmental Protection in the interest of the natural resources of fisheries and wildlife and the betterment of hunting and fishing in New Jersey.

In This Issue

Cover—"Trouting"—*Jim Stabile*

Trout fishing in New Jersey is legal and good almost all year round. For more on trouting see page three.

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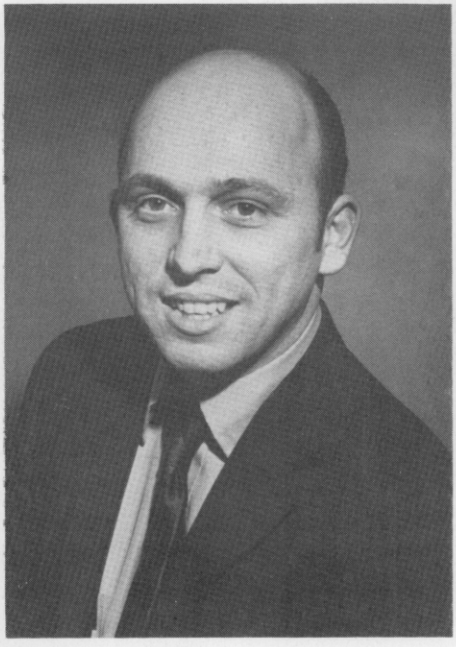
Scouting for Trout

By Jim Stabile,

Outdoor Writer - Photographer

Finding good trout fishing without finding crowds of fishermen is getting tougher ever year, but it can be done.

Our state has more people per square mile than any other, so it's no wonder the majority of stream fishermen are drawn to the freshly stocked rivers and brooks every spring.



Author Jim Stabile

Anglers looking for trout measured in pounds instead of inches know they can find the lunkers in the reservoirs of Round Valley and Spruce Run or the big lakes of North Jersey.

But for quality trout fishing the angler should consider the many small brooks that feed into some of the major trout streams. That's the way to lose crowds and find holdover and native trout of all kinds.

Many of these brooks are stocked by the state, and most receive little attention from anglers after the spring and early summer. Yet some of my best days of fishing have come on these brooks during late summer and through the fall.

The stocked trout that escape the early pressure often grow selective in their feeding habits and are more than a match for a fly fisherman or someone with an ultralight spinning outfit.

A five-foot spinning rod or six-foot fly rod are the best for the small brooks, because there's often limited casting room. You'll find the best fishing in these brooks far from the nearest road; in fact, the farther you get off the beaten

←— For quality fishing, anglers should consider small streams

A deep hole under a logjam harbors some nice fish, which sometimes can be enticed to bite

track, the better you'll find the fishing.

I've gone through thickets in August that I would avoid in November rabbit hunting just to get a chance to try a pool accessible only by the overland route.

The mosquitoes and horseflies may make you uncomfortable as you try to guide your ultralight through a multiflora tangle, but you'll often find your efforts rewarded with colorful, battling trout.

More than once I've pushed through the greenery to an unwadable brook, then found foot-long trout finning beneath tangles I couldn't fish.

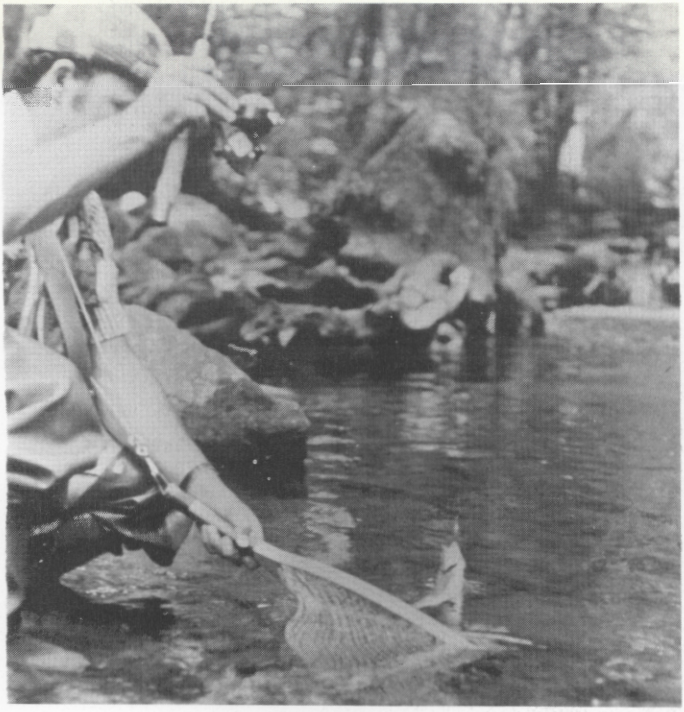
But there have been enough of the other times—times when trout big enough to be respectable in a major stream have come flashing out from under a tree's roots to strike at my lures, flies, and bait. These are the times that make all the walking and work worthwhile.

If the brook isn't too deep or covered with bank-to-bank bushes, wade it, preferably upstream. Fishing as you wade downstream seems to spook the trout more than an upstream approach, especially when the water is low.

During the low flows of summer, when the water is gin clear, small-brook fishing is often best after a shower, when the water is slightly discolored and rising.

That's when the trout are easier

Here are two browns caught from a small brook. The one on the left is a stocked fish while the one on the right is either a native or a holdover



The small brown I'm netting came from under the roots of an upstream sycamore tree

I'm turning this one back to grow

to approach, and it's a time when they are often feeding ravenously on insects washed into the water by the downpour.

If you find a brook that's seldom fished, however, you may find the trout almost foolhardy because they've been exposed to so little angling pressure.

Brown trout get that way in the fall, when they leave their hiding places under banks and tree roots and can be found spawning in the shallows, usually in flat runs at the tails of pools, but never very far from their hideouts.

If you know there are browns in a brook, but can't lure them out of their cover in spring or summer, just wait till fall. Then you'll be surprised by the number and size of the browns in the brooks you've scoured earlier in the year.

The upper reaches of the brooks usually aren't stocked, so it pays to avoid killing too many trout, especially if natural reproduction is a factor in these areas.

For instance, one of my favorite brooks has mostly rainbows in it, and it hasn't been stocked in at least 20 years. There are only a handful of brooks in the state that have natural reproduction of rainbows, so I am careful not to take too many.

Last summer I caught the biggest trout I had ever seen in "my rainbow brook," a brown that was a fat 15 inches. His stomach was bulging, and I was sure it was full of small 'bows—till I cut him open.

He had five crayfish in his innards, giving me a clue to another bait to try. Although I prefer to fly-fish, there's seldom enough room for the casting space I need, so most of the time I fish the small brooks with a small spinning outfit and silver spinner lures.

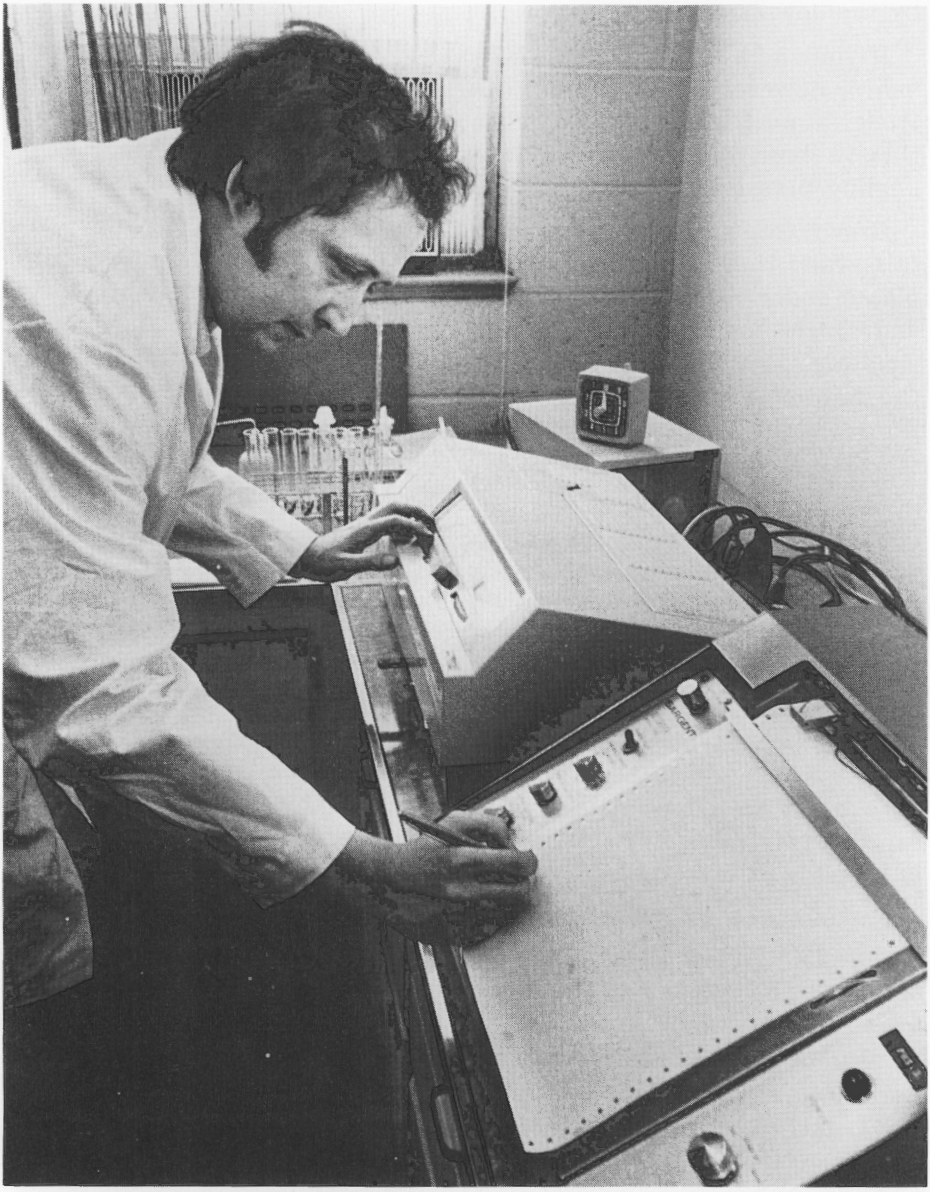
By now you might be wondering where to find a small brook with plenty of trout and few fishermen. Finding it is part of the fun and, more importantly, most of these small streams just couldn't take the pressure they'd get if they were listed.

The state has found natural reproduction in more than 100 small brooks, many of them open to anyone, while others are posted and would require permission from a landowner before you fish them.

Topographical maps such as those of the USGS are helpful. Concentrate on northern counties such as Sussex, Morris, Warren, Passaic, and parts of Hunterdon.

Try to find a cool brook that flows into a major trout stream; when summer temperatures warm the stream, the trout often seek the more comfortable water temperatures of the brooks.

A bit of scouting now can pay off with wonderful sport when most stream fishermen have given up for the year. #



Author Julian, at the Division Fisheries Laboratory, in Lebanon, with a spectrophotometer which measures any one of 100 different types of pollution

Chemical Aspects of Pollution

for the Layman

By Arthur J. Julian,
Principal Chemist
Photographs by Harry Grosch

Most fishermen, boaters, and swimmers have, at one time or another, seen what they believed to be polluted water. One look at oil floating on the surface or one smell of what appears to be raw sewage can tell even the most uninformed observer that the water is bad. But how many of us have seen water that looks clean only to be told by local and state officials that it is polluted? How many of us are amazed to see dead fish floating in water that "looks good enough to drink?"

The environmental scientist examining water cannot rely only on his sight or sense of smell. He must rely on detailed chemical and biological analyses of the water in order to determine the water quality and to pinpoint possible sources of pollution.

Many youth groups, individual citizens, and students are beginning to study the techniques of pollution analysis. Too often they feel frustrated because of the apparent complexity of the many chemical analyses performed by the professional.

Many of these analyses, which once were performed only in a large, well equipped laboratory, have now become so simplified that anyone with the interest can analyze a local stream or lake for most of the common pollutants.

Several companies provide portable, inexpensive test kits that allow a layman to analyze for a wide range of pollutants and water quality standards.

One company supplies a portable lab for under $300 which can analyze for 25 different water standards.

However, for the less ambitious student or amateur with limited training, test kits are available which sell for $5 and up. All that is needed is an ability to read and follow directions. Many of these procedures are as simple as testing your backyard swimming pool water for chlorine and pH. The names of the suppliers of portable test kits can be obtained from the Bureau of Fisheries Laboratory.

The most important consideration for the amateur is to understand the significance of his answers. Obtaining numbers without knowing what they mean is futile.

. . . *Pollution*

The amateur should learn to recognize chemical conditions which are obviously unacceptable.

The most common tests run to determine water quality are for pH, dissolved oxygen, ammonia, nitrate, phosphate, and chlorides. Most results are expressed as a concentration. The term commonly used is parts per million (ppm); if a test shows a result of 10 ppm, this means that in every million gallons there would be found 10 gallons of the substance analyzed.

The pH is a symbol used to designate a degree of acidity and has a value range of 1-14. A neutral solution would have a pH of 7; a very basic solution, such as lye, would be pH 14; and a very acid solution would be pH 1.

pH changes from 9 to 6. Ammonia is another example of this interaction. The toxicity of ammonia to all species of fish increases with increasing pH.

Dissolved oxygen (referred to as D.O.) cannot be called a pollutant in respect to fishing waters. It is not the surplus of D.O. which is of primary concern, but rather the shortage of it. D.O. in a stream or lake will vary with temperature, salinity, dissolved solids, and biological activity. Where no other factors are acting, the maximum D.O. generally found in water at 55°F is 9 ppm.

Oxygen, being a gas, can be supersaturated in water, just like carbon dioxide in a soda bottle. Some D.O. values will be found which are much higher than would be theoretically possible. Reasons for this are usually biological or physical.

Some authorities have found that levels of D.O. in an average stream should not fall below 3 ppm in

The significance of pH can be seen in the following table:

Limiting pH Values		*Remarks*
Minimum	*Maximum*	
4.0	10.1	Approximate limits for the most resistant fish species.
6.5	8.5	Limits set by New Jersey State Law for effluent discharge to fishing waters.
6.0	7.2	Optimum range for fish eggs.
7.5	8.4	Good range for plankton production.

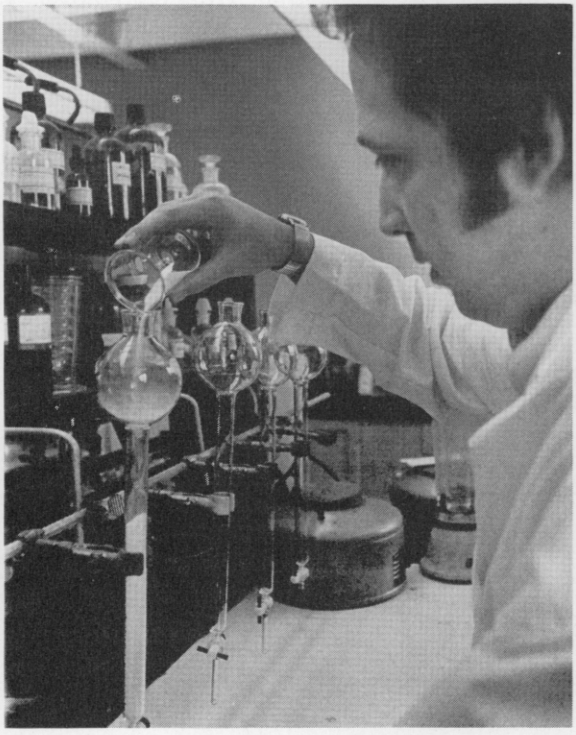
The pH can also affect the toxicity of certain other pollutants. For example, researchers have shown that the toxicity of sodium sulfide to trout tends to increase as the

order to maintain fish life. A lower limit of 6 ppm for trout, in soft water, has been set by other researchers. New Jersey standards establish a limit of 7 ppm for trout production waters, 5 ppm for trout maintenance, and 4 ppm for non-trout waters.

On some occasions it is found that fish are present in waters with very low D.O. levels; however, this does not necessarily mean the species will feed, grow, or reproduce.

Ammonia, in its pure form is a colorless gas with an odor easily recognized. In water, it results from the decomposition of organic matter, fertilizer runoff, and organic polution. Waters known to be unpolluted have very low ammonia levels, less than 0.2 ppm.

In fish hatcheries it has been found that ammonia levels higher than 0.7 can make trout and other species susceptible to certain gill bacteria diseases. In combination with low dissolved oxygen levels, ammonia can be toxic at levels of 0.2 - 0.4 ppm.



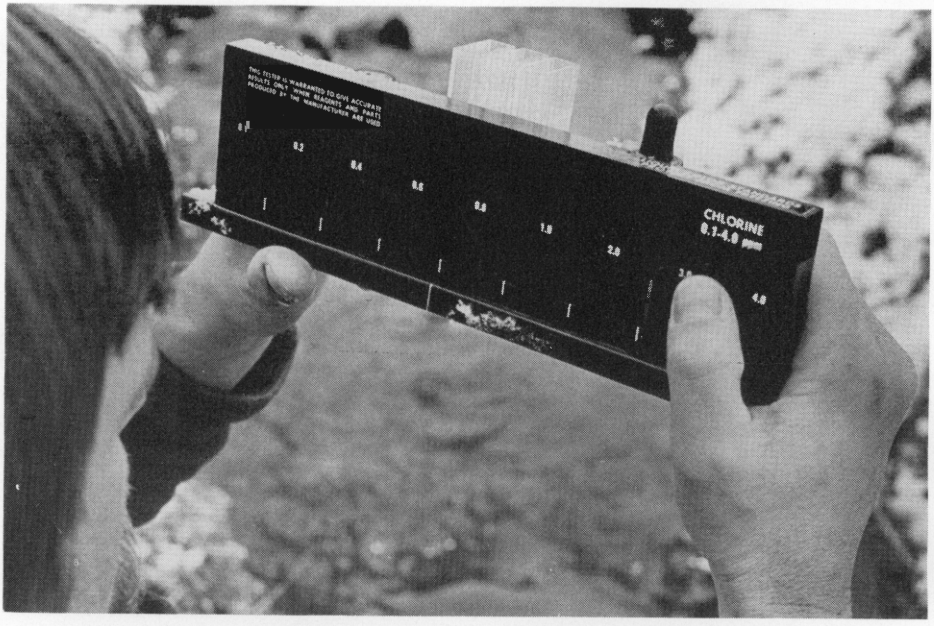
The author testing for pesticides

Nitrates will ocur in water from the natural decomposition of organic matter in the presence of air. They may also occur, in excess,

. . . *Pollution*

from cesspool leakage or agricultural runoff. Toxicity of nitrates is not a consideration at the levels usually found in New Jersey streams and lakes. The major factor to be considered is the fertilizing, or life supporting properties of nitrates. Excess nitrate will stimulate the rapid growth of plankton and algae. Upon decaying, these plants will use up the dissolved oxygen fish need to survive. Generally, in waters supporting a good fish population the concentration of nitrates has been less than 0.2 ppm in 5 percent, less than 0.9 ppm in 50 percent, and less than 4.5 ppm in 95 percent of these waters.

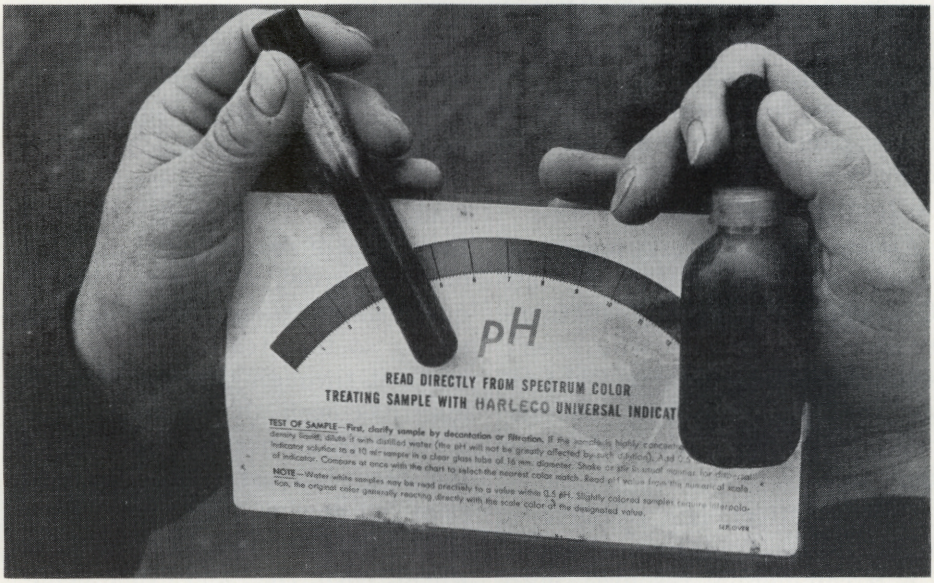
Phosphate is the major fertilizing pollutant most familiar to the general public. It occurs in water from agricultural runoff and domestic and industrial wastewater. Its discharge may result in excessive growth of algae with a resulting rise of odors and detriment to fish. Of themselves, phosphates seldom show toxic effects upon fish and other aquatic life. Levels as high as 545 ppm were not toxic to fingerling trout during a 24-hour exposure. The levels normally found in New Jersey streams and lakes range from 0-2.0 ppm. Higher levels can be found downstream of sewer plants which do not have a treatment process designed for phosphate removal (a tertiary treatment process).



An inexpensive test kit for chlorine in use on a stream

Chlorides are found in all natural waters. They come from minerals or as a pollutant, from human and animal sewage, seawater contamination, or industrial effluents. Most natural fresh water contains levels of chlorides less than 170 ppm. Levels of 400 ppm can be harmful to trout during the early stages of their development. Monitoring of chloride levels is useful in determining the location of the salt line, the migration of sea-water into fresh water streams.

There are still many tests which can only be done in a laboratory. Pesticides, metals, and certain other poisons are found in such small amounts that only special equipment can detect them.



An economical color comparator for determining pH

The figures and tests mentioned above are not exact, however. But, by running several of these tests, the amateur can get an idea of the importance of clean water and the extent of certain types of pollution commonly found. #

To Report Pollution contact a conservation officer in your area or one of the following during business hours:

Division Office, Trenton	609—292-2965
Fisheries Laboratory, Lebanon	201—236-2313
Nacote Creek Station, Absecon	609—641-0889
Emergency Action Line	609—292-7172

A Wasted Resource?

By Dick Dietz, *Remington Arms Company, Inc.*

Recent events have made it abundantly clear that the United States is a nation of meat eaters." "Pyramiding prices for meat at retail levels have brought howls of protest from American housewives, charged with the chore of filling the family larder

Among other factors, meat has simply run a cropper of the law of supply and demand. Yet, there are some housewives who aren't howling as loud as others. Old Dad has fixed them up with another source of supply. It's called the game freezer.

Meat, in effect, is a resource, a product of the land. In most cases, it is a commercial resource, with an ultimate cost resulting from the value of the pasture, the supplemental feeding, and the labor involved in the conversion from an 'on the hoof' status to a package on the retail meat counter.

Efficiency, then, is as important to the production of steaks and chops as it is to any other product. The less wasteful the production process, the lower should be the eventual cost of the product.

At times, in utilizing the resources of our planet, man has abused them by overharvest or mismanagement. Hopefully, we are learning by experience to eliminate such abuses. But neither should we, or can we afford to, subject renewable resources to another abuse, that of underharvest or waste.

Particularly with plant and animal life, nature often helps us, as well as herself, with an excess abundance. Trees will produce thousands of seeds so that one new one will grow. A hundred young quail may be produced in the spring so that ten or twenty may make it through the next winter. Man has been able to survive as a result of such abundance. From the wheat harvest in tons, we need save but bushels for next year's crop. Consider man's plight if wheat, corn, rice, and other primary sources of food produced but one seed per plant.

For reasons of efficiency and avoidance of waste, is it not equally wise and valid to harvest nature's surplus game crop? To our pioneering forefathers such harvest was often necessary. Today, while less necessary, it continues to be prudent.

So to those who are unhappy with the high cost of meat, we suggest at least a partial solution, although you can't take advantage of it again until next fall. And the exercise will do you good. 'Pass another venison chop, will you son?' #

Change Habits and Change Luck

Fish are like people. They get set in their ways and do not like to make changes. Patterns of life are rigorously followed until something forces a change in habits.

This human-like trait leads to some drastic differences in fish behavior during the hot weeks of summer here in New Jersey.

The normal ways of fishing usually do not produce during summer doldrums. Yet many anglers stick to their set habits and give up fishing until the weather and the water cool.

By calling it quits they are probably missing some good fishing, especially in Reservoirs such as Round Valley and Spruce Run. What they should do is change their habits along with the fish.

To begin, start getting out on the lake or stream before the sun comes up, and be there again when it goes down. Skip the hot hours in between, for in many of our lakes and streams in the Garden State fish prefer to feed early and late . . . when water is cool.

Fish will change what they eat, too. Summer is the time of insects —grasshoppers, crickets, ants, and a multitude of other delectible (to fish, of course) foods. Artificial lures will be passed up in favor of these natural foods.

A third consideration is where to fish. Since the supply of natural food is most abundant in shallow water, that is where the action will be, except for the large trout in such waters as Round Valley Reservoir. #

Spillway Construction

Tuckahoe Management Crew in Action

By Fred Ferrigno,
Senior Wildlife Biologist
Photographs by Ann Camp Bresina

Prior to spillway construction the marsh was subjected to irregular drying and flooding, causing heavy mosquito breeding and reduced use by wildlife

The sequence of pictures with this article demonstrates the effectiveness of an experienced management crew in providing the necessary improvements for wildlife impoundments on fish and game management areas.

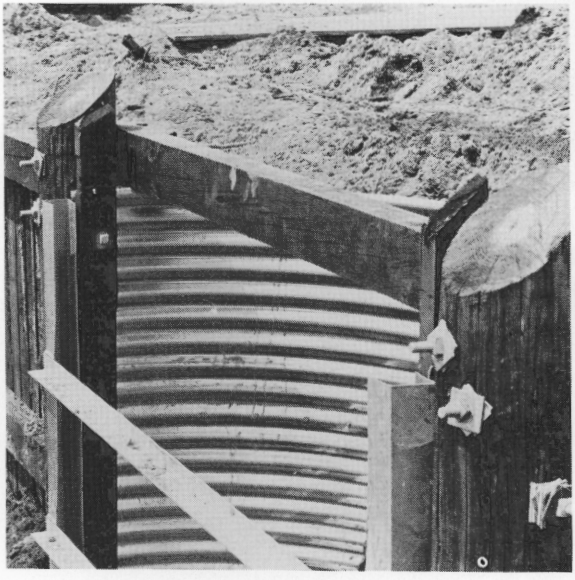
The location of the work was the Heislerville Wildlife Management Area in Cape May County on the Delaware Bay. The project was of a cooperative nature involving the New Jersey Division of Fish, Game, and Shell Fisheries, Cumberland County Mosquito Commission, and the State Mosquito Commission.

Since the impoundments were originally constructed years ago, many problems existed in the area. Because of the tremendous differences in tidal range, often up to six feet, and the swift currents, the original spillways deteriorated rapidly, thereby making water level management impossible. The fluctuations in water levels resulted in excessive mosquito breeding, oxygen deficiencies, and reduced use by fish and wildlife.

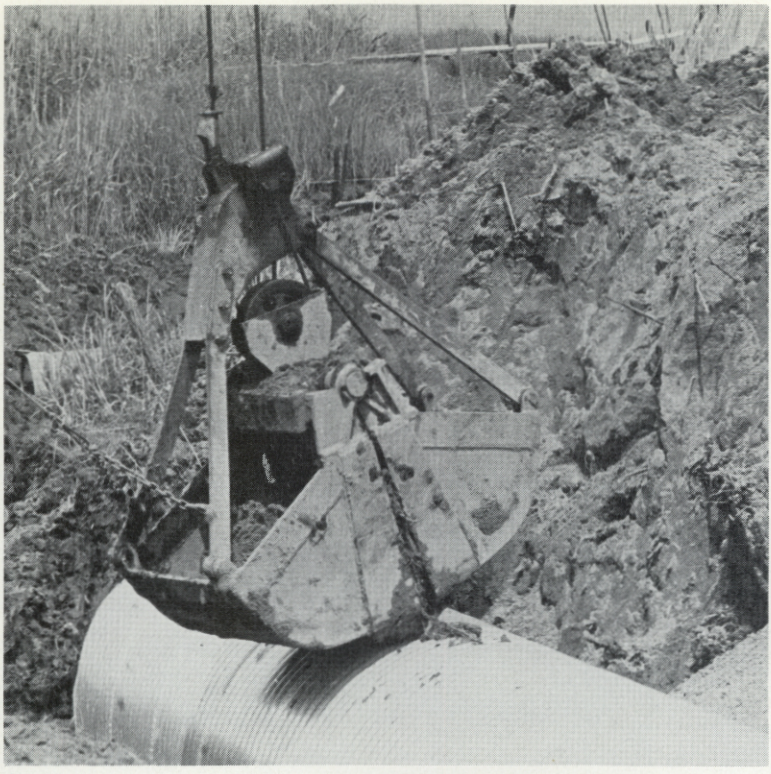
To alleviate the problem, a grant was applied for and received from the State Mosquito Commission to install three new spillways and two drainage pipes. The job of installation was given to the Tuckahoe Wildlife Management crew of the Division of Fish, Game, and Shell Fisheries and the Cumberland County Mosquito Commission.

The spillways selected were well adapted for waterfowl impoundments through many years of ex-

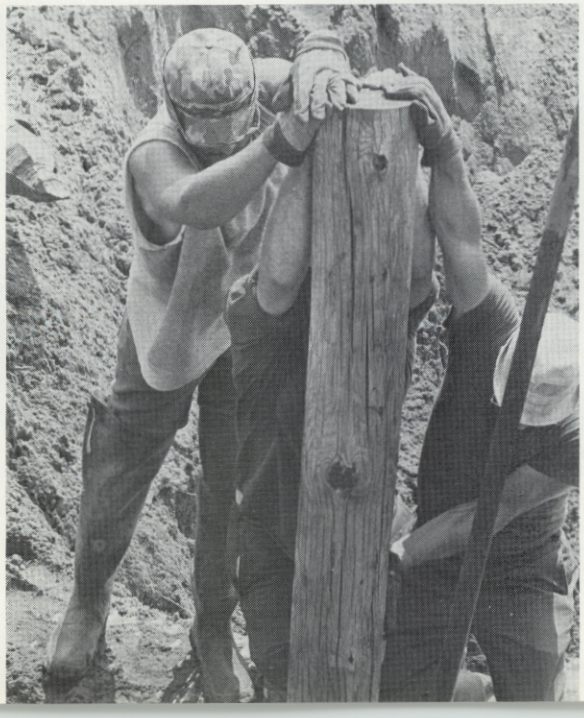
The dragline and front end loader move in to remove portion of the dike for the placement of the spillway. Don Repici, foreground, and Rex Allen



The spillway is installed and properly bulkheaded



Pipes are placed in position and fastened to the spillway by connecting bands



The outer portion of the pipes must also be protected to prevent tidal damage

Joe Bauer, Ass't. Biologist in charge of the management crew, checks pipe level

After proper leveling, the pipes are covered with fill

Joe Bauer and Ed Layton survey the operation

The good tidal exchange provided by the new spillway is responsible for an improved nursery for sport and commercial fish and increased recreation for crabbers, fishermen, and hunters

perience, improved design, and evaluations and now serve management objectives for mosquito control, tidal productivity, recreation, and improvement of waterfowl food plants.

The spillways are corrugated aluminum, six feet in diameter, and connected to two 20-foot pipes, four feet in diameter. For intallation, a portion of the dike had to be removed, the spillways placed into position, bulkheaded, and the fill restored. All this had to be done with fluctuating tides constantly eroding the fill.

Despite these adverse conditions, the job was completed. The quality of the work illustrated the importance of experienced management crews working in close cooperation.

Biological evidence indicates that by maintaining tidal inundation mosquito breeding was eliminated within the 242 acres of marsh. In addition, the production of waterfowl food plants will provide feeding areas for countless waterfowl and shore birds. Sport crabbing will be possible in the impoundments and provide a large amount of recreation. Most important, the value of the tidal food chain organisms provides nursery grounds for sport and commercial fish, such as black drum and weakfish.

The results of this development activity will result in the production of larger numbers of fish and wildlife species and enhancement of the habitat in greater recreation. Another example of the cooperative efforts of several agencies working together on a difficult problem. #

A Reminder to Hunters

Avoiding long waiting times, crowded classes, and a chance of missing opening day can all be taken care of now by enrolling in a hunter safety program if you do not already have a valid hunting license.

New Hunters of all ages, whether using firearms or bow and arrow, are now required by regulation to obtain a certificate of completion from an accredited hunter safety course.

Aspiring hunters are recommended to enroll now by contacting their local conservation officer or the Division of Fish, Game, and Shell Fisheries office in Trenton. Completing tests now will assure the hunter of participating in opening seasons.

Two conservation officers with the Division have been working through the year to improve the Hunter Safety course and to coordinate closely the programs given. The course teaches basic weapon safety and courtesy in the field It also discourages indiscriminate shooting and explains the basics of wildlife management. #

State Record Fish

Since the last published listing of the New Jersey state record fish, a new category for salt water, tarpon, has been added. An account of the details and the catching of the record tarpon will appear in a future issue. In addition, new records for bluefish and cobia have been recognized and the stories about the catches are to be presented in future issues.

In the fresh water fish listing a new record carp has been added. #

New Jersey State All-tackle Records

Fresh Water

Species	*Angler*	*Year*	*Weight* lbs.	oz.	*Where Caught*
Brook Trout *Salvelinus fontinalis*	George J. Hornung	1956	6	8	Lake Hopatcong
Brown Trout *Salmo trutta*	Howard Devore	1964	16	11	Greenwood Lake
Rainbow Trout *Salmo gairdneri*	Richard Ruis, Sr.	1970	8	5½	Round Valley Res.
Salmon (landlocked) *Salmo salar*	John A. Mount	1951	8	0	New Wawayanda Lake
Smallmouth Bass *Micropterus dolomieui*	Earl H. Trumpore	1957	6	4	Delaware River
Largemouth Bass *Micropterus salmoides*	Logan B. Whitesell	1960	10	12	Mt. Kimble Lake
Chain Pickerel *Esox niger*	Frank McGovern	1957	9	3	Lower Aetna Lake
Calico Bass *Pomoxis nigromaculatus*	William Hanna	1961	3	5½	Alloway Lake
Rock Bass *Ambloplites rupestris*	Harold Webb	1968	1	2¼	Lake Hopatcong
Channel Catfish *Ictalurus punctatus*	William Otten	1918	28	0	Greenwood Lake
White Perch *Morone americana*	Robert Huber	1950	2	8	Lake Hopatcong
Yellow Perch *Perca flavescens*	Dr. C. C. Abbot	1865	4	3½	Bordentown
Bluegill *Lepomis macrochirus*	Silas Matthew, Jr.	1956	2	0	Farm Pond, Wantage Twp.
Walleyed Pike *Stizostedion vitreum*	Stanley Norman	1934	12	12¾	Delaware River
Striped Bass (landlocked) *Morone saxatilis*	Mrs. Albert Beebe	1952	23	8	Union Lake
Brown Bullhead *Ictalurus nebulosus*	Robert Dorf	1966	22	15	Spring Lake
Northern Pike *Esox lucius*	Edward Kistner	1971	21	0	Lake Wawayanda
Muskellunge *Esox masquinongy*	John Fleming	1970	19	0	Delaware River
American Shad *Alosa sapidissima*	Richard Lepes	1971	7	13½	Delaware River
Carp *Cyprinus carpio*	John A. Pisa	1971	41	2	Delaware River

New Jersey State All-tackle Records

Salt Water

Species	*Angler*	*Year*	*Weight* lbs.	oz.	*Where Caught, or out of*
Albacore *Thunnus alalunga*	Walter Citimm	1961	69	1	Hudson Canyon
Red Drum *Sciaenops ocellata*	Dr. R. D. Alexander	1953	46	0	Sandy Hook
Black Sea Bass *Centropristis striata*	Nick Ferrante	1958	6	2	
Striped Bass *Morone saxatilis*	Donald Zboyan	1970	68	0	Off Sandy Hook
Tautog (Blackfish) *Tautoga onitis*	R. N. Sheafer	1954	21	6	Cape May
Bluefish *Pomatomus saltatrix*	William Di Santo	1971	23	14	Off Cape May
Atlantic Cod *Gadus morhua*	Joseph Chesla	1967	81	0	Brielle
Black Drum *Pogonias cromis*	Herschel Layton	1944	92	0	Delaware Bay
Summer Flounder (Fluke) *Paralichthys dentatus*	Walter B. Lubin	1953	19	12	Cape May
Pollack *Pollachius virens*	Philip Barlow	1964	43	0	Brielle
Shortfin Mako *Isurus oxyrinchus*	W. J. Mahan	1952	322	0	Elberon
Bluefin Tuna *Thunnus thynnus*	Ray Fromm	1950	787	0	Brielle
Wahoo* *Acanthocybium solanderi*	Dr. Wm. E. DiSanto	1969	93	10	Cape May
Weakfish *Cynoscion regalis*	A. Weisbecker, Jr.	1952	17	8	Mullica River
Blue Marlin *Makaira nigricans*	Joseph Teti, Jr.	1964	620	0	Atlantic City
White Marlin *Tetrapturus albidus*	Merrill P. Arden	1968	123	0	Ambrose Light
Dolphin *Coryphaena hippurus*	Yvonne DiSanto	1969	48	15	Cape May
Atlantic Bonito *Sarda sarda*	Frank G. Lykes, Jr.	1945	13	8	Sandy Hook
Broadbill Swordfish *Xiphias gladius*	Edmund Levitt	1964	530	0	Wilmington Canyon
Winter Flounder *Pseudopleuronectes Americanus*	Frank Coleman	1968	3	2	Great Egg Harbor
Cobia* *Rachycentron canadum*	Eli P. Hitchner	1972	45	2	Delaware Bay
Scup (Porgy) *Stenotomus chrysops*	Ernest M. Ritchie	1967	4	6	Off Barnegat Light
Yellowfin Tuna* *Thunnus albacores*	Tony Keeley	1969	138	2	Hudson Canyon
Atlantic Mackerel *Scomber scombrus*	Rosemary Sackawicz	1969	3	0	Atlantic City
American Shad *Alosa sapidissima*	Rodger G. West	1967	7	0	Great Bay
Tarpon* *Megalops atlantica*	Jack Hoagland	1972	42	8	Shrewsbury Rocks

* LESS COMMON SPECIES

Regulations for Recognition of New Jersey State Record Fish

1. Fish must be caught on sporting tackle, hooked, and landed by entrant.

2. All aspects of catch must conform to state law.

3. Length of fish should be measured from tip of jaw (with mouth closed) to tip of tail; girth, around fish at thickest portion.

4. An affidavit from the angler must be submitted on the above points and on the line test used.

5. Fish must be weighed on certified scale of a recognized sporting goods store, meat or fish market, fishing tournament, or other scales acceptable to conservation officer. An affidavit attesting veracity of scales and weight must be furnished by store manager, tournament director, or conservation officer.

6. A clear 8-inch x 10-inch black and white, glossy photograph of fish and angler *must be furnished.* In the case of freshwater fish, a yardstick must be held next to fish so as to clearly show length.

7. If any doubt exists regarding species, a statement from a state fisheries biologist must be sent, or fish preserved so as to permit inspection.

8. In the event fish is cleaned before weighing, only dressed weight will be counted.

9. Cooperation of angler is asked in submitting a brief account of how fish was caught, including type of lure and method of fishing used. It is understood that this information and picture may be used in NEW JERSEY OUTDOORS and state publicity, but angler's right to furnish information to news media is not otherwise restricted.

10. The above information, or other inquiries regarding record fish, should be sent to: Information and Education Section, Division of Fish, Game and Shell Fisheries, Box 1809, Trenton 08625. This Section will answer all inquiries and recognize clearcut Record Fish. In case of doubt, final decision will be made by the Fish and Game Council.

Efforts will be made to establish records for species not currently recognized. Anglers are especially urged to submit noteworthy catches of these species.

To submit information concerning possible record fish you may either use the forms on the following two pages or obtain forms from the Trenton office.

Anglers are invited to submit applications for possible record fish not included in the current listings.

State of New Jersey Department of Environmental Protection

Division of Fish, Game, and Shell Fisheries

Application for Recognition of New Jersey State Record Fish

TO: Information and Education Section
N. J. Division of Fish, Game, and Shell Fisheries
P. O. Box 1809
Trenton, N. J. 08625

I submit the following described fish for consideration as a New Jersey State Record: (Must be clearly printed or typewritten.)

Species _____ (Subject to verification by state biologist. Please attach information as to where fish may be inspected).

Date caught _____ Time _____ (approximate)

Place caught _____ _____
(name of water) (nearest town)

_____ _____
(boat, captain, if any and port) (county)

Weight _____ pounds, _____ ounces

Length _____ inches (tip of jaw-mouth closed to tip of tail) Girth _____ inches (thickest portion)

Line test used _____ Type of line _____

Type of rod _____ Reel _____ Lure _____

I certify that the fish was caught on sporting tackle, hooked and landed by me, and that all aspects of the catch conformed to state law.

Subscribed and Sworn before me _____ Signature of Applicant

this _____ day of _____ _____ Name printed or typewritten

_____ _____ Address

Notary Public of N. J.
My Commission expires _____ City & Zip Code

_____

Enclosed herewith, find a certification of weight, a clear 8-inch by 10-inch glossy **photo** of myself and fish (with yardstick for freshwater species), and an account of how I caught the fish. It is understood that this picture and information may be used in State publicity (particularly **New Jersey Outdoors**), but my rights to furnish this information to news media is not otherwise restricted.

_____ Signature of Applicant

State of New Jersey Department of Environmental Protection

Division of Fish, Game, and Shell Fisheries

Certification of Weight of Proposed New Jersey State Record Fish

Must be printed or typewritten

I hereby certify that on _____,
(date)

I weighed a _____ that was brought in for weighing
(fish species)

by _____. I found the weight to be
(name of angler)

_____pounds _____ounces.

I am a (check one)

_____ Sporting goods store manager.

_____ Meat, fish or grocery market manager.

_____ Director or weighmaster of a recognized fishing tournament.

_____ Other weighing agent approved by conservation officer.
(Officer must sign here)

_____

I further certify that the scales on which the fish was weighed were tested and their accuracy certified within the 12 months prior to this weigh-in by the Superintendent of Weights and Measures of _____ County.

_____ Signature of person weighing fish

_____ Name printed or typewritten

Subscribed and sworn

before me this _____

_____ Address (preferably business)
(Street)

day of _____

_____
(Town and/or post office)

_____
Notary Public of N. J.
My Commission expires

_____
(Zip Code)

American Basswood

(Tilia americana)

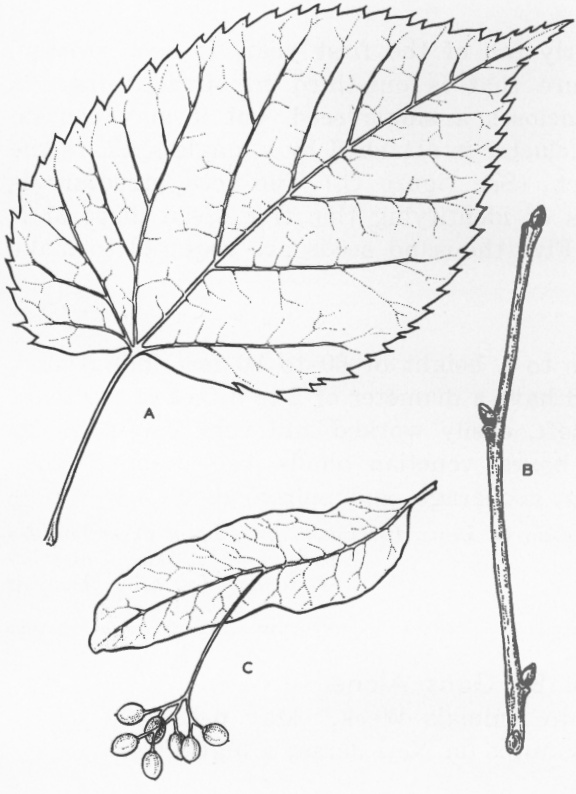
American basswood, sometimes called linn or American linden, is found growing in a mixture with other hardwoods. It makes the best growth on bottom lands. Basswood is a fast-growing tree and a prolific sprouter.

Range:

Maine to eastern North Dakota, south to Arkansas in the West, and East to Virginia. It is common in North Jersey.

Leaves:

Generally 4 to 7 inches long and 3 to 4 inches wide. Leaves are unequally heart-shaped at the base, are long-pointed at the apex, and have a sharply toothed margin (See figure A.) Leaves are simple and alternate on the twig. They are dark green and smooth



American Basswood
A. Leaf
B. Twig
C. Fruit

on top and a lighter green and smooth on the bottom except for a few scattered hairs.

Twigs:

Usually a stout, reddish zigzagging twig. (See figure B.) The terminal bud is absent, whereas side buds are usually somewhat lopsided, mucilaginous, and smooth to slightly hairy. The twig is covered with dark oblong lenticels.

Bark on older trees is thick, longitudinally furrowed, and dark. On younger trees it is gray and smooth.

Flowers:

A perfect, yellowish, fragrant flower that appears about the time the leaves reach maturity. Flowers are about one-half inch long. They are borne in drooping clusters that are attached to a narrow 4-to 5-inch leaflike bract by means of a long slender stalk. Flowers produce an abundance of nectar from which bees make choice honey.

Fruit:

The fruit ripens in early fall of the first year. It is a grayish, woody, nutlike structure that is one-third to one-half inch in diameter. It usually encloses a single seed, but it may contain two or more. The seed cluster is attached by a single stalk to the persistent leaflike bract. (See figure C.) The seed structure is one of the easy means of identifying this tree. Seed disposal is by wind and animals. Five thousand seeds are required to make a pound.

Uses:

The tree usually grows to a height of 60 to 80 feet, but it may reach over 100 feet and have a diameter of 2 to 3 feet at the base. Wood of this tree is soft, easily worked and very useful in the manufacture of small boxes, venetian blinds, bee supplies, sash, doors, furniture, veneer, cooperage, and pulpwood. #

—Austin N. Lentz, *Extension Specialist in Farm Forestry*
Rutgers—*The State University*
Drawings by Aline Hansens

Not By Guns Alone

During "Be Kind to Animals Week," May 6-12, 52 deer were killed by autos on New Jersey's highways.

New Jersey Hunter Safety Course Application

(Please Print or Type)

Name:..... Age:..... Date of Birth:.....
(Last) (First)

Address:..... City:.....

Zip:..... County:.....

Type of course requested (please select one):

Shotgun..... Bow and Arrow..... Rifle.....
(18 yrs. of age or over)

Instructions To Applicants

The above portion of this form must be filled in by the applicant or the parent of the minor (under 21 years of age) requesting the course.

The completed form is then to be forwarded to the Conservation Officer of your County, whose name and address may be found in the Compendium of New Jersey Fish Laws and Game Laws.

The applicant will be notified by an instructor when and where to report for class.

* * *

The following consent form must be executed by the parent or legal guardian of applicants under 21 years of age.

I am the parent or legal guardian of the minor whose name appears on this application. He or she is enrolling in an official New Jersey Course with my full consent and knowledge.

* * *

Signature:..... Date:.....

Address:..... City:..... Zip:.....

Phone Number: ..... County:.....

**(Following section to be completed by instructor)*

Instructors Report and Student Evaluation

Date class scheduled:..... Class location:.....

	YES	NO
Understanding of purpose of course?		
General knowledge of bow or gun?		
Demonstrated self control?		
Attention to instruction?		
Proper bow or gun handling?		
Demonstrated shooting ability?		
Knowledge of the responsibility of sportsmen?		

Instructors comments:

Certificate No.:..... Certificate date:..... Final Grade.....

Instructor signature:.....

This application form should be used only as a guide since a new computerized form is being adopted.

Guide to the

Clinton Area

Hunterdon County

The Clinton Fish and Wildlife Management Area, located on Van Syckel's Road north of Clinton, is one of the best known and most heavily utilized of all fish and wildlife management areas.

This area contains 1,027 acres of field and woodland, managed primarily for upland game and deer.

With the exception of 118 acres purchased through the Green Acres Program, the area was purchased with money from hunting and fishing license fees.

Parking

Parking is permitted in designated areas only. Parking is not permitted on Van Syckel's Road.

Upland Game

The area is managed under a continuous farm-land habitat improvement program. The principal native species are pheasant, cottontail rabbits, squirrel, and grouse. Additional pheasants are stocked through the Division's program of pre-season and in-season stocking.

Deer

This area is located in prime deer range and because of its topography and abundant food supply, it is an important wintering area for a large deer herd.

Waterfowl

The adjacent Spruce Run Reservoir offers good waterfowl hunting opportunities. The principal waterfowl species are mallard, black duck, canvasback, scaup, ringneck, and geese.

Fishing

The Spruce Run Reservoir provides excellent fishing opportunities for numerous species of fish. The principal game species are largemouth bass, northern pike, and brook, brown, and rainbow trout. Boats are permitted if they conform to acceptable operating and safety standards, and size regulation.

The tract is maintained and supported by sportsmen's license money. #

—William M. Smith,
Bureau of Wildlife Management

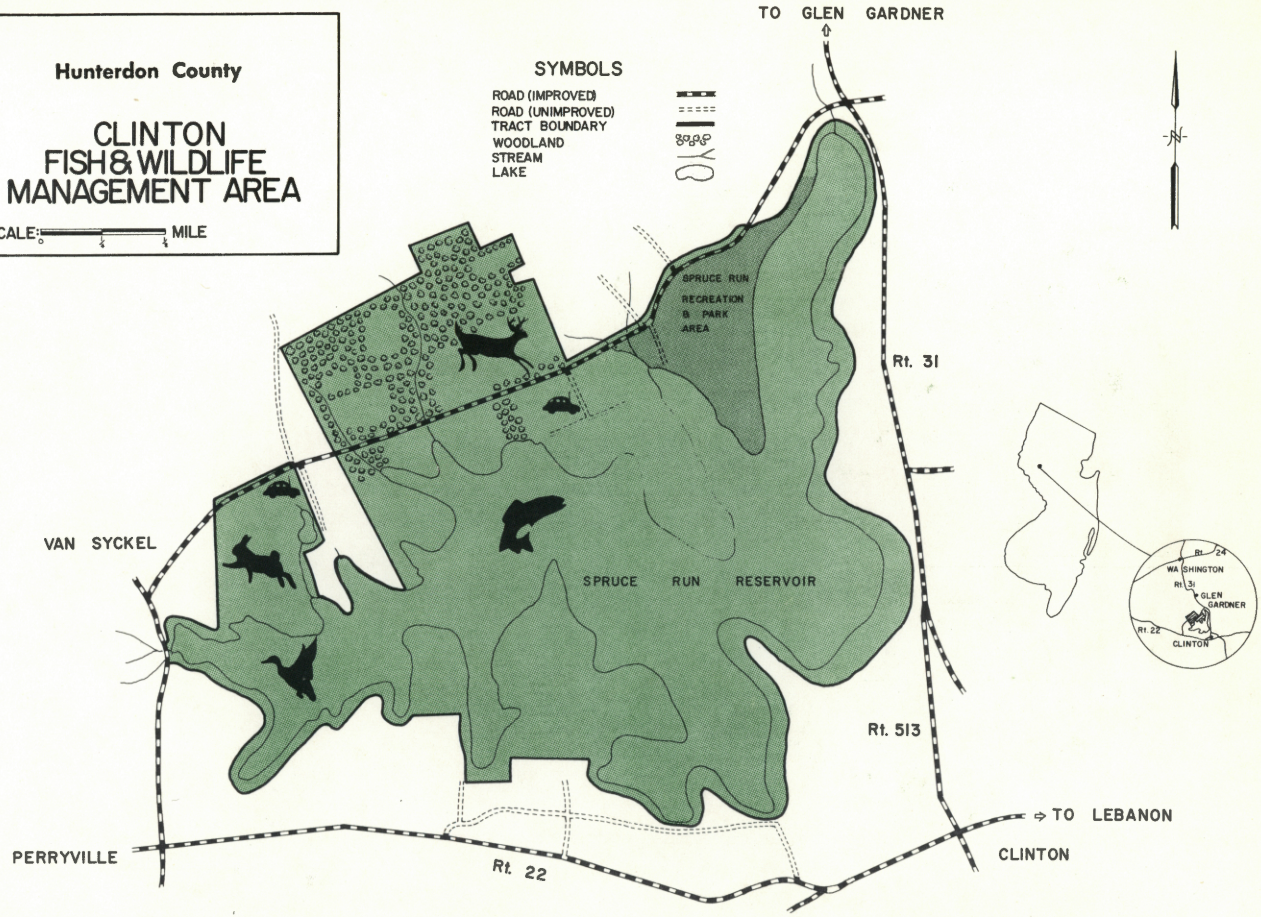
Hunterdon County

CLINTON FISH & WILDLIFE MANAGEMENT AREA

SCALE: 0 ¼ ½ MILE

SYMBOLS

ROAD (IMPROVED)
ROAD (UNIMPROVED)
TRACT BOUNDARY
WOODLAND
STREAM
LAKE



NATIONAL HUNTING & FISHING DAY

September 22, 1973

New Jersey Outdoors
P. O. Box 1809
Trenton, N. J. 08625

Second class postage paid at Trenton, N.J. and additional office.