

NJ Periodicals

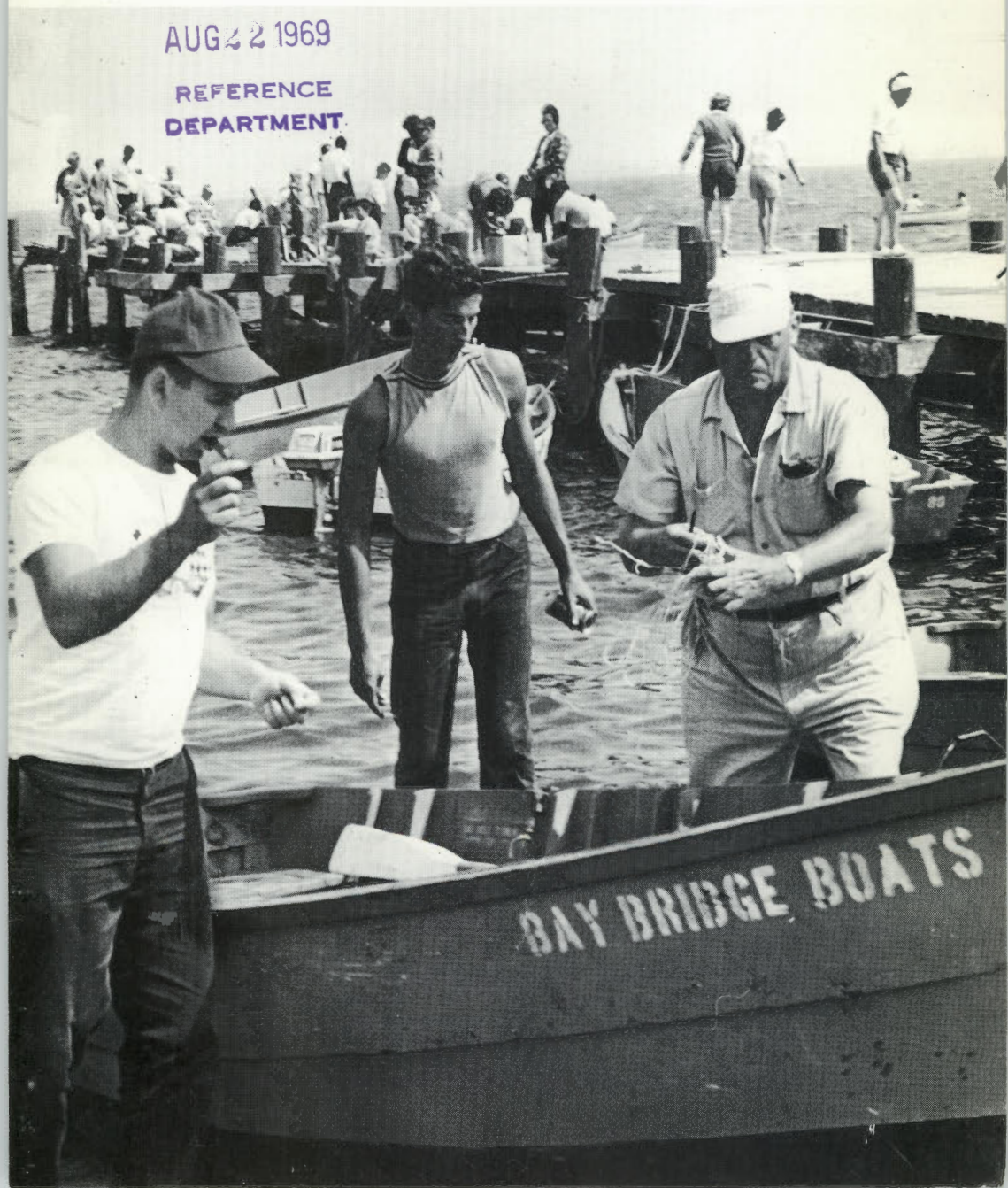
New Jersey *Outdoors*

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August 1969

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Work Is a Virtue

The abuses, indifference and greed which were the causes of many of our resources being damaged or destroyed in the past decades, were also responsible for emphasizing the critical need of husbandry and conservation. A nation composed of determined individuals, with opportunities never afforded another people, was making the most of these opportunities to insure economic security and cultural improvement. Within their era of advancing civilization, they thought they were doing right.

In some respects, the fact that overuse of resources was finally recognized as a destructive factor to future survival has set us apart from many nations of the world. Whether we will intelligently face up to the problems we have created is yet to be determined. Some of our fairy dreams must change to greater realism. We are now in that stage of illusion where we feel that unlimited money and speeches will solve all problems. We must face the fact that we have a hard row to hoe, and that "unlimited money" is nothing more than raw resources converted into useful goods, which in turn are sold for money. With a dangerous low in resources, an end could come to this cycle.

It is reasonably safe to say that public indignation played its part in reversing public attitudes when the decimation of the continental game herds became a national scandal. Later in such matters as forest destruction, dust bowls, erosion, and water pollution, the fear that we might run short of resources was of greater impetus than a stricken conscience.

Some species of wildlife have been lost, some, no doubt, will be wiped out directly or indirectly by human predation or loss of habitat. Others have been maintained as a remnant reminder of their once myriad numbers, and still others can remain abundant into the foreseeable future. Forests have been re-established in many areas with remarkable success; the battle against soil erosion is only partly won; and the fight to clean up our water courses is still little beyond the talking stage. It must be remembered that the threat to all resources is constant as the impact of man increases. It does not diminish.

We hear the term "conservation by crisis" occasionally used—it is an apt phrase. Conservation by crisis will continue until human attitudes change. But the destructiveness resulting from man's genius would have been greatly reduced if human attitudes and the human conscience were blended into one element of thought. Conservation education in many forms has been promoted to change thoughtless and cynical attitudes. It is making some impact but not fast enough.

It is time that some of our leadership is reoriented. In attempting to emphasize recreation as a national policy, statements have been made such as "work in itself has no virtue" and "There is no virtue in work."

Continued on page 25

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Cover—"Fishing Pressure"—Harry Grosch

Nowadays it seems as though just about everybody is either fishing or chomping at the bit to get fishing. For more on the implications of fishing pressure see page 19.

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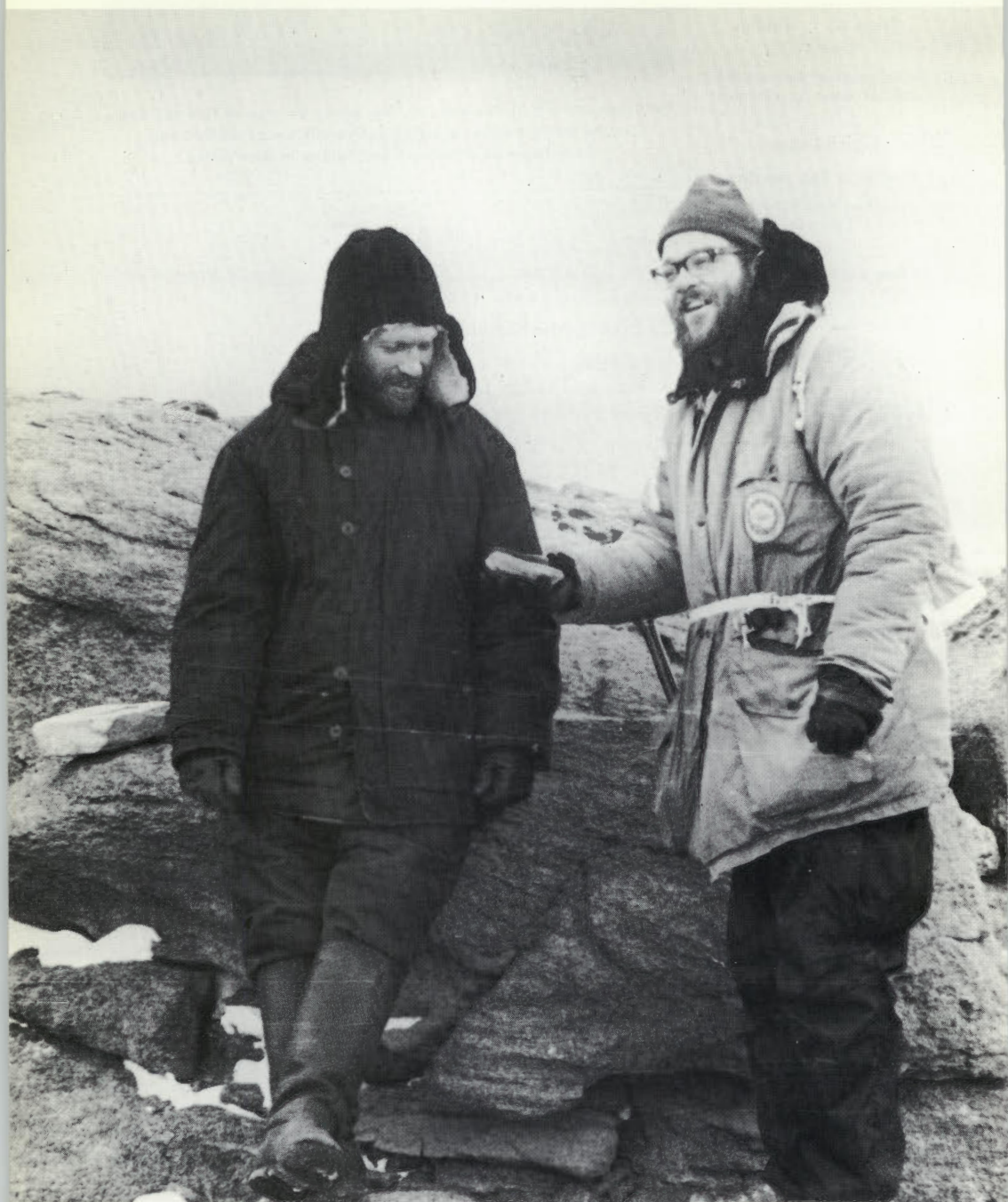
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*Dr. E. E. MacNamara, right, with USSR field engineer studying exposed bedrock
in Tala Hills, Antarctica*

Remarks on

Conservation Activities

in the U.S.S.R.

By E. E. MacNamara¹

Knowledge of the procedures, successes, and failures, as well as the problems, of fishery and wildlife resource management within the Soviet Union has not been readily available to interested Americans for a number of years. This note will show that there is a recognizable conservation movement in the Soviet Union at present; and that this movement is encountering difficulties not completely unknown in the United States.

As is known, the Soviet socialistic form of government does not invite criticism of any government operated program, and actively discourages all private enterprise programs. Thus the perpetual question debated in the outdoor columns of U. S. newspapers, "Who is better qualified to direct the management and harvest of a resource, the professional biologist-ecologist or the sportsman?", is evaded. It has become known recently that debate on the question of maintenance of the environment does occur in the Soviet Union, usually between professionals. The striking case, of course, is that of the apparent short-term and possible long-term effects of on-going industrial developments in the Lake Baikal area.

The author has just returned from a 16 month period in the antarctic with the 12th and 13th Soviet Antarctic Expedition as the exchange scientist representing the United States Antarctic Research Program. Studies conducted during the period were mainly devoted to the soils, rocks, lakes, and climate of a little known area on the Enderby Land coast, although some observations were made on the marine life of the area during voyages to and from the continent. The data collected, and the samples brought back to the USA, are presently being analyzed in the Center for Marine and Environmental Studies at Lehigh University. Exchanges of scientists between antarctic expeditions are included within the provisions of the 1961 Antarctic Treaty (12 signatory and active members). Other provisions provide for the non-militarization of the region, conservation of natural resources, free inspection of facilities, reservation of land claims for a minimum of 30 years, exchanges of data, and joint planning of exploration. The exchange section allows foreign scientists to work in areas of the vast antarctic continent that are financially and logistically im-

¹ Research Assistant Professor, Center for Marine and Environmental Studies, Lehigh University, Bethlehem, Pennsylvania. The author was formerly Research Coordinator, New Jersey Department of Conservation and Economic Development. The studies conducted in the antarctic were supported by a grant from the Office of Antarctic Programs, National Science Foundation, to the Arctic Institute of North America.

. . . Conservation in the U.S.S.R.

possible to reach from the existing stations of their home nation. Of the nearly 50 such exchanges that the USA has made to date, 6 have been with the Soviet Union.

As in all isolation stations, the long austral winter with its inclement weather provides adequate time to converse freely on a multitude of subjects, including hunting, fishing, and camping. I found that the Soviet citizens, at least those who work in polar research, consider camping and hiking to be major forms of family recreation. I was told of numerous family trips to far-off areas during the annual vacation period. Some of the slides and photographs that I was shown were of beautiful landscapes with well managed forests mantling the slopes of mountains, while others were of near pristine seashores, lacking the Coney Island aspect. Many of the camp grounds utilized were government operated, while others, especially in the more remote areas, were natural sites. Forest fire prevention signs were often in evidence.

Hunting opportunities for the common man were reported to be very restricted, although government hunters are employed to remove surplus animals from populations especially in northern areas. Modern arms and ammunition are not readily available but many of the scientists indicated that they do have



*Wildlife in Antarctica—
Adelie penguin with
newly hatched chicks*



Measuring a young Weddell seal pup under watchful eyes

weapons for the collection of scientific specimens. Bag limits in many areas are quite low by New Jersey standards; i.e., one rabbit per day and five per season was the limit in one man's home area. Much of the harvest of big game, usually taken by "qualified" individuals or government hunters, becomes community property. A permit system of big game harvest was mentioned, although I was unable to find out the means of obtaining a permit.

Fishing opportunities are much less restricted, although many of the fisheries proximal to population centers have declined from the combined effects of unwise harvests, pollution, and habitat destruction related to urbanization. At times, based upon the recommendations of fisheries biologists, water bodies are closed to fishing to allow the populations to recover from excessive harvest pressure or unfavorable environmental variations. An active stocking

ОХРАНЯЙТЕ ПОЛЕЗНЫХ И РЕДКИХ ПТИЦ И ЗВЕРЕЙ



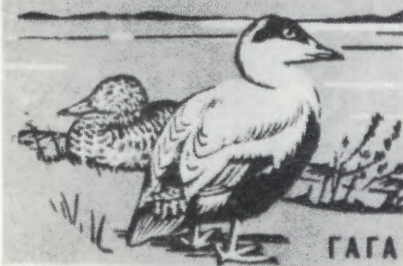
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БОЛЬШАЯ СИННИЦА

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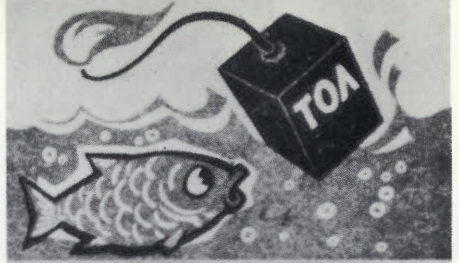
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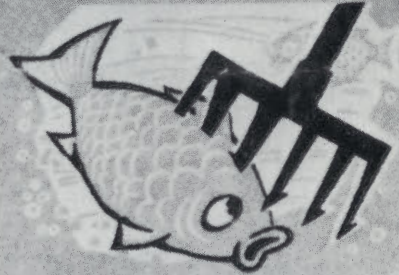


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НЕ ЗАГРЯЗНЯЙТЕ ВОДОЕМЫ



Conservation messages from USSR
match box covers

. . . Conservation in the U.S.S.R.

program, including the importation of exotic fishes that may occupy ecological niches presently either vacant or occupied by fishes that are not edible or desirable, is an integral part of the fishery program. Research, especially into management problems and the economics of harvest and processing, is actively and massively supported by the government both through universities and research institutes with cooperative arrangements with academic institutions and by government scientists.

Two columns of photographs are used to illustrate this note. The illustrations were removed from match boxes which are sold to the members of the antarctic expeditions, as well as the general Soviet public (50 matches for the equivalent of one cent). This approach to the problem of informing the public of the desires of the government relative to resource management is admirable and probably quite efficient when one takes into consideration that all matches used in the USSR must be purchased from the government. The first group of cover illustrations show songbirds, ducks, herons, and swans all bearing the legend "Protect Useful and Rare Birds and Their Young"; indicating that ornithologists have made considerable impact in governmental circles. The second group of photographs are representative of the problems that are encountered in resource management. The upper three bear the legend, "Poacher, Enemy of Nature", while the lower picture can be translated "Don't Pollute the Water". The conclusion can be drawn that poaching is carried on by individuals who wish to supplement their diet (or possibly income), and is illegal.

I also had the privilege of viewing many Soviet film shorts while with the expedition; movies being one of the favored forms of entertainment. Some very beautiful films of nature, competitive to the well-known Disney productions, were shown repeatedly. Other films, usually humorous in nature, demonstrated the fate of poachers. One, which I recall very well, portrayed a group of poachers in the process of dynamiting a fishing hole. After approaching the site they were deterred by the presence of the local conservation officer. When they were certain that this individual was no longer in the vicinity, the dynamite (Tol) was tied to a stick and thrown into the water, from which it was immediately retrieved by the poachers' well-trained retriever. I am certain that the ending can be inferred from the plot that I have outlined.

The interesting simile between the problems of the Soviet Union and those of the United States in resource management is well illustrated by the presence of the match book cover against industrial pollution. In the Soviet Union all industry is state-owned and directed. It seems that the resource management section of the government has been unable to educate the industrial economists and designers of the value of natural resources and the need for consideration of natural ecosystems in waste disposal. Unfortunately similar situations exist in many state and local governments in the United States, as well as probably at the higher governmental levels. #

Dr. E. Everett MacNamara

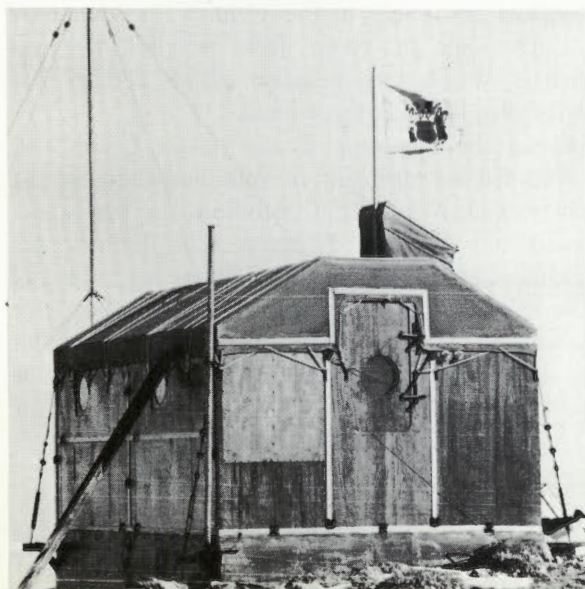
A New Jersey scientist formerly affiliated with the State Department of Conservation and Economic Development has received the unique honor of having an antarctic glacier named for him. Dr. E. Everett MacNamara of Milford, former Research Coordinator for Conservation Commissioner Robert A. Roe, was selected by the Board of Geographic Names of the U.S. Department of the Interior "in honor of his contributions to polar science."

Dr. MacNamara was the first American earth scientist to work in the Enderby Land area of Antarctica and the first U.S. scientist to participate in the cooperative American-Soviet scientific exchange program. Last fall he joined the faculty of Lehigh University as a Research Assistant Professor in the Center for Marine and Environmental Studies, where he is continuing his research on polar mineral specimens.

He is the son of Fish and Game Director Lester G. MacNamara, who stimulated his first interest in natural resources as a youth in Pittstown. He served with the Department of Conservation and Economic Development just prior to joining the antarctic expedition in 1966.

"MacNamara Glacier" will be shown on official United States Geological Surveys maps to be issued this year and in the future. The glacier is 15 miles long and 5 miles wide and is located in the Patuxent Range of the Pensacola Mountains below South America; its latitude is 84 degrees, 20 minutes south, and its longitude is 60 degrees, 40 minutes west.

A 5½ million square mile scientific reservation in Antarctica has been set aside for cooperative research by 12 nations including the U.S. and U.S.S.R. As part of this program, Dr. MacNamara spent 15 months at the Soviet research station, Molodezhnaya, where he was the only English-speaking scientist. Agencies involved in the project include the Arctic Institute of North America, the U.S. Antarctic Research Program, and the National Science Foundation, as well as the U.S. State Department.



The State Flag of New Jersey flying over the hut occupied by Dr. E. Everett MacNamara during his stay in Antarctica



Dr. E. Everett MacNamara, Research Assistant Professor in Lehigh University's Center for Marine and Environmental Studies, prepares to slab-cut a rock specimen from Antarctica in order to make a thin section for mineralogical investigation

Dr. MacNamara has already published four technical papers on the soils and climate of the antarctic, and more will follow. The area is considered the last frontier of earth science, and research will provide valuable information about geology and weather, as well as such fields as cold weather clothing, building, and food storage.

His studies have carried him to both polar regions, as he spent three summers in Alaska as a Research Fellow in Arctic Soils for Rutgers, the State University, while earning his Ph.D. He also served as a member of an earth science research team in Costa Rica and was Conservation Director of the Town of Hempstead, Long Island. He received his B.S. degree from Rutgers and his M.S. from South Dakota State University.

In addition to his study of polar specimens at Lehigh, he will conduct research in the basic ecology of the Delaware Valley, especially with regard to thermal pollution in the lower Delaware River, a project of great benefit to New Jersey. His continued residency in Hunterdon County will enable him to pursue his favorite recreational activities of hunting and fishing in the Garden State.

Commissioner Roe recalled Dr. MacNamara's great pride in his native state; "One of my most cherished mementos is a tattered New Jersey flag which 'Eddie' returned to me after coming back from Antarctica; it flew every day over his polar hut, next to the Stars and Stripes. He created good will among his Russian co-workers with slides of New Jersey scenery and tapes of American music. Our state can indeed take pride that a distant Antarctic glacier now carries the name of this distinguished native son." #

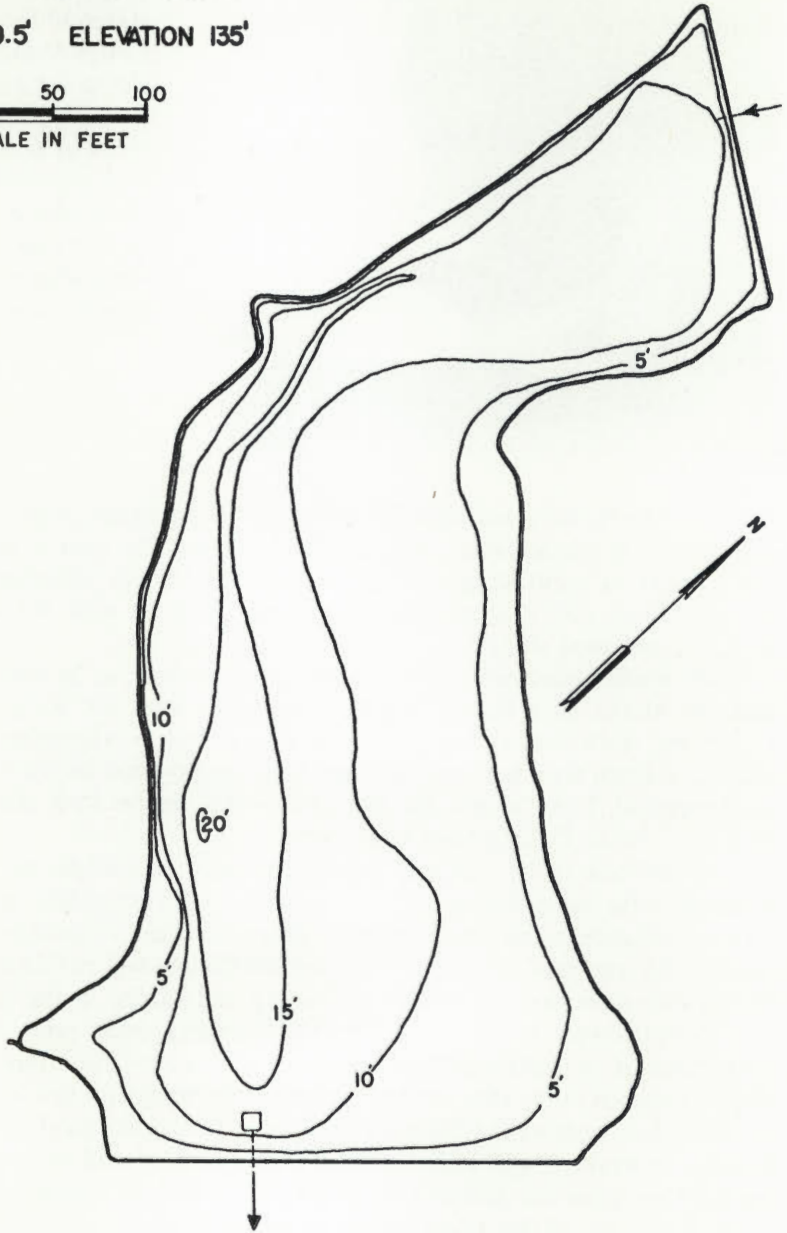
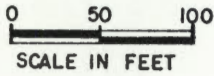
HOLMDEL PARK POND

NAVESINK RIVER DRAINAGE

MONMOUTH CO.

2.8 ACRES CONTOUR INT. 5'

AV. DEPTH 9.5' ELEVATION 135'



For Better Fishing

Aspects of Trout Management Employing Reclamation and Restocking With Fingerling Rainbow Trout in a Marginal Trout Pond

By Robert Soldwedel and A. Bruce Pyle
Bureau of Fisheries Management

Part I

Holmdel Park Pond, a marginal trout pond located near Holmdel, New Jersey on Monmouth County Park Commission Property was used to evaluate the management procedure involving annual plantings of fingerling rainbow trout with reclamation as determined necessary. Results showed that this procedure can produce an excellent fishery, extending through the summer and fall, under the conditions tested. An average monthly growth increment of about 0.49" and survival of up to an estimated 90% made this possible. Competition from other species was considered the most serious factor influencing survival and growth, and measures effectively preventing the establishment of other species are considered essential to the success of this management procedure. Estimated poundage of fish produced in Holmdel Park Pond compares favorably with results elsewhere. Considerations related to the application of this management procedure are also discussed.

Introduction

The primary purpose of this study was to determine the practicality of attempting to provide trout fishing in a park pond environment by periodic reclamation with piscicides and restocking with fingerling trout. Holmdel

Park Pond is one in a series of ponds and small streams used in the evaluation of this management technique. Information considered pertinent to such an evaluation consisted of determinations of the ability of the fingerling trout to survive, their growth rate and ability to provide a fishery, the amount of angler utilization attracted to this type of program, and the number of years that the environment would remain suitable for supporting such a fishery before reclamation again became necessary. Fingerling rainbow trout (*Salmo gairdneri*) were the primary species investigated although some brook trout (*Salvelinus fontinalis*) and some brown trout (*Salmo trutta*) fingerlings were inadvertently introduced following the second reclamation. The study covered a five-year period during which measurements were made of limnological conditions in the pond, the fish population, and angler effort and harvest. It was hoped that information gathered during this study would have application as a management technique to similar situations throughout the state.

Description of Study Site

The pond used in this study is located in Holmdel Park of the Monmouth County Park Commission in

. . . For Better Fishing

New Jersey. The "Navesink Marl" of the Cretaceous period is the geologic formation in which it is situated. This formation consists of greensand marl mixed with varying amounts of quartz sand and fine earth containing much calcium carbonate in a powdery state. It is characterized by a fossil shell layer a foot or more in thickness near the top of the marl beds. Soils of the area (Freehold-Collington) are regarded as having moderate natural fertility and the surrounding park area is fertilized regularly. The main pond was constructed and filled in 1963. Little excavation was done in the pond bed itself except in the vicinity of the dam. The water control structure is located away from shore near the dam end of the pond and is of such design as to draw near-bottom water from the pond for release downstream. An older farm pond (not shown on map, Fig. I) of about one-quarter acre lies immediately upstream of the main pond and serves as a silt "trap." The study pond covers 2.8 surface acres with an approximate mean depth of 9.5 feet and a maximum depth of 21.5 feet. Its water is supplied through a small feeder stream, which first empties into the upper pond and in turn flows via a pipe into the main pond, and by surface and sub-surface drainage. Although the study period included perhaps the most severe drought, 1965 and 1966, this portion of the nation has experienced, the pond level seldom dropped significantly despite the fact that flow over the spillway was absent during extended periods, particularly during the summer. The inlet stream had an established population of black-

nose dace (*Rhinichthys atratulus*), while the brown bullhead (*Ictalurus nebulosus*) was the only species originally found present in the ponds.

Methods and Procedures

The two ponds and the feeder stream were initially reclaimed on September 12, 1963. Water in the study pond was lowered before reclamation so that the rotenone would detoxify through dilution as it refilled. The piscicide used was Chemical Insecticide Corporation's Chemfish Special O.F. applied to create a concentration of approximately 2 ppm. active ingredient. At the time and based upon subsequent sampling this reclamation was considered to have been highly effective.

The initial stocking was made on October 16, 1963, and consisted of two-thousand fingerling rainbow trout averaging 2.2 inches in length. Subsequent releases were made on February 24, 1965, (1,000 anal fin-clipped rainbow trout fingerlings), December 6, 1966, (1,000 fingerling rainbow trout, av. length 2.6 inches) and on November 22, 1967, (3,025 rainbow trout fingerling, average length 2.5 inches). It was subsequently learned through population sampling and creel census that brook trout and brown trout had inadvertently been mixed with the rainbow trout in the latter stocking.

Population samplings were conducted with gill nets and seines. All sets were of approximately 20 hour duration. Shoreline seining was conducted with two types of seines, one a 15-foot, 1/8-inch mesh, straight seine and the other a 25-foot, 1/8-inch mesh, bag seine.

Physical-chemical water analyses were conducted on the following dates:

April 29, and August 10, 1964, January 5, May 6, and August 17, 1965 and February 10, 1966. The water analyses methods used were as follows:

Dissolved oxygen—Winkler, sodium azide modification.

Alkalinity—Titrimetric (Phenolphthalein and Methyl orange indicators).

pH—Colorimetric (accuracy 0.2 units).

Water temperature—Stem thermometer and thermistor thermometer (°F).

Specific conductance—Type RB 3 - Solu Bridge.

Creel census was conducted on the pond on April 10, 1965, by fisheries laboratory personnel, and during the periods April through July, 1966, and

was delayed until June 1 to afford the previous November stocking an additional period for growth. Coverage was less extensive in 1968 as only the following dates were censured: June 1, 5, 16, 22, and 30, July 2, 6, 14, 28, and 30, August 3. Information collected included the total number of anglers, the number of trout taken and/or released, the number of other fish caught, and the time spent angling. These data were projected (data collected on census days was applied to similar uncensured days during the same time period to provide weekly estimates) to provide estimates for extended periods in regard to utilization and harvest.

In the fall of 1967, after creel census and survival checks had indicated that

Table I. Schedule of Population Samplings and Dimensions of Gill Nets Used

Date	Gill Nets
May 7 & 8, 1964	1½" stretch mesh x 6' deep x 100' long; 2½" stretch mesh x 6' deep x 100' long.
Jan. 5 & 6, 1965	1½" stretch mesh x 6' deep x 60' long; 2½" stretch mesh x 6' deep x 150' long.
Aug. 16 & 17, 1965	1½" stretch mesh x 6' deep x 60' long; 2" stretch mesh x 6' deep x 150' long.
Mar. 27 & 28, 1967	2" stretch mesh x 8' deep x 150' long; experimental, 1½" to 3½" stretch mesh x 8' deep x 150' long.
Apr. 15 & 16, 1968	two experimental, 1½" to 3½" stretch mesh x 8' deep x 150' long.
Oct. 9 & 10, 1968	two experimental, 1½" to 3½" stretch mesh x 8' deep x 150' long.

June through August, 1968, by Monmouth County Park personnel. During 1966 the creel census was conducted on each Saturday, Sunday, and one weekday for the first 13 weeks of the trout season. The start of the 1968 trout season at Holmdel Park Pond

the pond was no longer providing a trout fishery and that other species had become established, it was decided to again reclaim the pond and its drainage. A double weir, constructed of iron fence posts and chicken wire of 1 inch and ½-inch mesh, was set up

. . . For Better Fishing

below the pond's outlet in an attempt to capture trout "flushed" from the pond for enumeration purposes. After the pond was drawn down as far as possible a salvage attempt utilizing a boat and a 150-foot bag seine was

carried by seepage into the downstream area. A follow-up toxicant application was made on October 16, 1967, at the rate of one gallon of toxicant to two acre-feet of water following an erroneous report of live fish in the treated ponds. Dilution occurred as the ponds refilled and after a month

Table II. Water Analyses Results, Holmdel Park Pond—April, 1964-February, 1966

Date	Depth (feet)	Temp. (° F)	pH	Dissolved Oxygen (ppm)	Alkalinity (ppm)			Cond. micromhos/cc
					ph-th	M.O.	Total	
4-29-64	0	53.5	6.1	10.4	0.0	12.2	12.2	95
	12.5 (bottom)	53.5						
8-10-64	0	76	6.7	7.4	0.0	19.0	19.0	95
	12	74		7.0				
	13	72		5.6				
	15	67		1.2				
	17 (bottom)	66		0.0				
1-5-65	0	32	6.9	14.6	0.0	9.0	9.0	
	15 (bottom)	33	6.8	12.4	0.0	9.0	9.0	
5-6-65	0	64	8.2	10.4	0.0	11.0	11.0	75
	8	57.5		6.2				
	12	54		6.6				
	17	50		0.2				
8-17-65	0	83.5	8.4	8.2	0.0	15.0	15.0	92
	6	82.5		8.4				
	10	78		2.8				
	12	74		0.2				
	14	68		0.0				
	17	64		0.0				
2-10-66	0	32	7.0	11.0	0.0	10.0	10.0	100
	14.5 (bottom)	37	6.9	10.2	0.0	11.0	11.0	105

made on October 3, 1967. Following this "liquid Noxfish", a piscicide produced by the S.B. Penick Company, was applied at the rate of one gallon of toxicant (5 percent rotenone) to three acre-feet of water to produce a concentration of 1 ppm. active ingredient. Potassium permanganate was set in the stream below the lake to nullify any effects of the rotenone

a bioassay was conducted that established that the waters had again become suitable for fish. This was followed by the previously mentioned stocking on November 22, 1967.

Physical-Chemical Characteristics

The results of the physical-chemical water analyses conducted over the study indicated that conditions of tem-

perature and dissolved oxygen considered possibly critical for trout survival existed during the August 17, 1965 check. This might have been a reflection of the effects of the prevailing drought. Conditions deemed suitable for trout existed during the other checks.

Stocking Evaluations

1963 Fingerlings:

Fifteen trout of the October, 1963, stocking of 2,000 fingerlings were collected in the sampling of May 7 and 8, 1964. These fish averaged 7.3 inches in total length and had grown at a rate of approximately 0.73 inch per month since their stocking. The sampling of January 5 and 6, 1965, yielded 16 more fish from this same stocking that averaged 11.6 inches in total length for an average monthly growth rate of 0.68 inch since stocking. Unsubstantiated estimates by park personnel indicated that a large number, possibly a thousand, of these trout had been harvested during 1964. A spot check of creels on April 10, 1965, found trout from this stocking to be averaging 12.6 inches in length, this represents an average growth rate of 0.58 inch per month since stocking. Checks of the stomach contents of the fish sampled revealed they had been feeding almost entirely upon an abundant amphipod, probably *Gammarus*. No trout of this stocking were taken during the August, 1965, population sampling or thereafter.

February 1965 Fingerlings:

This second stocking of Holmdel Park Pond consisted of 1,000 anal fin-clipped rainbow trout averaging 4.0 inches in total length. Less success was

experienced with this than with the previous plant in regard to both harvest and growth. The August 16 and 17 sampling produced 16 trout from this stocking that averaged 7.3 inches in length for a mean monthly growth rate of 0.66 inch since their release. This sampling also marked the first appearance of pumpkinseed sunfish (*Lepomis gibbosus*) and banded killifish (*Fundulus diaphanus*). A little over a hundred of these trout were reported caught during the April-July, 1966, creel census and some additional fish were allegedly taken during both fall seasons following their stocking. Over 500 sunfish were recorded as caught during the creel census period. Trout recorded in the census averaged 10.7 inches for a mean monthly growth rate of 0.48 inch since their release. No trout from this stocking were reported caught after the fall of 1966.

December 1965 Fingerlings:

One-thousand rainbows averaging 3.0 inches in total length were stocked on December 21, 1965. Because of their small size these fish were generally unavailable to anglers during the 1966 season. Only one trout of this stocking was ever recovered during sampling. This trout, 9.1 inches in length, was taken in the March 1967 sampling suggesting a 0.41 inch monthly growth rate for this stocking. None of these trout were recovered past this date.

December 1966 Fingerlings:

Seventy-seven trout of this stocking of one-thousand were netted the following spring and constituted the only evidence of survival of this stocking ever recorded during the study. Infor-

. . . For Better Fishing

mation obtained from park personnel and local residents indicated that the trout catch had been negligible during the 1967 season. Meanwhile the occurrence of other species such as pumpkinseed sunfish and banked killifish had increased.

Reclamation of 1967:

In view of the obviously decreasing ability of the pond to produce a desirable trout fishery, the need to remove the established undesirable species, and to facilitate a more thorough evaluation of past stockings of trout, it was decided that the pond and its drainage should again be reclaimed. This was accomplished during October, 1967; no trout were found to be present. Species of fish removed from the pond were pumpkinseed sunfish, golden shiners (*Notemigonus crysoleucas*), banded killifish, American eels (*Anguilla rostrata*), and a single largemouth bass (*Micropterus salmoides*). It was estimated that the pumpkinseed sunfish, some 10,000 fish amounting to approximately 97 pounds, accounted for between 95-99 percent of the total population by weight.

November 1967 Fingerlings:

Approximately 3,025 fingerling trout were released following the reclamation. Originally scheduled as a stocking of rainbow trout, it became obvious from the initial population sampling that other trout species had previously been mixed with the rainbows at the hatchery. Neither the breakdown of the stocking by species nor their respective average sizes was known at the time of the plant and,

therefore, comparisons between species are invalid.

The population sampling of May, 1968, produced 6 brook trout and 15 rainbow trout with the brook trout averaging slightly larger than the rainbows, 6.5 inches and 5.7 inches, respectively. The growth rate of both species combined was 0.47 inch per month, which is the same rate experienced by the solely rainbow stocking of January, 1965, during their first seven months at large. Further, based upon other growth rates, other than for the October, 1963, stocking which was obviously planted into above average conditions for growth, the growth rate of the combined species is very similar to the rates for other single species plants over the same months. No other species were found during this May, 1968, sampling. The subsequent creel census indicated that brown trout also had been stocked; however, brook and rainbow trout predominated and provided about equal returns. Reportedly, the small sizes of these fish when harvested, 5.0-8.0 inches, caused considerable complaints by the anglers. Population sampling in October, 1968, failed to locate any trout, but found that the pumpkinseed sunfish had become well established and that numbers of banded killifish and goldfish (*Carassius auratus*) were also present. It was learned from park personnel at this time that a fish kill involving only trout had occurred in mid-September.

Utilization and Harvest

The results of the 1966 and 1968 creel census represent, basically, a comparison between results obtained with a reclaimed-restocked pond (1968) and those obtained with a

pond which had been reinfested with undesirable species (1966). The 1966 data reveals what would have to be considered as a "poor" trout fishery with a low catch rate and a resultant poor return on the fish stocked. In comparison, the 1968 data illustrates what is considered an excellent return on the fish stocked with about 89 percent of the plant being accounted for in the creel census. Even more interesting was the fact that the 1968 catch occurred during the summer, a period

supply of trout, and (3) the late season opening day (June 1). In regard to the latter factor, utilization of the park is maximum during June, July, and August, and with the June opening the fishing season coincided with the time of maximum park utilization. Fish were readily available since they had not had their ranks depleted during the spring months as in other trout waters.

A negative aspect of the 1968 season as opposed to the 1966 season was the size of the trout available. During 1966 the average size of the trout recorded was about 10.7 inches (minimum of 15 months at large) while in 1968 the sizes ran from 5.0 to 8.0 inches (minimum of 6 months at large). In the latter case, had the previous fall's release been made at an earlier date the size of the trout most probably would have been of a more acceptable nature.

It was unfortunate that the exact numbers of brooks, browns, and rainbows in the November, 1967, plant was unknown. From the 1968 census data it appears that brook and rainbow trout had been mistakenly released in near equal numbers instead of the 100 percent rainbow trout stocking that had been scheduled.

Other Species

As previously mentioned the original population of the pond consisted of brown bullheads while the stream contained only blacknose dace. The first re-appearance of species other than rainbow trout, following the 1963 re-clemation, occurred during the August 16 and 17, 1965, population sampling which produced four pumpkinseed sunfish and one killifish in addition to

Table III. Creel Census Results, Holmdel Park Pond, 1966

Week	Est. No. Anglers	Est. No. Hours	Est. Trout Catch	Catch Rate Trout/man hr.	Est. No. Sunfish
4/9-4/15	82	158.00	43	0.20	81
4/16-4/22	97	174.00	6	0.03	35
4/23-4/29	20	48.75	0	0.00	N.D.
4/30-5/6	38	101.50	2	0.02	N.D.
5/7-5/13	30	36.75	7	0.19	N.D.
5/14-5/20	28	52.50	37	0.70	104
5/21-5/27	53	66.50	7	0.11	80+
5/28-6/3	6	19.50	0	0.00	11
6/4-6/10	6	N.D.	N.D.	—	—
6/11-6/17	0	—	—	—	—
6/18-6/24	1	3.00	2	0.67	N.D.
6/25-7/1	2	N.D.	N.D.	—	—
7/2-7/8	0	—	—	—	—
Totals	364	660.50	104	0.16	311+

N.D.—No data

of time when trout angling is usually considered at a low ebb.

Angler utilization in 1968 was nearly double the 1966 figure. This is most probably a reflection of three factors: (1) increased publicity, (2) a greater

. . . For Better Fishing

the rainbow trout. Subsequent checks found increasing numbers of both species until a state was reached where-

October check found pumpkinseed sunfish well entrenched with goldfish and killifish also present. A source of reinfestation was markedly illustrated during the fall check when a

Table IV. Creel Census Results, Holmdel Park Pond, 1968

Week	Est. No. Anglers	Est. No. Hours	Brook Trout		Brown Trout		Rainbow Trout		Total	
			No.	Catch Rate*	No.	Catch Rate*	No.	Catch Rate*	No.	Catch Rate*
6/1-6/7	362	1,442.70	802	0.56	73	0.05	851	0.59	1,726	1.20
6/8-6/14	60	199.30	64	0.32	10	0.05	66	0.33	140	0.70
6/15-6/21	25	100.80	29	0.29	0	0.00	36	0.36	65	0.65
6/22-6/28	31	122.42	29	0.24	0	0.00	66	0.54	95	0.78
6/29-7/5	39	152.50	80	0.52	3	0.02	27	0.18	110	0.72
7/6-7/12	22	97.86	27	0.28	0	0.00	36	0.37	63	0.65
7/13-7/19	27	122.90	39	0.32	10	0.08	50	0.41	99	0.81
7/20-7/26	27	122.90	39	0.32	10	0.08	50	0.41	99	0.81
7/27-8/2	61	227.28	104	0.46	10	0.05	44	0.19	158	0.70
8/3-8/9	53	183.04	90	0.49	10	0.05	38	0.21	138	0.75
Total	707	2,771.70	1,303	0.47	126	0.04	1,264	0.46	2,693	0.97

*per man-hour

in these undesirable species made up the bulk of the total population. The steadily deteriorating condition of the pond in respect to its trout rearing potential necessitated the 1967 reclamation previously described. While the spring sampling the following year found only trout to be present, the

family of amateur ichthyologists was witnessed contributing a wash tub full of young-of-the-year pumpkinseed sunfish to the pond. While "bait-bucket" stockings are regretfully acknowledged, the magnitude of releases such as witnessed can never be fully appreciated until actually observed.

Many plug casting problems encountered with fiberglass fishing rods involve sticking metal ferrules. Never twist rod sections to free balk ferrules; instead, heat slightly with a match or cigaret lighter and pull apart. Never lubricate with oil; rub against nose or through hair. If sticking persists, smooth gently with fine emery cloth but use sparingly because loose joints are as troublesome as sticky ones. Needless to say, the above does not apply to the "new" ferrule-less glass rods. #

The Pros and Cons of a Federal Fishing License

By John S. Gottschalk, Director, Bureau of Sport Fisheries and Wildlife.

Part II

The Bureau of Sport Fisheries and Wildlife certainly cannot do its share of the work as presently funded. Out of a 12-year-old, \$2.7 million annual authorization for marine game research, the most that has ever been appropriated is the \$1 million made available this year.

How about the states? I ask you! Of the 23 states, how many are in control of the situation? The state agencies simply do not have financial resources to conduct much marine research or management. Some work is being done under the Dingell-Johnson, the Anadromous Fish, and the Commercial Fisheries Research and Development programs, but the funds that have been devoted to marine research by the states have only been a drop in the bucket! Please do not misunderstand me. Several of the state fish and game departments have made excellent contributions to our knowledge of marine fishes, but I'm sure not one state official would say that he has been able to support marine research the way he knows it should be.

From what has been said so far, I think we have established that we need programs and programs need money. Existing sources of revenue are simply not adequate to cope

with the demands. The \$64 question is: How do we go about getting it? We have seen Federal appropriations held down in view of higher priorities. Moreover, with current competition for the Federal dollar, the chances of seeing any substantial increase in the amount of Federal participation is slim.

Likewise, there has been little evidence of a general determination on the part of states to finance off-shore studies to the extent needed.

How, then, do we go about trying to solve this problem? With no other options, we turn to the user himself and begin thinking about what he can contribute to maintain the resource on which he depends. Suddenly, we find ourselves talking about some kind of a fishing license.

Merely to bring up the term usually provokes a heated reaction on the part of the person who has to buy the license. Why is this? What is wrong with a fishing license? One thing is that few states have a salt-water license. The sea is a sacred area to the angler; it is free by custom and

—Based on a paper presented by Director Gottschalk at the Second Annual Fishermen's Forum held in Atlantic City this past February 15.

. . . Pros and Cons

tradition, and many people will protest merely on the basis that a license has never been required in the past.

It has been claimed with some accuracy that the purpose of licenses is financing the bureaucracy needed to administer the license.

Commercial interests claim a license will limit their business potential.

Licenses tend to tie programs to income rather than relate programs to the actual needs of the resource. A related point is that most administrators are reluctant to go along with a license system because usually the money is earmarked for specific purposes. Thus, the hands of the administrator are tied and he is unable to direct his program with the emphasis where he feels it should be.

So, there we have it. Our present funding is inadequate, and is not likely to improve. One alternative is that of a salt-water fishing license. Only a few states have marine licenses, and the chances of others enacting provisions for salt-water licenses seem remote. The only other alternative, then, is a Federal salt-water license.

Granted that a salt-water license could be handled in a number of ways, for purposes of our discussion, let us set up the following points by way of defining what we mean by a Federal salt-water sport-fishing license.

1. It would be universal for the states in each of three zones: Atlantic, Gulf, and Pacific. All anglers except children 12 years of age and under would be required to have the license. Thus, in the Atlantic zone a license bought from a dealer in New York State would be good in any state along

the Atlantic coast, and similarly in the Gulf and Pacific zone.

2. The proceeds would be earmarked to be spent for research and development work related to the marine sport fisheries, with a limitation on the amount that could be spent for other activities.

3. The income would be divided between the states and the Federal government in order to give the government funds needed to do basic research and to carry out studies of species which range up and down the coast. The state share would be divided among the states on a formula similar to that used in the Dingell-Johnson program, with primary weight being given to the number of fishermen in any state and a lesser amount being distributed according to the area of coastal waters in each state as compared with the total area of coastal waters.

4. The cost of the license would be \$5 annually. On the basis that there are upwards of 10 million salt-water anglers, such a proposal would solve the financing problem for the immediate future.

5. In order to qualify, a state would have to have an equitable system of commercial licenses for commercial fishermen.

With this kind of a Federal license, how do the pros and cons stack up against each other? First, let us take a look at what they are. As I see it, the "pros" for a Federal fishing license come out about like this.

A Federal license obviously would give the Federal Government additional funds needed to carry forward its basic research work and that related to the off-shore interstate fisheries.

A license would give the states money not now available to carry out their responsibilities for local studies and management. It would redistribute funds from the "have" states, those states with large area and large numbers of people, to states which would otherwise fall behind in the protection of essential habitat and important interstate fisheries.

It would make it possible for the traveling angler to buy a single license and fish up and down the coast without having to worry about buying a new license in each state.

On the "con" side, probably the biggest argument against the Federal license is that it would infringe on state sovereignty.

A certain percentage of the money would be lost to Federal Government overhead in the process of distributing the funds.

The budget would indeed be limited to the income produced by the licenses. Historically, increases in licenses established by statute have been difficult to secure. Thus, in periods of growing inflation the program could be expected to lag behind the needs.

Many people will argue that a Federal licensing system cannot be sold to the people and to the Congress.

Now, I could retire at this point and say, "Have at it!" but I recognize, as many of you do, that the dilemma may not be insoluble. Perhaps something less than "going all the way" might be worth exploring.

I suggest, therefore, that you consider still another alternative, the gen-

sis of which I trace back to the boat registration act of several years ago. In outline, this other approach would give the states the opportunity to establish a salt-water license, to apply to the waters of neighboring states on a reciprocal basis, with all the revenue going to the state in which the license was sold.

If a state failed to enact a salt-water license statute within a reasonable period, the Federal government would be given the authority to do so for that state, the license to carry the same rights, privileges, and limitations, however, would go to the Federal government for the conduct of its basic and interstate research.

The approach broadly outlined above seems to have the considerable merit of being relatively more likely of adoption than a straight out Federal licensing system. It recognizes the primary interest of the states and gives them the opportunity to decide whether they wish to exercise their inherent responsibilities. It would not solve the problem of financing the Federal program immediately, but this would tend to solve itself as the obvious gaps in data, and the fiscal responsibility of the states, became evident.

It is not my purpose to urge any particular course on you. I know, and I know you know, that the present situation prevents us from protecting the resources on which our livelihood and our recreation ultimately depend. What you do is up to you to decide. But I say: Do something! #

The handy plastic food containers found in most households are finding their way onto more and more boats. These containers make buoyant, waterproof containers for such valuables as watches, key cases, wallets, charts, or maps.

Annual Fishermen's Forum

Stimulating discussion and scientific knowledge were shared at New Jersey's second Fishermen's Forum, which took place in Atlantic City on Saturday, February 15.

The greatest interest was shown in presentations by Director John S. Gottschalk of the Federal Bureau of Sport Fisheries and Wildlife, Director Harold E. Crowther of the Bureau of Commercial Fisheries, and Dr. Robert L. Edwards of the Commercial Fisheries Laboratory in Woods Hole, Mass. Ambassador Donald L. McKernan of the U.S. State Department was unable to attend because of the critical fisheries situation off Peru, and Director Crowther and Dr. Edwards covered portions of his topic, in addition to their own presentations.

This discussion of the U.S.-Soviet negotiations and research, aimed at curbing Russian trawling off the American coast, evoked differing opinions from the audience. Dr. Edwards explained how the newest agreement with the Russians protects a highly productive area for fluke and other valuable species outside the 12-mile fisheries limit off the mid-Atlantic coast. Director Crowther noted that the protected area is in international waters.

Some questioners urged extension of the U.S. fisheries limit farther offshore. Former State Fish and Game Council Chairman David S. Hart, long an advocate of such extended jurisdiction as former Chairman of the Middle Atlantic States Marine Fisheries Commission, explained that such action is very difficult to take under international

law. A full explanation of State and Defense Department objections was impossible in Ambassador McKernan's absence.

Dr. Edwards stated that the Russians have a high regard for science. Thus, scientific cooperation is the most effective means to convince them to limit their catch of species which may be subject to overfishing. The Russians already have a very thorough knowledge of the location of Atlantic fishing grounds, but little biological background. He showed a film of joint research efforts in studying fish stocks and comparing gear.

Director Crowther's main address dealt with "A Master Plan for Commercial Fisheries." The Bureau is attempting to set priorities among the nation's diverse fisheries and within each fishery, with the aim of reversing the trend which has seen foreign competition gain an increasing share of the American market. Bureau Regional Director John T. Gharrett followed with a talk on marketing programs, emphasizing quality from net to table.

Director Gottschalk dealt with the controversial topic, "The Pros and Cons of a Federal Fishing License." He stressed the need for substantially more state and federal research, especially with regard to migratory species and estuarine research and protection, setting forth several possible means of financing such projects.

Audience reaction was largely commendation for the Director's courage in taking up this subject. It was suggested that much could be accom-

plished, with little cost, by better laws and enforcement regarding destruction of estuaries and pollution. A larger allocation of Federal Aid to Fisheries funds to coastal states was urged, which, Director Gottschalk noted, would require Congressional action. He agreed strongly that more official recognition should be given to the priceless heritage of resource-oriented outdoor recreation.

Shellfish were the subject of three illustrated talks by Bureau of Commercial Fisheries scientists. Dr. James E. Hanks of the Biological Shellfish Laboratory, Milford, Conn., showed slides of artificial oyster culture and predator control. James B. Engle, Chief of the Shellfish Advisory Service, described highly productive techniques used in Japan and Korea. Director Keith E. Smith of the Exploratory Fishing and Gear Research Station, Gloucester, Mass., showed a film of new offshore lobster fishing techniques.

A look into the future was offered

by Dr. Paul M. Maughan of the BCF, speaking on "Spacecraft for Fisheries Research." He pointed out indicators of fish movements in slides already taken from manned satellites.

Captain Hart opened the session on behalf of Commissioner Roe, stressing the vital importance of fishery resources to the Garden State. Later, he showed his new film, detailing menhaden fishing operations in New Jersey and their compatibility with other interests.

A. Bruce Pyle, Assistant Chief of the state Bureau of Fisheries management, outlined the state's freshwater fisheries program. He showed slides of various techniques used in biological research.

Fish and Game Councilmen Raymond T. Richardson and Joseph Schollenberger presided. Fish and Game Director Lester G. MacNamara concluded by thanking the speakers, committee and staff for a worthwhile program and promising another Fishermen's Forum next year. #

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Shooters' Calendar

Time	Event and Sponsor	Location	Whom to Contact
August 2-25	NRA National Championships National Rifle Association Pistol Championship, Aug. 2-7 Small Bore Rifle Championship, Aug. 9-15 High Power Rifle Championship, Aug. 17-25	Match Ranges, Camp Perry, Ohio	Competitions, Training and Facilities Division: N.R.A., 1600 Rhode Island Ave., NW Washington, D.C. 20036 Phone: 202-783-6505
August 2-9	National Skeet Shooting World Championships National Skeet Shooting Association	Rochester-Brooks Gun Club, Rush, New York	George W. White, Executive Director National Skeet Shooting Association 212 Linwood Building, 2608 Inwood Road, Dallas, Texas 75235 Phone: 214-351-6330
August 7-10	All Varmint National Championship Matches National Bench Rest Shooters Association	South Creek Rod and Gun Club, Fassett, Penna.	Gerald Arnold 107 S. Kenyon Street, Elmira, New York 14904
August 9-10	Open Firelock Matches Brigade of the American Revolution	New Windsor Cantonment, Newburgh, N. Y.	William Wigham Box 207, Vails Gate, N.Y. 12584 Phone: 914-534-9112
August 15-23	Grand American Trap Shooting Championships Amateur Trapshooting Association	A.T.A. Trap Grounds, Vandalia, Ohio	Hugh L. McKinley, ATA Manager P.O. Box 246, Vandalia, Ohio 45377 Phone: 513-898-4638
August 26- September 1	National Fall Shoot National Muzzle Loading Rifle Association	Walter Cline Range State Road 62 Friendship, Indiana	Maxine Moss, NMLRA P.O. Box 15, Friendship, Indiana 47021 Phone: 812-667-4631
August 26-29	Heavy Benchrest National Championship Matches National Bench Rest Shooters Association	Kansas City, Kansas	David Whittington 462 West Grand Avenue Hot Springs, Arkansas 71901 Phone: 501-623-1812
September 16-17-18	National Police Combat Matches National Rifle Association	Mississippi Law Enforcement Acad. Jackson, Miss.	Competitions, Training and Facilities Division: N.R.A., 1600 Rhode Island Ave., NW Washington, D.C. 20036 Phone: 202-783-6505
September 27-28	Fall National Firelock Matches Brigade of the American Revolution	Fort Frederick, Maryland	William Brown, III 2111 Montevideo Road, Jessup, Md. 20794 Phone: 301-799-4883
October 11	Annual Industrial Skeet Championships National Industrial Recreation Association	Winchester Gun Club, New Haven Conn.	National Industrial Recreation Association 20 No. Wacker Drive, Chicago, Ill. 60606 Phone: 312-263-6697
October 6-13	NRA International Shooting Championships National Rifle Association	Maricopa County Black Canyon Ranges, Phoenix, Arizona	International Competitions, Training and Facilities Division: N.R.A., 1600 Rhode Island Ave., NW Washington, D.C. 20036 Phone: 202-783-6505

This is a disgusting and shabby argument. Legitimate recreation needs no such justification. Properly defined, recreation is for the purpose of restoring the mind and body and building intelligent perspectives with which to meet life's problems.

In spite of all past mistakes which can be brought forth, work built this country, and the resultant accomplishments appear to satisfy a great many people. This nation is now urged to feed and clothe starving peoples. Only work can accomplish this, and it was work which produced the food which makes us the best fed nation on earth.

Only by work can we preserve and manage the resources, which sustain both our economic and recreational potential. Only work can stop forest fires; only work can convert raw materials; only work can stop erosion; only work can advance research; only work can produce the money to support leisure hours; only work can save the resources which people use in their pursuit of recreation.

We have here an attitude which can be just as damaging to human concepts as poor husbandry is to the land. Work is a form of discipline, and discipline develops responsibility. There is considerable evidence that the present generation, possibly, needs discipline more than it needs leisure.

When leisure becomes more important than a life objective, than family, home or nation—we are drifting into bad ways. We will lose our sense of values to a point that finally recreation will have no meaning.

I recently read of a university seminar being held to discuss the value of work versus leisure, and if I read correctly the implication was that work was not a virtue. What an orientation to start out the future generation!

Ernest Swift

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From:

Gray Birch

(*Betula populifolia*)

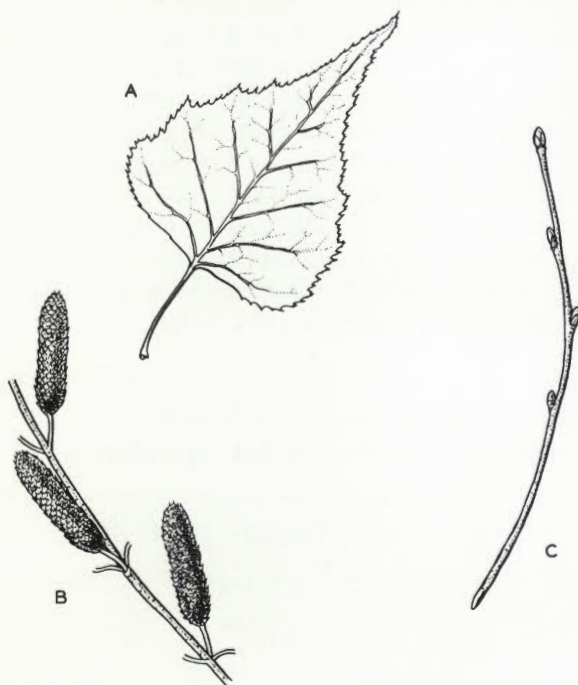
Gray birch, white birch, poplar birch, or old field birch is found growing on moist soils, in valleys, and along streams and lakes. Occasionally it takes over abandoned, dry, sloping land, and it is usually found growing in clumps.

Range:

Nova Scotia to southern Quebec and Ontario and south to Delaware and southern Pennsylvania. Small local areas occur in northern Ohio, Indiana, and the mountains of northern Virginia.

Leaves:

Simple, alternate, and triangular with a long, tapered apex. (See figure A.) The margin is doubly serrate. The leaf is 2½ to 3 inches long and 1¼ to



Gray Birch

A. Leaf

B. Catkins

C. Twig, with buds

2 inches wide with a slender petiole. Because of the light petiole, the leaf has a tendency to tremble in even a light breeze. The leaf is smooth on top and bottom.

Twigs:

Greenish to brown and slender. Buds are 1/5 inch long and sharp pointed. The twig is covered with warty projections and raised, elongated lenticels.



(See figure C.) The outstanding characteristic by which this tree can be identified is the grayish white bark marked with triangular black patches below the points where limbs were attached. Gray birch is a vigorous sprouter, and it is only after the young shoots are about 2 inches in diameter that they really begin to show up as gray or white. The bark of young trees is golden brown.

Flowers:

Male and female flowers in separate catkins on the same tree. The male catkins occur singly or in pairs and are about 1½ inches long. They can be seen on the tree the winter before flowering. In the spring they grow to a length of about 2 to 4 inches. Female flowers develop in the spring about the time leaves appear, and they become brown and woody after ripening in the fall. (See figure B.)

Fruit:

A small, winged nutlet which ripens in September or October. Four million seeds are required to make a pound.

Uses:

It is a small tree 20 to 30 feet in height and 8 to 10 inches in diameter. Occasionally the tree gets larger, but it is frequently shaded out and killed by other dominant hardwood trees. The wood is used for pulpwood, fuel, spools, toothpicks, shoe pegs, and ornamental purposes. In the woods the gray birch is short-lived and generally regarded as a weed tree. #

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

Gray birch is utilized as food by a number of wild creatures including deer, beaver, and rabbits. The buds are eaten to some extent by squirrels and grouse. Young grouse have been known to feed on insects falling from gray birch during the summer months.

In many cases, fishermen have become overly dependent on the use of snap connectors and swivels. While they simplify and speed plug-changing chores, they may hamper action on certain lures.

Effectiveness of many surface plugs and jigs depend on action imparted by the angler. A dangling swivel can dampen the effect of a sharp rod twitch, and even a short wire leader can cause the same lackadaisical response.

Try tying leaders directly to eyes of surface plugs or splicing in a length of extra heavy monofilament when dealing with toothy fish. For trolling or casting diving plugs that rely on continuous pull for action, swivels and snaps are most always advisable.

Council Highlights

May Meeting

The regular monthly meeting of the Fish and Game Council was held in Trenton on May 13.

Fish Trucks and Personnel

A motion was made by Councilman Allocca that all fish stocking trucks, new and old, be painted white with suitable lettering to advertize our programs and make the public aware of the activities of the Division of Fish and Game. The motion was seconded by Councilman Reid and passed.

Councilman Toth suggested that fish truck drivers and other employees stocking fish and game be supplied with and required to wear a coverall containing suitable lettering identifying them as employees of the Division of Fish and Game. These coveralls could be purchased by the Division at a nominal cost and would identify the employees as representatives of the Division. The Director will check with Purchasing and secure information on the cost of these coveralls.

Control over Game

Charles Webber advised that some municipalities have indicated that information and guidelines from this Division in regard to state vs. local control over game would be helpful to them in dealing with demands for the enactment of local ordinances prohibiting trapping. Director MacNamara will contact the Office of the Attorney General and endeavor to secure information along these lines, similar to that which is applicable to hunting and the use of firearms in municipalities.

To Name New Vessel

The New Jersey State Federation of Sportsmen's Clubs had recommended that the newly-acquired vessel for the coastal patrol be named "Marjorie B. Wilson" in honor of the late Councilman Wilson's wife.

By motion of Councilman Alampi, seconded by Councilman Allocca, and passed, the Council voted to accept the recommendation of the State Federation and name the new patrol vessel after the late Marjorie B. Wilson.

N.Y. Sportsmen's Show

The question of whether the Division should exhibit at the New York Sportsmen's Show in March, 1970, was considered. Councilman Stabile advised that this show will be operated by a new manager who plans to change the tenor of the show from a commercial, carnival atmosphere to one dealing strictly with

sports and conservation, as was the case in years past. Conservation departments of several states have indicated a willingness to exhibit, and the management has offered free space if we will participate in the show.

Report on Russian Vessels

Councilman Richardson gave a report of his interesting experience visiting aboard the mother vessel of a Russian fishing fleet off the coast of Virginia in company with representatives of the U.S. Bureau of Commercial Fisheries. A copy of a letter sent by Mr. Richardson to John Gharrett of the Bureau of Commercial Fisheries, commenting on conditions he found on the Russian vessel, was submitted.

Deer Tagging Program

A program for tagging deer and setting up checking stations throughout the state, prepared by the Bureau of Wildlife Management, was submitted to the Council. Under the plan, checking stations would be established at service stations, license issuing agencies, and other places of business so situated that they would be within ten miles of travel in any direction. A charge of \$0.25 would be paid to the checker for each deer tagged, and assuming that 10,000 animals would be tagged, the charge to the Division would be approximately \$2,500. To effect this program, a change will be necessary in the 1970 hunting licenses to include a statement that the deer and tag must be taken to a checking station instead of mailing the tag to the Division.

Division Unit Reports

The Bureau Chiefs made their reports to the Council and George Alpaugh of the Bureau of Wildlife Management spoke optimistically of plentiful supplies of game in evidence throughout areas of the state. Chief Robert Hayford of the Fisheries Bureau reported that 456,538 trout were stocked in the waters of the state as of May 9. District Conservation Officer John O'Dowd reported that conservation officers made 258 apprehensions and issued 70 warnings during April. Newman Mathis advised that the Coastal Patrol issued four summonses for the sale of under-sized striped bass and five summonses for violations of the net-lift period. Fines totaling \$80 were paid for the striped bass violations, and the net violation cases are pending. Increased participation in outdoor conservation programs was reported by William Peterman, Supervisor of Public Relations. Official measurements of record deer were conducted. Winners received recognition at the Annual Convention of the New Jersey State Federation of Sportsmen's Clubs in Atlantic City on May 17.

Roxbury Fisheries Program

The Council noted with interest a letter from former Councilman George McCloskey giving an account of a fisheries program undertaken by the Roxbury

. . . Council Highlights

Township Recreation Commission that proved very popular with local residents. Several hundred trout were purchased and stocked, and the Township plans to budget several thousand dollars for fish stocking next year. The Council thought this was a noteworthy and commendable program.

Importation of Animals

Regulation No. 3 pertaining to the importation of exotic animals, filed with the Secretary of State under date of April 17, 1968 was amended by the Council to cover various species of animals imported for hunting purposes on commercial shooting preserves.

Importation of Fish

Tentative legislation to regulate the importation of fish was to be prepared and submitted to the Fresh Water Fisheries Committee for review. #

To Keep Fish Fresh

To the Indians of northern Canada, a soft carpet of green moss on the forest floor has value far in excess of its esthetic beauty. Besides being an excellent insulating material for chinking log cabins and serving as a low-cost, yet effective, substitute for diapers, this spongy vegetation has the ability to keep fish as cold and fresh as the most modern refrigeration system. Since it's seldom available to anglers south of the 49th parallel, fish should be handled other ways to insure they arrive on the table sweet and flavorful.

Ideally, fish should be cleaned and placed on ice right after being caught. Unfortunately, most fishermen postpone the cleaning ritual until day's end, and with discouraging results much later. If you are in this category, take special pains to care for the catch as it's boated.

A stringer or live net is satisfactory only as long as the fish are alive and healthy. Since prolonged soaking spoils flavor and texture of meat, it's wise to check the stringer frequently, removing from the water any fish that have expired.

To keep these fish reasonably fresh, place them in a shaded spot between loose layers of dampened grass which provides cooling by evaporation. Though fish boxes are commonly seen, avoid those that have tightly fitting lids; the more air passage permitted, the better. Moistened burlap or excelsior, when obtainable, makes excellent packing material. If fish have been cleaned, keep them cool as above, and keep them dry and separated until final washing for eating or freezing.

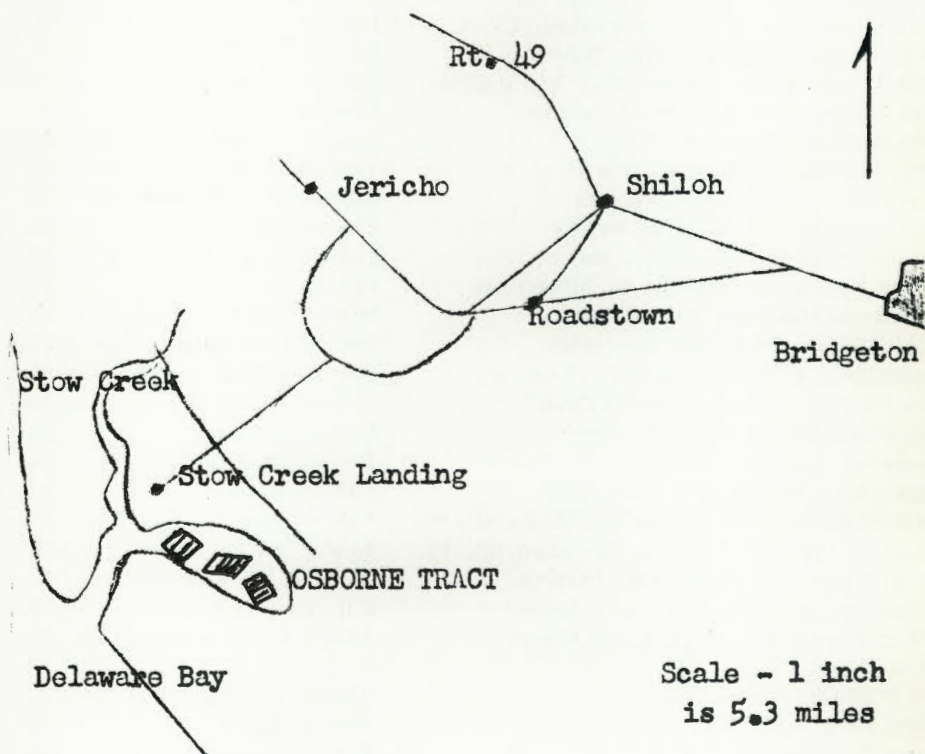
Even if you don't have access to the north country's natural refrigeration, you make do with what's on hand. Just remember to care for the catch as you catch it, and avoid a smelly mess at the end of the day. #

Osborne Tract

The Osborne Fish and Wildlife Management Area is located in Cumberland County and comprises about 183 acres of salt marsh, in three tracts. Generally, the tract is situated in the center of Newport Meadows.

This tract is managed exclusively for waterfowl hunting.

To reach the Osborne Tract from Bridgeton, take Route 49 north out of Bridgeton to Shiloh. Turn left, or south, on the Stow Creek Landing Road and proceed for approximately 5.4 miles. The tract may be reached by boat from the landing at Stow Creek. #



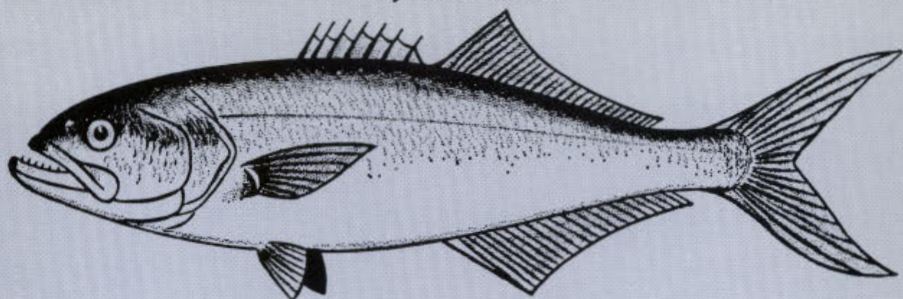
A boat anchor is only as good as the line it is attached to. Before using an old line for another season, try stretching and tugging it forcefully to test for invisible weak spots. Also, halfway through the season, reverse the anchor line to equalize wear on the edge.

Violators Roundup

<i>Name</i>	<i>Offense</i>	<i>Penalty</i>
Wayne Gossler, R.D. 2, Bath, Pa.	Fish no license	20.
Robert Flyte, R.D. 1, Bath, Pa.	Fish no license	20.
David Rominski, 16-C Evergreen Park Apt., Woodbury	Fish no license	20.
Robert Garnett, 520 High St., Blackwood	Fish no license	20.
Walerian Mamonton, 86 Lake Ave., Clifton	Fish no license	20.
Richard Kraus, 77 Maryland Ave., Lake Hopatcong	Fish no license	20.
Charles Kraus, 77 Maryland Ave., Lake Hopatcong	Fish no license	20.
Philip Ritzer, 13 Union Trail, Lake Hopatcong	Fish no license	20.
Bradford Molnar, 103 Spring St., Bridgeton	Fish no license	20.
Alan Hepner, 3616 Henry Hudson Pkwy., Bronx, N.Y.	Fish no license	20.
Evert Hummer, 4 Park Hill Rd., Washington	Angle while on revoked list	100.
Elliot Ford, Jr., 175 N. 1st St., Newark	Poss. short smallmouth bass	20.
Warren Matson, 74 Laird Ave., Neptune City	Poss. one short lobster	20.
James Folotico, 5-32 47 Rd., Long Island, N.Y.	Fish no license	20.
George Howard, 18 Ramapo Ave., Suffern, N.Y.	Fish no license	20.
Ralph R. Vasquez, 76 Ramapo Valley Rd., Mahwah	Fish no license	20.
James Moore, 76 Feronia Way, Rutherford	Fish no license	20.
James Williams, 22 Astor St., Newark	Take short smallmouth bass	20.
Robert Freeman, 206 Rose St., Newark	Take short smallmouth bass	20.
James Casey, 195 No. 1st St., Newark	Take short smallmouth bass	20.
Louis Rodriguez, 138 James St., Newark	Fish no license	20.
Amadore Perez, 390 Summer St., Newark	Fish no license	20.
William May, Jr., 213 Schooley St., Moorestown	Fish no license	20.
Rist Arie, 65 Hawthorne Ave., Colonia	Hunt w/rifle w/out permit	20.
Michael Dugan, 555 E. Price St., Linden	Poss. short smallmouth bass	20.
Donald Springstead, Lakeside Blvd., Hopatcong	Fish no license	20.
Louis Gusman, 15 South Essex St., Dover	Fish no license	20.
Michael Sarageno, 46 Parker St., Dover	Fish no license	20.
Lawrence J. Ardolino, 460 Monroe St., Passaic	Fish no license	20.
Vitale Ambra, 905 Broad St., Bloomfield	Fish no license	20.
Donald Atcheson, 1015 Big Oak Rd., Morrisville, Pa.	Fish no license	20.
Donald Atcheson, 1015 Big Oak Rd., Morrisville, Pa.	Loaded gun in auto	20.
George Paprota, 317 Myrtle Ave., Irvington	Pursue & kill swan w/boat	20.
George Paprota, 317 Myrtle Ave., Irvington	Kill wild swan closed season	20.
William Petrino, Apt. 35B, Glendale Manor, Pleasantville	Attempt to kill protected bird	20.
Fred Whitney, 9th Ave., Dorothy	Attempt to kill protected bird	20.
Adrian Paiva, Bridge St., Ogdensburg	Hunt no license	20.
Adrian Paiva, Bridge St., Ogdensburg	Hunt deer at night	100.
Adrian Paiva, Bridge St., Ogdensburg	Hunt w/aid of lights	50.
Thomas Tischner, 137 Park Ave., Cinnaminson	Fish no license	20.
Pashal F. Bloise, 909 N. 4th St., Millville	Fish no license	20.
William Olsen, 149 Genesee Lane, Willingboro	Fish no license	20.
Claude Anderson, 332-C Cedar Lane, Bordentown	Deter Conservation Officer	100.
Ernest August, Jr., 23 Beam St., Pompton Lakes	Fish no license	20.
Robert Mundt, 435 Gable Lane, Linden	Fish no license	20.

Fur, Fin ^{and} Campfire

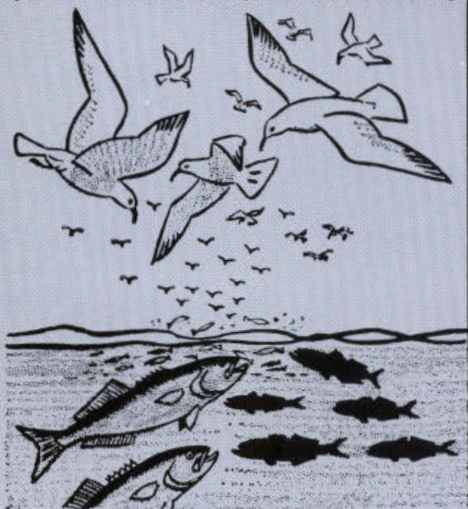
By BILL BERO



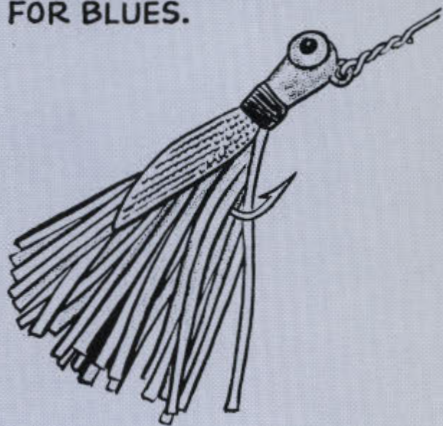
BLUEFISH...

YOU CAN FIND THEM ROAMING THE OCEAN WATERS FROM MAINE TO BRAZIL AND IN THE GULF OF MEXICO. BLUEFISH TRAVEL IN TIGHT SCHOOLS. THEY FEED OFFSHORE, IN THE SURF, AROUND INLETS AND IN BAYS. THEY MIGRATE, STARTING EARLY IN SEPTEMBER AND CONTINUING THROUGH JANUARY, RETURNING NORTH. THEY LIKE THE WARM WATER. THEY HAVE TREMENDOUS APPETITES, WILL HIT AT MOST ANYTHING IN THE WATER. BLUEFISH AVERAGE 1 TO 3 LBS., BUT THEY WILL REACH 20 LBS. OR MORE. FOOD VALUE IS GOOD.

SEAGULLS ARE A GOOD SIGN THAT BLUEFISH ARE AROUND.



PIANO WIRE LEADER SHOULD BE USED. THE "GREENEYE" WITH METALIC WINGS AND NYLON SKIRT IS A GOOD JIG FOR BLUES.



When selecting a plug or spoon for the day's first cast, carefully check the water and sky. If the water's clear, pick a dull color and finish; for murky conditions, choose bright finishes and vivid colors. The same applies when considering which way to go when the sky is blue or overcast. Just remember: go the opposite way . . . most of the time.

New Jersey Outdoors
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