

# New Jersey

# Outdoors

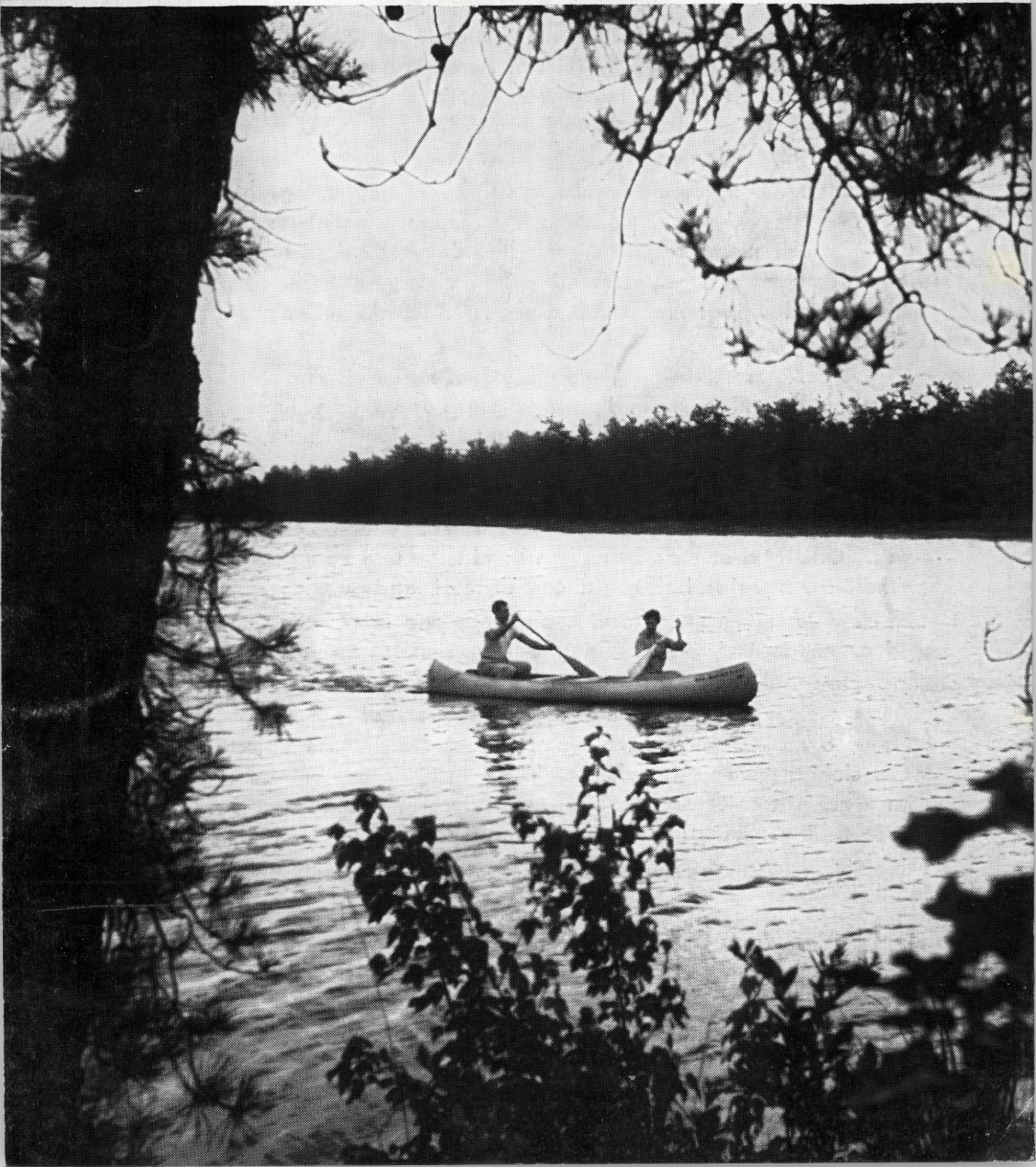


P. P.

VOL. 12, NO. 2

DIVISION OF FISH AND GAME

AUGUST, 1961



# Support the

# Green Acres

## Referendum

Before its summer recess the New Jersey Legislature unanimously approved the bills placing the Green Acres bond issue on the ballot as a public referendum at the November election. With a "yes" vote by the public, the State will be able to borrow \$60 million to provide open land for outdoor recreation and conservation needs.

Each of us can readily observe what is happening to New Jersey's remaining open areas. Our summer vacation experiences may leave particularly fresh memories of crowded and overburdened public recreation areas. Perhaps we may remember less vividly, but the fall hunting and fishing period will soon remind us of the NO TRESPASSING signs along streams and fields.

Green Acres will help relieve this loss of outdoor space for public use and enjoyment. It will secure and preserve areas of special value for this purpose. Some acquisitions will add needed land to existing facilities, and others will preserve new areas which can never be duplicated.

Under the Green Acres Program, counties and municipalities as well as the State will be able to protect and extend vital park and conservation areas. One-third of the \$60 million bond issue will be earmarked for grants by the State equal to half of the cost of local land purchase.

New Jersey's natural and open landscape is essential to three related outdoor needs—improved hunting and fishing, conservation and extension of wildlife, and preservation of unspoiled, natural open country.

New Jersey Outdoors urges your support of the Green Acres bond issue as a major and most essential step toward these objectives. To help make clear its scope, a series of three articles will be presented dealing with a general enjoyment of natural, outdoor recreation areas, the contribution to fishing needs, and the significance for conservation of New Jersey's wildlife and hunting. The first article appears in this issue as "An Outdoor Family."

#



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Cover—"ON THEIR WAY"—*Harry Grosch*  
Canoeing on Harrisville Lake on the Wharton Tract

Editor: **Bob Adams**

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# Green Acres

## *For An Outdoor Family*

By ARLO BROWN  
Coordinator, Green Acres Program

**T**HE ANDERSONS are an outdoor family. Joe Anderson, his wife and children spend as much time in the open as they can. They enjoy and appreciate natural, unspoiled, and uncrowded country. Can Joe and his family still find this in New Jersey?

Joe likes outdoor sports, especially fishing. The Anderson youngsters fish too, and Joe is ready to help them. But when their fishing patience runs out, they want to swim, or to explore shore and woods. Mrs. Anderson too enjoys these outdoor pleasures. Often she prefers a quiet, spectator view of natural activity.

Joe Anderson and his family still can find the kind of country

they want in New Jersey, but not for very much longer. Open areas are changing rapidly. Long before the Anderson children are grown, with families of their own, most of this kind of natural country will have disappeared.

The difficulty is, of course, that there are more and more of us every year who want to use and enjoy the same outdoor space. We want it for play and relaxation, and for elbow room. Unfortunately, most of our other activities need land—our homes, schools, highways, and jobs. This jam can be solved only by wise and careful use of our open space. These pressures will not cure themselves. Left alone, they get worse.

Many of the conditions which make unspoiled, natural country appealing for Joe Anderson and his family make it equally attractive for other development. Once adapted for other use, it can never be returned to a former condition. Country which best serves these outdoor activities must be bought and conserved for the specific purpose. This is what the Green Acres bond issue will do by financing the necessary protection of needed open space.

Harrisville Pond is one kind of natural, outdoor area which illustrates Green Acres purpose. Here is an area permanently held for public enjoyment. This unspoiled and undeveloped area is located in a corner of the Wharton Tract in south Jersey, but its counter-

parts exist and can be protected with Green Acres funds in other parts of the State.

Harrisville, like similar areas, offers natural surroundings where wildlife can be protected, good hunting and fishing can be maintained and where a natural setting is disturbed as little as possible. Such an area is not designed for and will not support heavy use. Instead it serves a variety of outdoor activity with no pampering or crowding.

By maintaining Harrisville Pond and other locations in a natural condition, we can provide the Andersons with a better alternative than spending most of a day on congested highways trying to reach an already crowded outdoor spot. They can instead follow less

*Harrisville Pond provides open space for a variety of outdoor activities*



## *. . . Green Acres*

traveled roads to a more tranquil scene. At Harrisville, Joe can fish with undisturbed privacy. There is ample space for the young Andersons to swim, or to tramp the woods and shore line. Mrs. An-

sea. Both are excellent waters for canoe trips, with simple camping locations spotted along the way. Early in the last century, its water lane to the sea made Harrisville an inland center of commerce. Sailing ships brought materials to the mouth of the Wading River, and



*Opportunity for relaxation and an historic atmosphere are attractions*

derson can relax, and enjoy the ever changing scene of water, sky, and wildlife.

Harrisville's special location and its history add to its atmosphere. The East Branch of the Wading River flows into the Pond, and the West Branch joins below to form a single water course to the Mullica River, and from there to the

returned seaward with their cargo of paper and other products. Only a few ruins remain, adding nostalgic interest to an area completely returned to nature.

Such an area obviously has important attractions for a family's many outdoor interests. It serves a varied use, and as such achieves a maximum value for its purchase



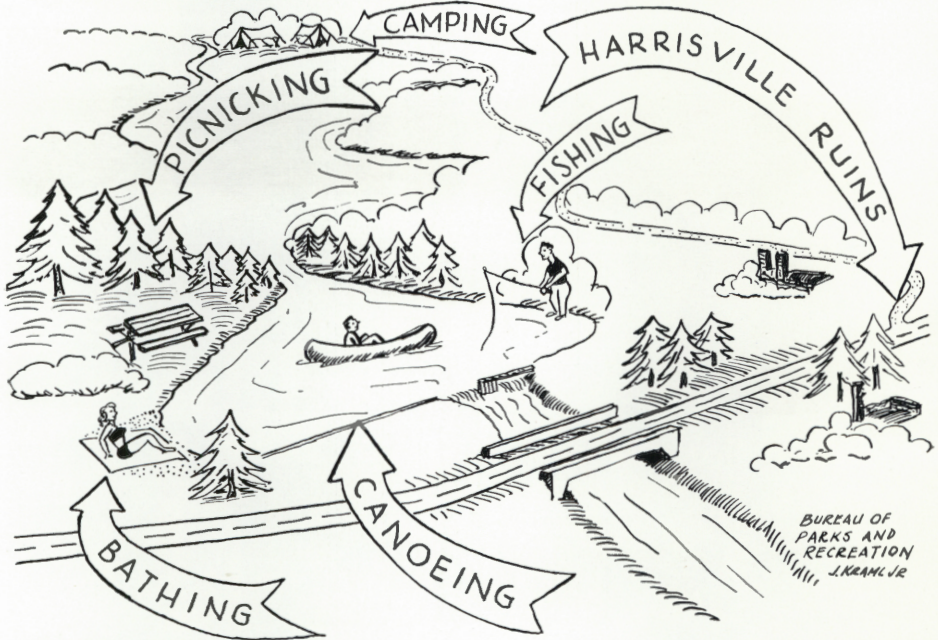
## . . . Green Acres

dollars. Such needed areas are not unlike the conditions in buying a house. It will not have all desired features, but will combine as many as can be secured.

New Jersey needs to acquire such special areas, and is fortunate that those like Harrisville still ex-

share the enriching experiences of natural surroundings. The available outdoor experience of these families may prove to be a vital link for the continuity of New Jersey's outdoor life. What is known and enjoyed is valued and what is unfamiliar may be neglected.

This wealth will not disappear if enough of New Jersey's families



*Harrisville combines many of the features desired in recreational areas*

ist with their value for outdoor sports, and scenic and historic interest. The Andersons and many other families can continue to

care for and act to protect it. A vote for the Green Acres referendum will help ensure this preservation of New Jersey's heritage. #

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**Green Acres** is a broad plan. Land acquired may be used for parks, forests, wildlife, natural areas, water reserves, camping, fishing, hunting, boating, reservoirs, winter sports, and similar "public outdoor recreation and conservation of natural resources." Land to be acquired is not restricted as to size of acreage and its availability may be maintained through easement agreements as well as by purchase

# HABITAT IMPROVEMENT

By R. W. ESCHMEYER

From the Sport Fishing Institute Bulletin

**T**O THRIVE, fish need water. This was the extent of our thinking some decades ago insofar as habitat is concerned. Now we fully realize that there are other habitat needs. The fish must have proper water temperatures and the waters must be suitable chemically. Food must be available in suitable amounts. Spawning facilities must be present if we expect to have natural propagation. Some species do not remain in an area unless they have places where they can hide.

Each species has its own environmental needs. These must be recognized if our habitat programs are to be effective. Unfortunately, for many species, we still don't have as complete a picture of these needs as we should have.

In laying out our streams and lakes, Mother Nature showed no particular interest in supplying all the needs of the creatures which would inhabit the waters. But the species themselves, over long periods of time, became adjusted to the situation, or disappeared. Consequently, desirable species of one kind or another were adapted to most of our waters when settlement began. Though there are instances where we can improve

on the habitat which Nature provided, most of our environmental improvement work is really *restoration* — correcting deficiencies which we, ourselves, created in the fish habitat.

## Habitat Destruction

The extensive destruction of fish habitat by man's activities need hardly be mentioned—we're all aware of it.

As an example, a survey made by the Soil Conservation Service in



*Mother Nature originally did quite well*

Whitewater River watershed in Minnesota indicates that originally this watershed had 150 miles of good trout stream. By 1941, as a result of poor land management and erosion, the watershed had

## . . . Habitat Improvement

only 60 miles of trout streams and this mileage was in poor condition.

Pollution, as well as siltation, is a major destroyer of fish habitat. Many a stream or lake is no longer suitable for fishing because of the discharge of untreated or inadequately treated domestic or industrial wastes.

### **Restoration is Possible**

We now have good examples of habitat restoration. An excellent

According to a report in the Forest Service files, a half of this forest area can now take heavy rains up to two inches directly into the soil, without run-off. In this area many streams and springs have returned to permanent flow, instead of being intermittent. The streams are now referred to as "milky", not "muddy", following heavy rains. During a recent dry summer the flow at one point in the Current River was 1600 cfs, as compared to 1250 cfs in the less



*Stream improvements may help; but, watershed management is the key*

one is in the Clark National Forest in Missouri, where the Forest Service is gradually converting the watersheds back to their original conditions insofar as siltation and in-soak are concerned.

severe droughts of 1934 and 1936. Plant and animal life in the streams is in much greater evidence now than in 1936. Fishing has improved, and on several of the waters is reported as the best

in the memory of the present generation of anglers.

In those remaining instances where man has not tinkered with the watersheds, habitat improvement is usually not needed. Here, except in arid and semi-arid regions, the streams flow tends to be relatively constant, because of permanent flow of springs. Gravel riffles and deep pools are generally available, and there are plenty of hiding places for fish.

This observation gives us an important clue with respect to proper stream management. It's pretty much a matter of watershed use. Where the soil is kept on the land, through proper land use, and where a substantial part of the rain-fall soaks into the ground to appear later as cool spring water, a stream will usually restore itself—provided stock is fenced out.

Where we have heavy siltation because of poor farming, improper forest use, over-grazing or faulty road building, and where we have excessive run-off, resulting in high waters at times and little or no flow at other times, the use of stream improvement structures is of little or no value.

There are numerous instances where stream improvement structures such as V-dams, covers, deflections, etc., are helpful. There are also many instances where these artificial improvements don't justify the costs involved, either because they are not needed or because they do nothing to correct the basic problem of siltation or highly irregular stream fluctuation.

Too, some amateur attempts at stream improvement may actually do more harm than good.

Before stream improvement (by installing devices) is attempted, the situation should preferably be studied carefully by someone familiar with fish needs and with water-flow and siltation problems.

We are not trying to minimize the value of stream improvement devices. We are implying that where such devices seem to be badly needed, the basic trouble usually lies in the watershed, not in the stream bed itself. We can channel silt downstream, but this is not a good substitute for preventing its entrance into the stream in the first place. We can create pools in streams which have very low water stages, but that's no substitute for the rapid and constant flow of springs resulting from having much of our rain soak into the soil. We can remove obstructions to migrations of anadromous fishes, but no amount of "improvement" will restore good habitat so long as the water is polluted by industrial or domestic wastes.

### **Lake Improvement**

Numerous attempts have been made to improve habitats in lakes, by use of such "devices" as brush shelters, spawning beds, planting of aquatic weed beds, fertilizing, etc. Some have been helpful; some haven't.

Brush shelters do attract young fish. But, all too often, the fish which find shelter there are species such as sunfishes and perch, which

## . . . Habitat Improvement

tend to be overabundant and stunted. The value of sheltering young fish is subject to question. But big fish of some species (such as black crappie) are attracted to the vicinity making possible a greater harvest of these fish. In big waters particularly, only small percentages of these fish are harvested. Here, concentrating them to simplify their capture is a good conservation measure.

We once believed that weed beds in lakes and ponds were vital to fish life. This observation was erroneous. Today, farm pond specialists don't want coarse aquatic

overpopulation. But, in all except small lakes, weed beds (unless too abundant) help decidedly in harvesting the adult fish. The weed beds tend to concentrate the catchable fish so that anglers can take more of them.

Overabundance of vegetation is a major problem in some waters. Fertilizer has been used effectively for weed control in some instances, and certain herbicides have also been used extensively. There's still no simple, universal method for control of over-abundant aquatic vegetation.

Gravel spawning beds for bass have been placed in some waters. There's proof that fish use them, but we still know of no concrete evidence to prove that introduction of spawning beds has increased the bass population.

Fertilizing with commercial fertilizer has greatly increased the fish crop in ponds in some areas, especially in Alabama. Elsewhere it has been of questionable value. For example, here's a paragraph from an article in a recent issue of the *Ohio Conservation Bulletin*:

You hear a lot today about adding commercial fertilizer to farm ponds. As far as fish production is concerned in Ohio, you can forget about it at present. As already stated, the main problem with most ponds is that they are overpopulated. This is an indication that the ponds are already fertile enough to produce more fish than are harvested.

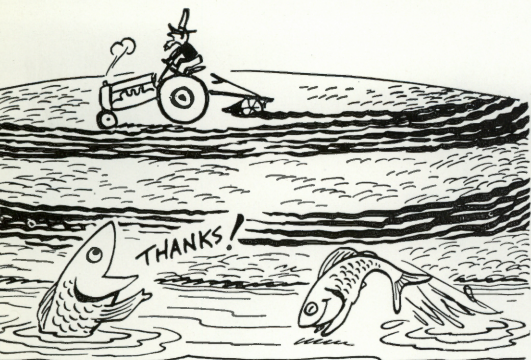
Water-level management offers

vegetation in ponds. Too, large TVA storage reservoirs have produced good supplies of fish without aquatic "weeds".

From the standpoint of fish production, weed beds in general may do more harm than good. They protect the young pan fish from their predators and thereby cause



a number of possibilities, such as raising the level to provide better marshy borders for northern pike



spawning; or lowering the level for a period to permit land vegetation to grow on the temporarily exposed shoal.

There are other lake improvement possibilities, such as adding lime to over-acid waters, or pumping nutrient materials from the deep bottom (where they are of little value) onto the food producing school areas (where they are valuable), or removing ice cover to prevent winterkill.

Like stream improvement, lake improvement offers definite possibilities. And, like stream improvement, it has definite limitations.

### In General

Various habitat improvement devices and manipulations have a definite place in fish management, but the important fish habitat improvement problem is one of general land use. With the limited funds available for fish work, the fishery workers can't begin to re-

store the watersheds. The problem is far too big, and too costly.

Farmers must keep their all-important topsoil on their land. It's their life-blood. Too, they must manage their land to permit a considerable amount of rain-water in-soak, so the plants will have water in the long periods between rains.

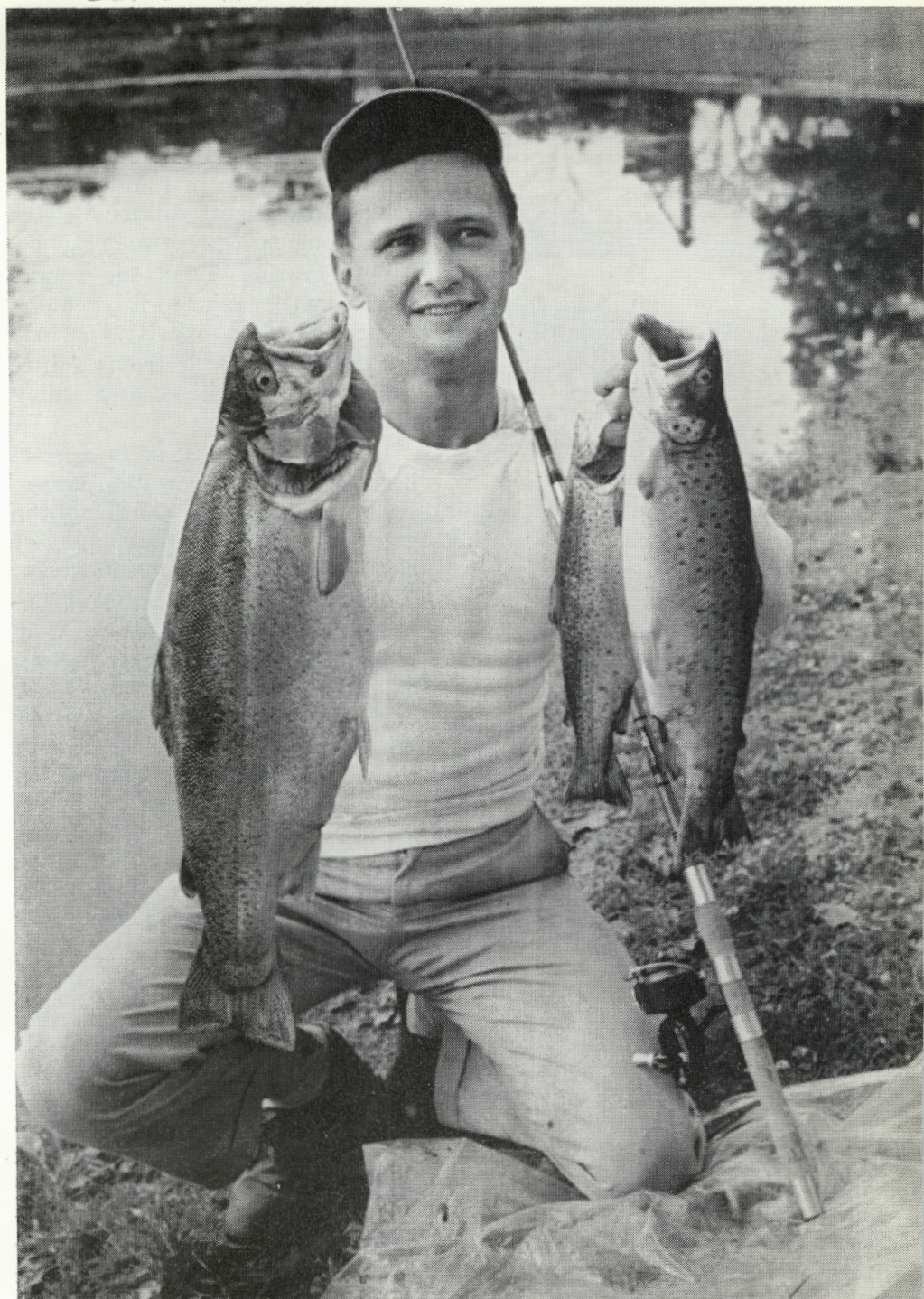
Over-grazing hurts the range-land and pasture—it reduces future carrying capacity.

Forest fires destroy future timber values—as well as harming fishing.

Pollution abatement is needed because of other water uses—recreation, drinking water, and the growing need for large amounts of clean water for certain industries.

Because of the increasing improvement in the use of our soil, water, and forest resources, we can expect a gradual improvement in our fish habitat. There's another relationship between wise use of these resources and fishing. Without our high standard of living, maintainable only by the future wise use of these resources, there wouldn't be sport fishing. Hungry people don't fish for fun. They seek food, not relaxation.

In general, the use of artificial devices in the water will benefit the fish habitat in some instances. Better use of the watershed and its resources will benefit the fish habitat in most instances. Though it might seem far-fetched at first thought, our soil conservation programs, forest fire prevention programs, etc., are all-important to the quality of your fishing. #



## Fisheries Management Pay-off

# Greenwood Lake TROUT

By RICHARD W. GROSS, Division of Fish and Game, and  
ELI DIETSCH, New York Conservation Department

**A**N UNUSUAL, yet welcome, sight was observed on April 15, 1958, at Greenwood Lake, a famous summer resort on the New York-New Jersey State Line. The unusual was the crowd of anglers observed who were fishing for trout, an almost unheard of thing in Greenwood Lake. The reason for all the angling activities was the new three-year experimental trout stocking program being conducted by the New York State Conservation Department and the New Jersey Division of Fish and Game.

The three years of experimental work are now complete and the result has been the development of a very successful trout fishery and a boost to the economy of the Greenwood Lake region. In less than two years, Greenwood Lake rose to what is considered by many, the finest trout fishing and the greatest potential for big trout in southeastern New York and northeastern New Jersey. Boat liveries which had not paid their way for years suddenly did not have enough boats to satisfy the anglers. One hardware store own-

er said that the demand for fishing tackle was so great in 1958 that he put in a full window display in 1959.

Greenwood Lake is not a "typical" trout lake, though the stocking of large brown trout was mentioned as a possibility in the 1936 report by the old Bureau of the Biological Survey. About 50% of the lake's total area, 1920 acres, is less than 10 feet in depth. The other half of the lake is much deeper, and has a maximum depth of 57 feet.

More important though is the absence in the late summer of a large volume of cool, well oxygenated water. The lake does stratify during the summer, forming three distinct thermal layers: an upper layer of warm water called epilimnion, a middle layer of rapidly cooling water called the thermocline, and a deep layer of cold water called the hypolimnion. It is the thermocline with its cool, well oxygenized water that provides the trout with a summer home. Above the thermocline, water temperatures are too warm

← *A 7-pound, 12-ounce rainbow trout from Greenwood Lake*

## . . . Greenwood Trout

for trout, and below the thermocline there is generally little or no oxygen for fish life.

These three layers are readily identified in the lake until late summer when the thermocline may be absent from the lake. With the near absence of the thermocline in late summer, temperatures become marginal though tolerable for trout above the 25 foot contour line where there is sufficient oxygen.

The two questions that naturally arise, then, is why were trout stocked in Greenwood Lake, and why were they successful?

The answer to these questions had their beginning in the mid-fifties when the "normal" complaints about poor fishing in Greenwood Lake began to increase to an unusual degree. Checks by New Jersey Fisheries' personnel tended

*Catchable trout were stocked*



to indicate some basis for these complaints. First, the expected rise in the largemouth bass population which seems to follow pickerel population peaks in New Jersey was late in materializing. The pickerel catch, which has always been the backbone of the fishery here, continued at a very low level; only the larger sizes of yellow perch and sunfish were being taken. Medium sized fish seemed almost non-existent. Chemical sampling of two coves in 1957 suggested that the 1955 and 1956 year classes of yellow perch and sunfish were nearly, possibly entirely absent from the lake; the sampling also supported reports of the scarcity of catchable bass and pickerel.

In 1957, small largemouth bass (9 to 12 inches) were being taken more frequently. This was the only bright spot in the picture, but since largemouths are sought for by a comparatively small number of fishermen and taken by even fewer, a positive program toward improving the fishery here was considered both necessary and justified.

Coinciding with the Greenwood Lake investigations was the experimental study of a put and delay-take trout fishery in Lake Hopatcong being carried out by New Jersey biologists. The results at Lake Hopatcong were so encouraging that such a project was also considered for Greenwood Lake where environmental conditions are very similar.

The next step was a series of



*New York and New Jersey anglers and biologists cooperate to tag trout*

meetings between the New York State Conservation Department and the New Jersey Division of Fish and Game, and subsequently with representatives of the Passaic and Orange County Sportmen's Federations. From these meetings a joint program was designed. The two State agencies were to stock 3,000 adult trout, 1,000 each of rainbow, brook, and brown of which a certain per cent would be tagged. The program was to begin in April, 1958, and continue for three years. Under authority provided for border waters, special regulations were established for the trout fishery including no size limit, 3 trout per person per day, and an open season from April 15 to November 30.

The collection of the data was made the responsibility of the Greenwood Lake Trout Committee

which was composed of sportsmen from both Orange and Passaic County Federations. The fine job done by the Greenwood Lake Trout Committee was largely due to the efforts of William Acker of the Orange County Federation, and Al Bortolot of the Passaic County Federation. Pertinent information and tags collected by the Committee were turned over to either of the two state conservation agencies and processed by their biologists. The Committee also took charge of publicizing the program and awarded numerous prizes for the return of trout tags which could be turned in at any one of the twenty check points established on the lake.

The total catch for 1958 was 1,325 trout which represents a 42.8% harvest of the trout stocked. In 1959, 1,167 trout planted in 1959

## . . . Greenwood Trout

were caught for a 38.3% harvest. In addition 290 trout from the 1958 stocking were also caught in 1959.

amounted to 1,247 trout or 40.9% of the original number.

To help further evaluate the Greenwood Lake trout program, a breakdown of weight harvested



*The tagged trout were cooperatively float-stocked in the lake*

In 1960 the stocking figure was increased 50%, and 4,700 fish were released. Of this number, 1,765 or 37.6% were caught in 1960.

was essential. The very excellent initial harvest of the 1958 plant, 1,147 pounds or 67.8% of the original weight, was supplemented each

**Table 1. Catch of Stocked Trout, Greenwood Lake, 1958-1960**

Year Stocked	Number Stocked	1958 Catch		1959 Catch		1960 Catch		Total Catch	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
1958 .....	3,093	1,325	42.8	290	9.4	55	1.8	1,670	54.0
1959 .....	3,050	—	—	1,167	38.3	80	2.6	1,247	40.9
1960 .....	4,700	—	—	—	—	1,765	37.6	1,765	37.6

Also, 80 of the 1959 plant, and 55 from the 1958 plant were taken. This raised the efficiency of the harvest from the 1958 stocking to 1,670 fish or 54.0% of the initial harvest. The total 1959 catch

of the following two years. In 1959, 901 pounds were harvested which consisted of fish ranging from 2 to 7 pounds, and 333 pounds of fish ranging 5 to 8 pounds, in 1960. The total weight harvest

of 2,381 pounds or 141.1% of the original 1958 plant, is phenomenal for a stocking of catchable sized fish. In 1959, 910 pounds or

of this experiment. The marginal trout conditions in Greenwood Lake proved sufficient to carry some trout through the critical

**Table 2. Weight of Stocked Trout Harvested, Greenwood Lake, 1958-1960**

Year Stocked	Pounds Stocked	1958 Weight Pounds Percent	1959 Weight Pounds Percent	1960 Weight Pounds Percent	Total Weight Pounds Percent
1958 .....	1,691	1,147 67.8	901 53.3	333 20.0	2,381 141.1
1959 .....	1,787	— —	910 50.9	307 17.2	1,217 68.1
1960 .....	2,085	— —	— —	1,402 67.2	1,401 67.2

slightly over half the stocking was harvested. In 1960, 307 additional pounds were taken to give a total return of 1,217 pounds or 68.1%

summer period. These holdover trout are important to the fishery for they are next years surprises for the angler. A report of a big



*The trout also cooperated—7-pound, 10-ounce brown trout*

of the plant. An excellent weight return of 1,402 pounds or 67.2% of the original plant was recorded in 1960.

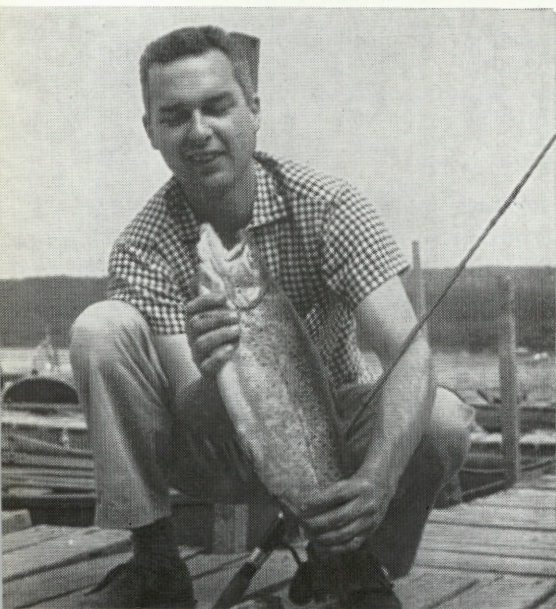
Biologically speaking, several factors contributed to the success

one now and then is sufficient to maintain the anglers interest.

The lack of competition from yellow perch and pickerel may also have contributed to the high yield, exceptionally good growth, and the

## . . . Greenwood Trout

large number of holdover trout. There is evidence from the Lake Hopatcong data that the greater



*This fish gained six pounds in 14 months after being stocked*

competition from yellow perch, pickerel, or "hold-over trout", the poorer will be the subsequent harvest of other trout.

The lower initial harvest of brown trout in 1959 and subsequent poor holdover harvest of brown trout in 1960 from the 1959 plant, is probably due to the dominant 1958 year class. This phenomena occurs at Lake Hopatcong with brown trout, but not to the degree with which it occurred at Greenwood Lake in 1960. This pattern of holdover catch if it follows Hopatcong's pattern, will consist of a large catch of medium sized (2-4 pounds) brown trout

every other year. On alternate years, the holdover catch will consist mainly of large individuals (4-8 pounds).

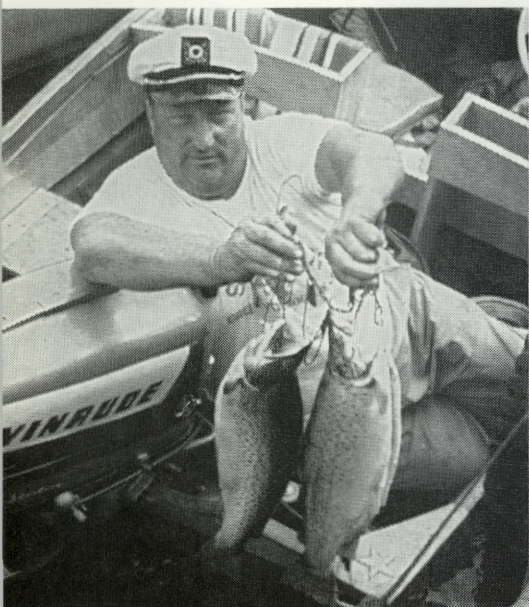
Studies by the New Jersey Division of Fish and Game revealed that the primary link in maintaining a trout fishery in a lake of this type involved the presence of suitable food or forage which would occupy the same area of the lake as the trout. The landlocked alewife or "saw belly", with its characteristic of open water feeding and occupying the thermocline—lower epilimnion of the lake, satisfied this requirement. The trout feed almost exclusively on this little forage fish from May to November, and occasionally in the winter.

The growth of the stocked trout in Greenwood Lake was excellent. Brown trout that were in the lake an average of 12 months showed a growth increment of over 7 inches for the period. One fish grew eleven inches and gained six pounds 2 ounces in thirteen months. The result of this excellent growth was a catch of many five and six pound trout during 1959.

The size of the trout stocked is an important factor for it was demonstrated early in the Lake Hopatcong studies that the size of the fish influenced the harvest. Trout 10-12 inches in length were found to give the best return and were recommended for stocking in Greenwood Lake. Additional data from the Greenwood Lake study, however, demonstrated that brook

trout 8-10 inches in length gave nearly the same returns as brook trout 10-12 inches in length. Therefore it became obviously unnecessary from an economical standpoint to stock 10-12 inch brook trout which are much more expensive to raise.

The data, on the other hand, confirmed the necessity of stocking 10-12 inch brown and rainbow trout. The brown and rainbow



*The period for successful trout fishing has been lengthened*

trout must be of that size in order to favorably compete with the abundant warm water fish population. They also feed extensively

on the landlocked herring and must be of sufficient size to utilize this food resource.

Important also was the utilization of the combination of the three species of trout with their slightly different habits and reactions to conditions. Well-defined peaks of catchability occur at different times during the season for each of the three species. The brook trout are taken early, followed by the rainbows in late April and May, and again in the late fall, with a similar peak for browns during late May and June. The net result is an elongation of the period for successful trout fishing.

An additional dividend from the experimental program has been the investigation of various types of tags and tagging techniques. Comparisons were also made in certain characteristics of various hatchery stocks of trout.

What the future will bring is always difficult to predict, and we have no crystal ball. Success over the first three seasons, however, appears to amply justify continued management to maintain a trout fishery in Greenwood Lake. It seems likely that success of such management may vary from year to year, but we believe there is a basis to effect a productive average. #

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*Please send fish tags and information about tagged fish to:*

**BUREAU OF FISHERIES LABORATORY**

**Division of Fish and Game**

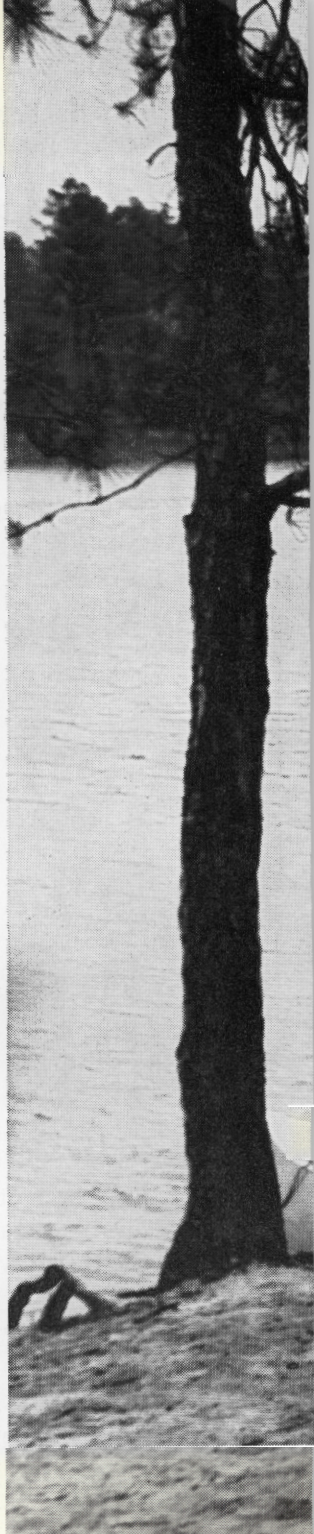
**Lebanon, New Jersey**

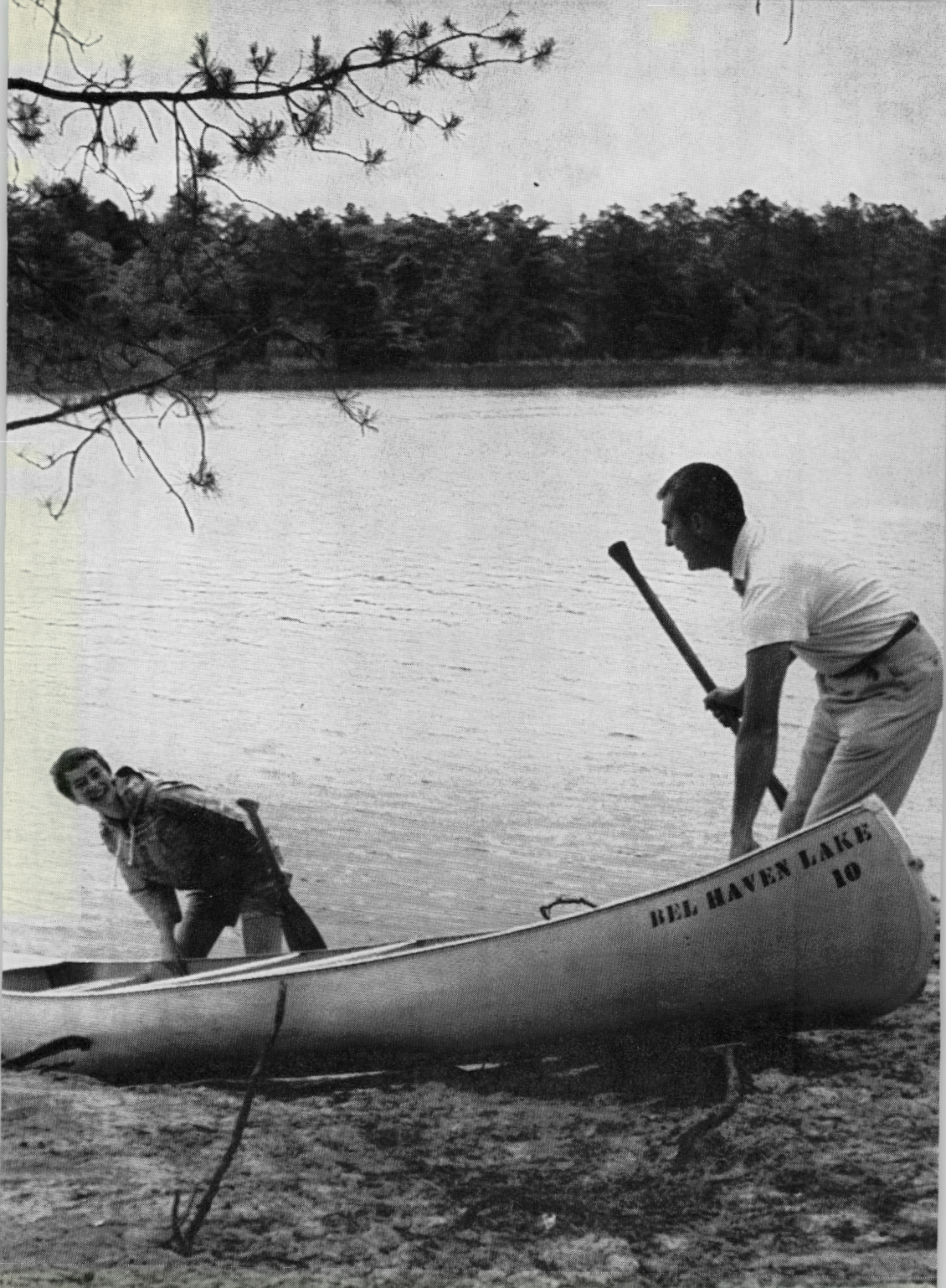


# CANOEING

**ONE OF THE MOST** enjoyable ways to travel the many pleasant waters of New Jersey is by canoeing. Ever since the days of the Lenni Lenape Indians, transport by canoe has enabled outdoors people to journey from settlement to settlement, to visit distant places, to reach hunting or fishing grounds otherwise inaccessible, and, most important nowadays, to get away from the routine press of everyday life.

*Photographs by* HARRY GROSCH







... **CANOEING** is a versatile outdoor pastime. It may be enjoyed simply by paddling and drifting. It may be used as a means for transporting a complete camping outfit to the back country. It may be adapted to an hour's fishing or a two week's vacation voyage. About the only requisites for canoeing are a bit of spirit, a canoe, and good clean waters in a surrounding of green acres.



BEL HAVEN LAKE  
10



## ***Conservationists Visit New Jersey***

Recent guests of New Jersey were Thomas Kimball, (right) Director of the National Wildlife Federation and Dr. John Bulger, (left) Eastern representative of the Federation. They met with Director A. Heaton Underhill (center) of the Division of Fish and Game for two days and were briefed on many of the fish and game problems in this small, highly industrialized state.

The visitors' trip to New Jersey was climaxed with a motor tour of some public hunting and fishing tracts in North Jersey, the Round Valley-Spruce Run Reservoir areas, and an aerial flight of the Delaware River Valley from Flatbrookville to the Salem County marshes.

Director Kimball expressed some of his thoughts on our problems as he sees them, but mentioned also, the fine job that the Division is doing in the face of a constantly expanding population. One of Mr. Kimball's comments was that he did not realize New Jersey has such extensive unspoiled areas, such as those found in North Jersey or the marshes of Delaware Bay. He was also impressed with the large number of deer present in the Mercer-Hunterdon area. #

# COUNCIL HIGHLIGHTS

## JUNE MEETING

The open session of the regular monthly meeting of the Fish and Game Council was held June 6. Those present in addition to the Council, Director, and Staff were the following: Edmond Shuler, Lillian Godown, Edward Jackson, and Roy H. Williams.

### Beaver Report

The Council received the report on the beaver harvest for the 1961 season which was held in February in certain counties. There was a total harvest of 132 animals with 67 persons having been issued permits to trap.

Chief of the Bureau of Wildlife Management MacNamara recommended the establishment of a season for 1962 along the same lines as that for 1961 but that the season be made state-wide for that year rather than only in certain counties.

### Wild Turkeys

The Director read to the Council a letter he had written to Merton J. Golden, Executive Director of the Pennsylvania Game Commission, thanking him on behalf of the Council for the 26 wild turkeys which Director Golden furnished to New Jersey for experimental liberation.

### Deer Management

Carlton Heritage, President of the State Farm Bureau, appeared before the Council. He expressed the opinion that we are at a point at which the deer problem can be solved on a basis that will satisfy all. He felt that there are only a few trouble areas now and that some agreement can be reached to take care of them without further postponement. He stated that he does not believe that there is one-half of one percent of the farmers that want to do away with the deer—many farmers also like to hunt. He would like to see a method whereby some of the deer could be moved out of the heavily populated areas before the fall hunting season. He stated that the farmers are willing to work on this problem any time that the state is ready. They would try to help in any way possible. He hopes that we can get started as soon as possible to give relief to the smaller areas.

Councilman Onkst emphasized that the necessary reduction of the herd could not be made unless we have assurance that the hunters can be brought into these trouble areas to make the reduction.

Councilman Kelly stated that this problem has been plaguing us for a long time and that it falters and falls on one word—cooperation. He asked Mr. Heritage if he could not, through the Farm Bureau, start a program along these lines. Mr. Kelly suggested that wildlife committees of the farm groups contact Division wildlife personnel and,

## **. . . Council Highlights**

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through mutual cooperation, commence a campaign designed to open the problem area lands.

Mr. Heritage opined that, if the problem is not solved by hunting, some other means of reducing the herd should be found. We must get down to specific areas where the trouble is, and we must do a great deal of work in those areas. He stated that the Farm Bureau will try to get the land open.

Councilman Kelly stated that many of the hunters are insured against any type of damage to farmers' lands and that this fact should be publicized.

Chairman McCormick stated that Mr. Heritage could advise the farm groups that we are making a sincere effort to arrive at a mutually agreeable solution and that the views of both the Council and the Farm Bureau are compatible.

### **Rabbit Management**

Councilman McNeel reported on success of the rabbit project at Rockport. Last week the Superintendent of Rockport, Chief MacNamara, George Alpaugh, and Councilman McNeel observed the habitat improvement work conducted by a beagle club in Pennsylvania. The club was working to improve low quality land and create rabbit habitat. Mr. McNeel was quite impressed with the results and is convinced that there is no question but that habitat improvement is the only answer to rabbit abundance. The Rabbit Management Committee will hold meetings in the near future and Councilman McNeel hopes to have a policy recommendation to submit to the Council.

Mr. Onkst reported that for the last two years the South Jersey Beagle Club and the Garden State Beagle Club in South Jersey have had a rabbit program in effect which is proving itself in that section.

### **Delaware River Stripers**

Councilman Onkst mentioned that the largest population of striped bass in the Delaware River for many years was present this season, with the size of the fish ranging from 12 to 20 inches.

### **Delaware River Conference**

Councilman Kelly announced that he attended the Delaware River conference at Port Jervis with members of the staff. It was the consensus of that group that the under-utilized Delaware River has tremendous possibilities as a fishing area.

### **Pollution Report**

Councilman Kelly reported that there is pollution in many of our North Jersey trout streams. He observed, with Captain Spencer, pollution of the Musconetcong and Pequest Rivers and other favorite trout streams. Raw sewage is being allowed to enter the Rahway River and

Woodbridge Township sewage is entering Sucker Brook. Councilman Kelly's reason for presenting this information was to show that we cannot relax for one instant the fight against pollution.

### **Striped Bass**

Councilman Hart, commenting on the great numbers of striped bass 12 to 15 inches in length along our entire coast, recommended that some thought should be given to reducing the minimum size for stripers so that the sports fishermen could be given the opportunity to utilize the fishery while present. At a later date, if conditions change, the fishing can again be restricted if necessary. Councilman Kelly made a motion that the Council favor a uniform 12-inch striped bass law on our coast. This was seconded by Councilman McNeel. The motion carried.

### **Delaware Compact**

Director Underhill stated that the courts are now willing to recognize that the Delaware Compact is inoperative, and if New Jersey wanted to pass a law for Delaware Bay, it would be valid even if Delaware did not pass it. The mechanics of preparing legislation for introduction next January were left to the Director.

### **Pheasant Inoculation**

Chief MacNamara reported that a public demonstration of pheasant vaccination was held at Rockport on June 23. Dr. Oscar Sussman of the State Veterinary Health presented the demonstration.

### **Hatchery Report**

Mr. Hayford reported that approximately 480,000 trout raised at the Hatchery, plus an additional 55,000 from the National Fish Hatcheries, have been distributed. The final figure from the Hatchery, should be over 500,000 in addition to federal fish. The last shipment of federal fish will be culled and the smaller fish will be held over until next year.

### **Administrative Reports**

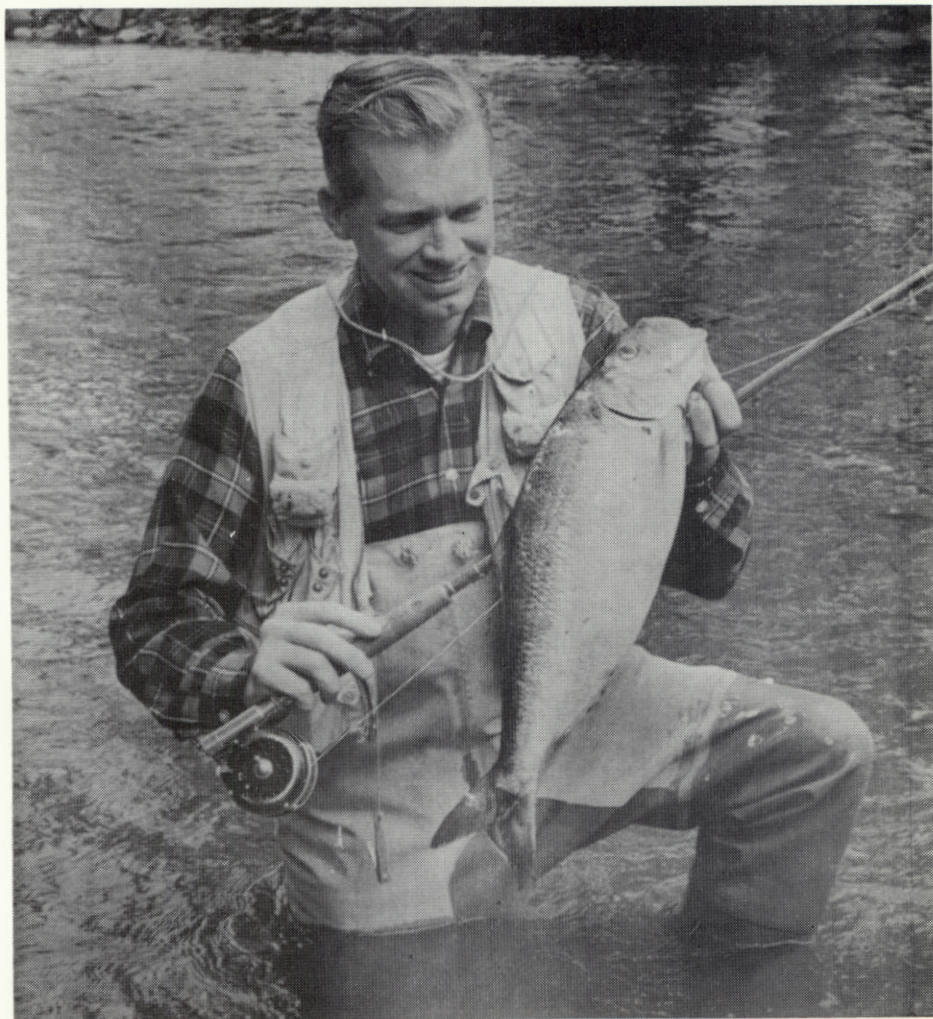
Mr. Gross made the following reports:

1. Civil Service approval has been received for setting up a correspondence course and short course at Rutgers to give our employees a year's equivalent of college, to be used primarily to qualify for the Conservation Officer examination.

2. Regarding a program for the Delaware River, request for a full time federal coordinator on the Delaware River has been denied by the Federal Government, however, consideration is being given to another program for the handling of fish and wildlife activities along the Delaware. Copy of this proposed program was given to each Council member.

3. Success of the experimental fishing trip on the Flat Brook and use of the electric shocker to prove that there were plenty of fish present.

# BIG FLAT BROOK SHAD



Roy Kornmeyer of Roselle Park caught a fine shad at Wallpack Center, Big Flat Brook, at 9:00 a. m. on May 16, 1961. The fish, which took a March brown nymph, was a roe shad, 22½ inches in length and 3¾ pounds in weight.

The shad was the first and only known shad taken in the Flat Brook this season. However, many shad have been taken by sport fishermen in the Delaware River in the vicinity of Black Eddy and Milford, Pennsylvania. Shad fishing in the Delaware River has been reported to be excellent this year.

## Bow-Hunters Association

# ANNUAL CHAMPIONSHIP SHOOT

### Obissquasoit Bowmen Club

The home of the Obissquasoit Bowmen, located four miles southeast of Alloway, has been chosen as the site of the New Jersey Bow-Hunters Association Annual Championship Shoot to be held on September 10.

The Obissquasoit Bowmen Club grounds, on a large, level wooded tract of land in southern New Jersey, is ideally situated and designed for shoots. It is easily reached from North Jersey by way of the New Jersey Turnpike and Route 540 and from South Jersey points by way of Routes 40, 49, and 540. The ranges are set in pleasant, park-like surroundings.

The Club members have been busy rebuilding target butts that were damaged during the past winter. The Forestry Committee has completed the planting of several hundred Norway spruce and cedar trees. The Club hopes that the plantings will add to the beauty and enjoyment of the area and help to induce the native wildlife to make use of the habitat on the shooting grounds.

The gourmet phase of the day's enjoyment, for which the Obissquasoit Club is justly famous, will start at 6:30 a. m. with a menu headed by the old stand-by of ham-and-eggs with potatoes. The dinner will feature such main courses as roast turkey and baked Virginia ham with all the trimmings. The Club's two culinary artists, members George and Irma Onkst, will be in charge of the kitchen. The Club traditionally charges only a very nominal fee for the foodstuff.

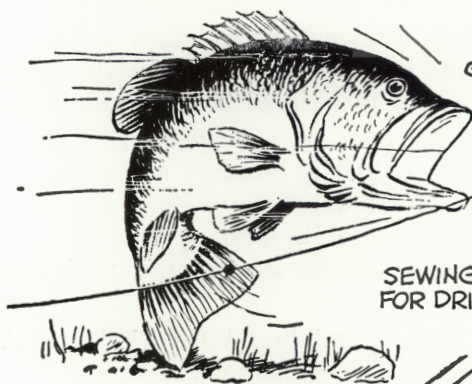
On hand to greet the visiting archery friends and contestants will be the Club's own husband and wife team of Champions—the present holders of the New Jersey Bow-Hunters Championship awards in both divisions, Charles and Angie Hocknell. They will get all guests started on an even keel by introducing one and all to other archery enthusiasts from various parts of our state.

For Club President Charles Burkentine, organizer of the Club, this event will be a memorable day. With the completion of the club house, Charley has realized a dream that started some twenty years ago. Selection of the Club as host for the New Jersey Bow-Hunters Association Annual Championship Shoot is a fitting climax for his efforts.

The Obissquasoit Bowmen Club extends an invitation to all archers to visit its shooting course and club house, and participate in the wholesome friendship that is so common to the archery group. #

# Fur, Fin <sup>and</sup> Campfire

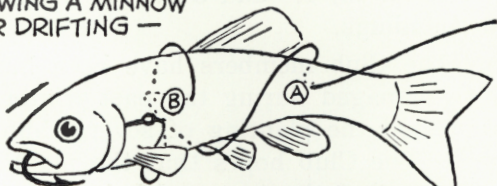
By JACK SORDS



GAME FISH INSTINCTIVELY GO FOR CRIPPLED SMALL FISH.

A SEWED-ON MINNOW ACTS LIKE AN INJURED FISH IF ALLOWED TO DRIFT DOWNSTREAM AND OFTEN GETS BASS AND LARGE TROUT

SEWING A MINNOW FOR DRIFTING —

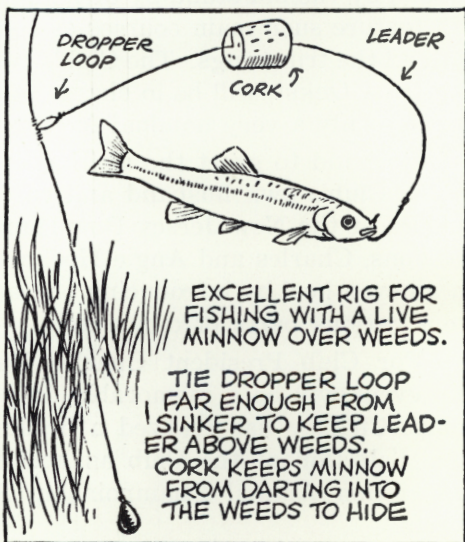


FIRST, PASS HOOK THROUGH FISH AT (A), WRAP AROUND AND BRING THROUGH AGAIN AT (B), THEN WRAP AGAIN AND THREAD HOOK IN THE GILL AND OUT THE MOUTH. TIGHTEN THE SLACK

SEWING A MINNOW FOR TROLLING



PASS THE HOOK THROUGH THE UPPER AND LOWER LIPS AND THROUGH THE GILLS. HOOK INTO THE TAIL END OF THE BODY. PULL TIGHT ENOUGH TO CURVE BODY. THIS GIVES THE TROLLED MINNOW A SPINNING MOVEMENT, SO A SWIVEL SHOULD BE USED TO PREVENT THE LINE FROM TWISTING.



EXCELLENT RIG FOR FISHING WITH A LIVE MINNOW OVER WEEDS.

TIE DROPPER LOOP FAR ENOUGH FROM SINKER TO KEEP LEADER ABOVE WEEDS. CORK KEEPS MINNOW FROM DARTING INTO THE WEEDS TO HIDE

Consult Compendium of Fish Laws for regulations concerning bait

# TEN COMMANDMENTS OF FISHING

By LORRAINE BASSFORD

*The Palacios Beacon*

1. Thou shalt not let thy zeal for a fishing trip awaken thy household at 3 o'clock in the morning to prepareth thyself. If thee must ariseth so early, moveth quietly.

2. Keepeth thy fishing equipment in good condition.

3. Thou shalt not request the lady of thy heart to prepareth ambrosia or a hearty breakfast for thee. Prepareth it thyself, or stoppeth at an all-night cafe.

4. Thou shalt not utter profane words if thee discovereth an airless tire on thy means of transportation. Be thy own man Friday, and repaireth it thyself.

5. Driveth not like a demon to a bait camp, or to the fishing spot of thy choice.

6. Shouldest thee entereth others' property, remembereth it is their kindness that permitteth thee to do so. Leaveth not an untidy spot, and closeth all gates.

7. Casteth thy line into the water. The hook on the line is to hooketh fish, not the ear, arm or garments of those nearest to thee.

8. Useth thy good judgment if thou seest foul weather coming.

9. Thou shalt speaketh the truth when thy day of fishing is over.

10. If these commandments thou obey, thou shalt have a pleasant day.

# VIOLATORS ROUNDUP

APRIL 1961

<i>Defendant</i>	<i>Offense</i>	<i>Penalty</i>
Wm. Keyes, 71 Abbett Ave., Morristown	Fish no license	20
Anthony Guarino, 529 Valley St., Maplewood	Fish closed waters	20
Virgil McCauley, Woodland Rd., Englishtown	Illegal missile	100
Russell Day, 53 Third St., Nixon	Illegal poss. large mouth bass	20
Jos. Chessick, 122 River Rd., North Arlington	Gun on Sunday	20
David Gugliemi, Blue Bell Rd. & Harding Hwy., Vineland	Fish no license	20
Albert Mosley, 533 Erial Rd., Sicklerville	Illegal poss. deer	100
		Prob.
Guy Renzi, 327 Cuyler Ave., Trenton	Illegal weapon	20
Edward Lacken, 4 Iowana Ave., Trenton	Illegal weapon	20
Francis Reed, 534 Erial Rd., Sicklerville	Illegal poss. deer	100
		Prob.
Allen R. Johnson, 26-A Marion Pepe Dr., Lodi	Fish closed waters	20
Ernest Fasaro, 105 John St., Hackensack	Fish closed waters	20
Adam Beringer, 426 Pratt St., Hammonton	Angle closed season	20
Jack Lawrence, 462 Martin Ave., Maple Shade	Angle closed season	20
Erwin J. Callaghan, 149 Brunswick Rd., Cedar Grove	Fish no license	20
Robt. Thomas, Millville Rd., Millmay	Fish no license	20
Burl Horace Cook, 173 Speedwell Ave., Morristown	Fish no license	20
Joseph Farry, 212 Mt. Ave., North Plainfield	Fish in closed waters	20
Richard Spohn, 7 Brookside Pl., Livingston	Fish no license	20
Ronald Chard, Macavoy Terr., Millville	Fish no license	20
James F. McAllister, 938 Bay Ave., Ocean City	Poss. rifle closed season	20
Geo. W. Sparks, Haleyville Rd., Dividing Creek	Remove vegetation from Fish and Game	25
Thomas C. Newshem, Main St., Shiloh	Permit bird dog to run at large	20
James Blaskfield, 64 Hickory Pl., Rockaway	Fish in closed waters	20
Carman Grasso, Spring Rd., Hammontong	Hunt deer at night	100
Carman Grasso, Spring Rd., Hammontong	Hunt deer closed season	100
Louis R. Condo, Spring Rd., Hammonton	Hunt deer at night	100
Louis R. Condo, Spring Rd., Hammonton	Hunt deer closed season	100
John Grasso, Spring Rd., Hammonton	Hunt deer closed season	100
John Grasso, Spring Rd., Hammonton	Hunt deer at night	100
Ralph Sagamoto, Spring Rd., Hammonton	Hunt deer closed season	100
Ralph Sagamoto, Spring Rd., Hammonton	Hunt deer at night	100
Anthony D. Kirk, 2144 Orchard St., So. Plainfield	Angle closed season	20
Anthony D. Kirk, 2144 Orchard St., So. Plainfield	Fish no license	20
Sam S. Tuceco, 360 Rutherford Bl., Clifton	Angle closed waters	Forfeiture of bail
Multe Manning, 835 Malcolm Pl., Linden	Poss. raccoon closed season	20
Jack Finkelstein, 3831 Brigantine Rd., Brigantine	Illegal poss. striped bass.	20
Walter T. Hanson, 10th Ave., Dorothy	Hunt deer at night	100
Walter T. Hanson, 10th Ave., Dorothy	Loaded gun in auto	20
Walter T. Hanson, 10th Ave., Dorothy	Hunt no license	20

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