

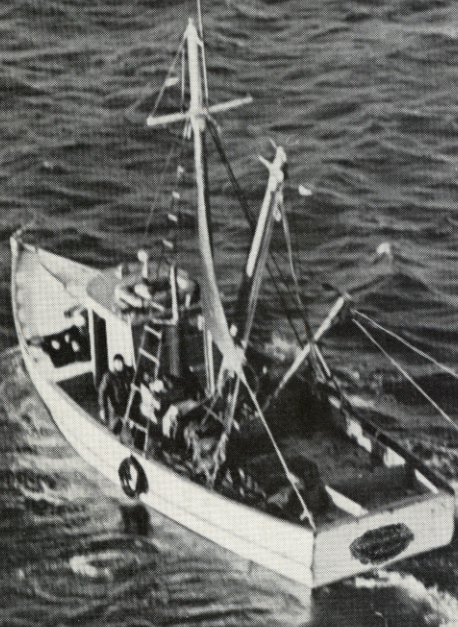
New Jersey *Outdoors*

Vol. 15, No. 1

Division of Fish and Game

NJPB July, 1964

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An Analysis of—

A Good Year

by L. G. MacNamara, Director

The past year has been a period in which the Division of Fish and Game adapted to new conditions; both economic and recreational. Planning has been an important activity designed to improve finances while continuing to manage natural resources to the best advantage of the people of New Jersey. The result has been a good year for those who enjoy hunting, fishing, and related outdoor activities.

Team work, with close coordination between the Council, Commission, and employees of the Division, has contributed substantially to the continued progress in this endeavor, despite the need for economy. Cooperation with the Green Acres program has brought Wawayanda Lake, Sheppard Pond, and Harrisonville Lake into state ownership, improving fishing opportunities. The substantial acreage of wetlands acquired will assure the continuance of suitable waterfowl habitat, perpetuation of fishery nursery areas, and the maintenance of rail and waterfowl hunting. The acquisition of upland areas has not been neglected and the acquisition procedure to bring land into public ownership will improve the lot of the upland hunter and field trial enthusiast.

Pollution abatement, propagation, law enforcement, preservation of clean waters, habitat development, and research and investigations on fresh water, marine resources, wetlands, woodlands, and diseases have been important activities. And, considerable emphasis has been placed on education and public information. The over-all program was designed to meet the swiftly changing conditions and complexities resulting from the expanding human population, increased industrialization, urbanization, and modernization of transportation systems in New Jersey. In the final analysis, all activities represented a strong bid for the future of hunting and fishing in this state.

On the other hand, the retirement of many tried and true employees represented a grave loss to the Division of Fish and Game. These dedicated employees have given many years of their lives to conservation. They played a major role in the past progress and the present prominent status of the Division. Their experience, ability, and dedication represent a serious loss; and their service and accomplishments will stand as a goal for newer employees to equal. Each has left a part of himself in the make-up of the Division. We wish a happy and rewarding long life to retiring friends and employees.

#

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New Jersey *Outdoors*

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Cover—"Fisherman at Work"

An otter trawler, or dragger, easily
identified near by by the two lines
leading from the vessel to the fishing
gear, fishing off the Jersey coast.

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—Fish and Wildlife Service

A typical tidal marsh, producing rich nutrients that start the food chains that support many species of fish, shellfish, and wildlife

The Future of

Wetlands

By Edward A. Sherman, Conservation Education Coordinator
U. S. Bureau of Sport Fisheries and Wildlife

The good citizens of New Jersey, who worked so effectively to secure Great Swamp in Morris County as a wildlife refuge, set an example of conservation in action that has received public notice all along the Atlantic coast. They have given needed impetus to the current movement to save some of our remaining coastal wetlands from the onslaught of the bulldozer, the dragline, and the dredge.

Original Wealth

Colonial America had more than a million and a quarter acres of wetlands—the swamps, flooded lowlands, and potholes on which flourished uncounted millions of waterfowl. But the building of a great nation required tide water industrial sites, dumping grounds for pollutants, and filled areas along the Atlantic coast on which to build our factories, homes, schools, highways, and airports.

Present Status

As a result of unplanned land-use, less than 74 million acres of wetland areas remain—only 22 million of them of significant wildlife value. This destruction of the wetlands which are so essential

to many forms of wildlife is only part of a pattern of heedless waste of all the nation's natural resources over the years—years in which we destroyed our forests, eroded our soils, polluted our streams, and exterminated our wildlife.

The Complex

It is only recently that biologists have begun to understand the complex chemistry of the marshes that produce the rich nutrients which not only support shorebirds, waterfowl, and many forms of animal life, but also reach the shore and produce shellfish and eventually fin fish.

A few years ago, the U. S. Fish and Wildlife Service, concerned about the alarming destruction of wildlife habitat caused by wetland drainage, fill, and pollution, conducted a nation-wide survey of wetland resources. It was hoped that this study would encourage better land and water-use planning whereby wildlife use of wetlands could be reconciled with other needs for these lands.

Bearing in mind that wetlands are the richest and most essential

. . . *Wetlands*

of all our country's wildlife habitat, it was not surprising for this survey to come up with an inventory of 38 game and furbearing species making use of one or more of the 20 types of wetlands. Of course, the utter dependence of migratory waterfowl upon wetlands, from the Canada goose to the green-winged teal, is known to most everyone.

Even though many species of wildlife are not so dependent on the aquatic vegetation itself, the fringes of wetland areas provide vegetation used as food and cover for squirrels, rabbits, grouse, pheasants, and many others. Moose and deer spend much of their time in shallow lakes and streams and swamps. Snipe, rails, and raccoons, although they do not live in the waters, are inhabitants of low, wetlands. The muskrat and beaver not only live in the water but are tied right to the wetlands, the muskrat subsisting on aquatic vegetation and the beaver serving as an actual creator of wetlands by reason of his extraordinary engineering of dams.

Destruction

But the most significant finding of this study was the fact that our Nation's wetland areas are shrinking at an alarming rate. This can be measured by the fact that more than 50 million acres of land have been drained in this country! The effect of this destruction of migratory bird habitat is well known

to those interested in waterfowl hunting. Besides destroying breeding grounds, many of the best resting and feeding grounds along the migration routes have been drained and lost forever. Draining for agriculture, mosquito control, and industrial purposes has spoiled many important wintering marshes.

The continuing destruction of marshland along the Atlantic coast is producing not only a critical situation for waterfowl but is destroying the natural conditions needed for the food chains which are so important for our fisheries, both sport fisheries and commercial fisheries.

Mosquito Control

One of the most impelling motives for the destruction of coastal wetlands has been public concern for the mosquito nuisance. Since the days when so many marshes were drained in an attempt to prevent the breeding of mosquitoes, we have learned that many mosquitoes are hatched within a hundred yards of their "biting area."

Although some species do breed in salt marshes, others, particularly the so-called house mosquito, breed in any spot capable of holding a cup of water such as a discarded tin can, a clogged roof gutter, a small depression in the earth, an abandoned tire, or a rotted spot in a tree.

Marsh Management

It has been found that the mosquito population of a marsh can be controlled if 8 to 10 inches of



—Fish and Wildlife Service

*An example of coastal marshland destruction, once waterfowl habitat,
now a wharf at every front door*

. . . Wetlands

water can be maintained during certain seasons, creating conditions such as are established and managed in wildlife refuges for the benefit of waterfowl. The proper maintenance of such a depth of water will enable minnows and predaceous aquatic insects to live and exercise natural control of mosquitoes. A marsh so managed can actually reduce the mosquito population and furnish the environment needed for waterfowl and other forms of beneficial wildlife.

The studies of salt marsh management carried on by the New Jersey Division of Fish and Game have resulted in important contributions of knowledge in that field.

Wildlife Values

It is impossible to place a price tag on our wildlife heritage although we know that in 1960, 40 million hunters and fishermen spent 4 billion dollars for equipment, food, lodging, travel, and licenses—one billion dollars more than they spent as recently as 1955. There is no way to measure the full value of the benefits that our wildlife resources provide for the bird watchers, the photographer, the camper, the picnicker, or the hiker.

Accomplishments

New Jersey's recent victories in the campaign to save our wetlands from destruction place the state in the forefront of the wildlife con-

servation movement. In addition to the continuing efforts of the state's Division of Fish and Game and the Green Acres program, conservation groups are setting a record of accomplishment. Among these are the Great Swamp Committee, the National Wildlife Foundation, Philadelphia Conservationists, Inc., Wildlife Preserve, Inc., the Morris County Park Commission, and the New Jersey Audubon Society.

Great Swamp and the Mullica River addition to the Brigantine National Wildlife Refuge will stand as monuments to the conservation efforts of farseeing citizens.

Wise Use

Every citizen, whether he lives close to natural surroundings or inhabits the concrete and steel jungles of the city, has a stake in well-balanced land use. People need highways, airports, and industrial facilities near the tide water as well as opportunity for residential expansion: But, present and future needs of people also include open spaces, green belts, and outdoor recreational opportunities while waterfowl unquestionably must have wetlands in order to survive.

Planning

The wetlands crisis calls for harmonious planning of land and water use so that the recreational needs of future generations, who will want to fish and hunt, or study and photograph or otherwise enjoy natural surroundings, will be met.

**The Division's Marine Laboratory
Reports Progress in**

Fluke Research

by Ulysses R. Thayer

WHAT IS CAUSING the decline in New Jersey's fluke population and what can be done about it?

Fisheries Biologists at the New Jersey Division of Fish and Game's Marine Fisheries Laboratory are engaged in a variety of projects designed to provide answers to these and related questions about the species that is one of the principal "Bread and butter" fish for both sport and commercial fishermen in the Garden State. The laboratory is operated by the Division of Fish and Game and is located at Island Beach State Park. It is staffed by three trained biologists, Paul Hamer, Walter Murawski, and Ronald White. Mrs. Hamer acts as a part-time secretary.

Other Studies

The fluke is not the only species on which major research has been undertaken during the seven years in which the laboratory has been established. Significant facts have been discovered about porgies and striped bass. These include the fact that the porgies that inhabit New Jersey bays each summer are the same population that winters along the continental shelf from

Cape May to Cape Hatteras, while a separate population ranges from Cape May to Cape Cod. For stripers, on the other hand, the Delaware River and tributaries are important spawning areas, and many bass remain in New Jersey rivers in the summer, providing an important fishery.

Fluke Numbers

Fluke, however, have been a subject of major concern since 1960 because of their marked decline in population, contrasted with the abundance of some other major species.

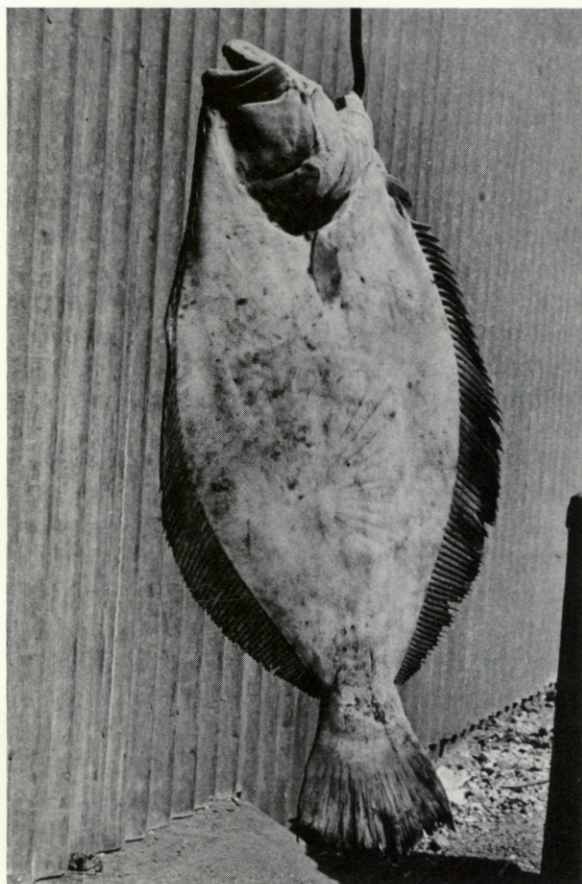
"Fluctuations in abundance are inevitable with any fish species," Mr. Hamer states. "This would be true even if there were no fishing at all. For this reason, it is very possible that the fluke population will come back up again in the natural course of events. The fluke, however, has always been one of the more stable species, so it is vital that we determine whether factors other than normal fluctuations have contributed to the current decline."

Little was known about the life history of fluke when these studies

. . . Fluke Research

started. Biologists were uncertain about where fluke spawned, what their eggs looked like, what conditions the young fluke were subjected to, or what migratory patterns the adult fish follow. A variety of projects have yielded

Biologist Murawski explained, "One major question is whether the decline is due to over-fishing or to poor spawning years. If poor spawning is the principal problem it would be a waste of time to work out practical regulations to control fishing. In other words, we must understand the life history



The fluke is one of the principal "bread and butter" fish for both sport and commercial fishermen in New Jersey

answers to many of these questions. These answers are needed in order to ascertain the cause of the decline and determine appropriate corrective measures.

of the species in order to apply management measures that are appropriate."

Methods utilized to obtain this information include tagging of



The research is aimed at more and better fishing

thousands of fluke, netting of fish samples from offshore and inshore areas, and the obtaining of fish and roe samples from commercial fishermen. Biologist White is analyzing much of this data. One of his efforts is a chart showing the correlation between the length and weight of fluke.

Facts gleaned from the tagging studies include what Biologist Murawski calls "the best possible estimates of both the fishing and natural mortality" and the division of the total fishery. This includes not only the division between sport and commercial fishing, but also the geographical breakdown of the catch taken by each fishery.

Of fluke tagged in the Sandy Hook area, roughly 50 percent of those caught were taken by sport fishermen and 50 percent by commercial fishermen over a 12-month period. In the Cape May area, sport fishermen caught 30 percent of the fish. (Sport fishing pressure is lighter around Cape May.) Tabulation of tag returns began on September 1, so that the fish were well distributed before the summer peak of sport fishing.

Of the Cape May fish, 70 percent returned to New Jersey inshore waters for the summer following tagging. Most of the remaining 30 percent were caught inshore in states to the north. From the Sandy Hook area, 65

. . . Fluke Research

percent returned to New Jersey for the first summer, but only 35 percent the second summer after tagging. States to the north again received the bulk of the remaining fluke.

Returns suggest that between 10 and 20 percent of the total adult fluke population is caught each year. There appears to be no difference in the size of fluke caught by sport and commercial fishermen.

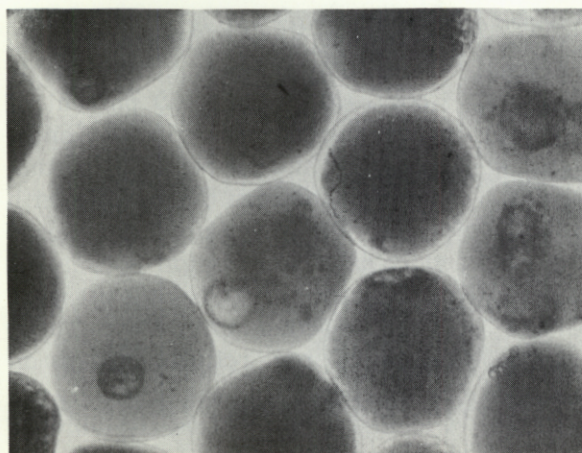
Research Cruise

The most recent venture was a research cruise aboard the *Albatross IV*, the modern research vessel of the Bureau of Commercial

and conditions, were taken at about 80 stations along the route. The fluke samples and related data, which the New Jersey scientists obtained, filled many gaps. Since the state lacks a research vessel for taking samples offshore, this cooperative effort with the federal agency was of importance.

Findings

Major discoveries made since New Jersey began intensive fluke research in 1960 include identification of eggs, location of spawning grounds, and information about migratory patterns. Mr. Hamer said, "Walt Murawski deserves great credit for identifying fluke eggs. It is obviously a great help when sorting egg and larvae sam-



*Fluke eggs —
maximum development
prior to spawning.
(Type IV)*

Fisheries of the U. S. Department of the Interior. Biologists Hamer and Murawski accompanied federal scientists along a zigzag course from Woods Hole, Mass. to Barnegat Lightship. Fish samples, as well as data on water temperature

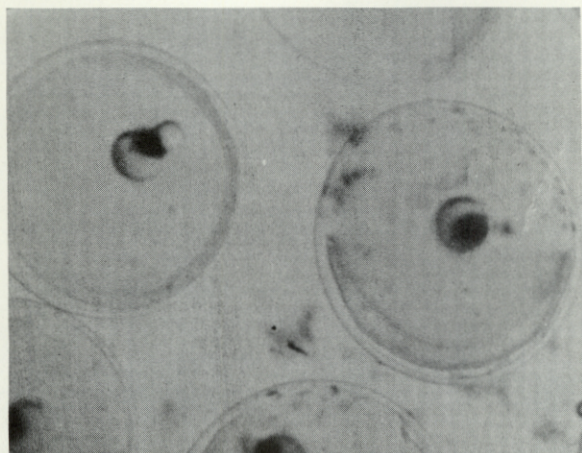
ples to know what we are looking for". He added that identification was difficult since most fish eggs are quite similar in outward appearance. The laboratory now has samples of eggs in every stage, from prior to fertilization to the

37th hour, as well as larval fish as small as $\frac{2}{5}$ of an inch.

The Adults

The adult fish spend the winter along the edge of the continental shelf, in a segment of warm water about 80 miles offshore and 70

forces. Generally, the young are carried toward the southern part of the bight, and very few young have come into New Jersey waters in recent years. The biologists feel that this may have a marked effect on the numbers of adult fluke



*Fluke eggs—
19 hours after
fertilization.
Actual diameter
approximately 1.05 mm.*

fathoms deep. Tag returns suggest that they winter along any part of this water in the Mid-Atlantic Bight. In the spring they swim inshore and spend the summer in the same area as the previous year or to the north. Hardly any enter inshore waters south of the region occupied in previous summers.

The Young

Spawning takes place in water from 15 to 50 fathoms deep on the journey to offshore grounds, primarily during the last half of October and first half of November in waters off New Jersey. The young are swept inshore by tides and currents during the winter. Biologist Murawski expresses wonder that any fish survive these merciless

that return in ensuing years. If it does, then there is good news for Garden State fluke enthusiasts.

Possible Increase

Biologist Murawski has set up sampling stations for several winters at Manasquan Inlet to check the presence of young fluke. As high as 100 young per hour were taken in December 1963, as compared to one per hour in December 1962. This may indicate that greater numbers of adult fluke will return to New Jersey waters when this year class reaches maturity. This would provide a major clue to the problem of fluke populations as well as affording Garden State anglers better fishing opportunities.

#



Some of the more common

Commercial

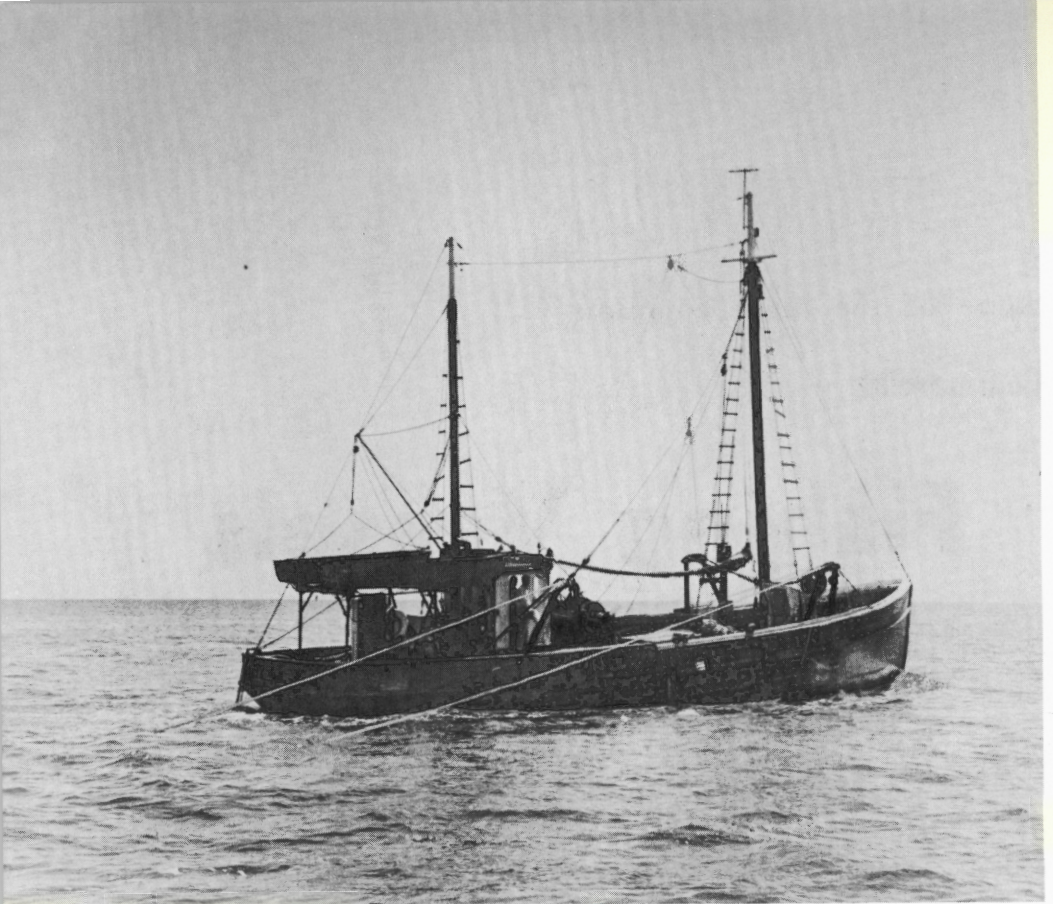
Fishing Vessels

of the New Jersey Coast

Commercial fishermen operating within the jurisdictional waters of the State of New Jersey—that is within three nautical miles of the shoreline—come under the sphere of authority of the state. Certain laws (printed in part on page 18 of this issue) govern the operation of such vessels engaged in fishing. These laws are enforced by the Coastal Patrol of the Division of Fish and Game. The Division also handles the licensing of commercial fishing vessels.

An important, and sometimes misunderstood, portion of the regulations governing the operation of commercial fishing vessels is the distance from shore at which various vessels and gear may fish. To compound the issue, many of the public are not able to identify the various vessels and their gear. As a result many persons assume that vessels may be fishing too close to shore when actually they may be operating legally.

Therefore, to assist the public in identifying the more common vessels and gear in question, the accompanying illustrations and notes are presented. Thus, for example, when a menhaden vessel is observed legally fishing close to shore, it would be recognized as such rather than being mistaken for an illegally fishing food fish vessel such as a trawler.



. . . Fishing Vessels

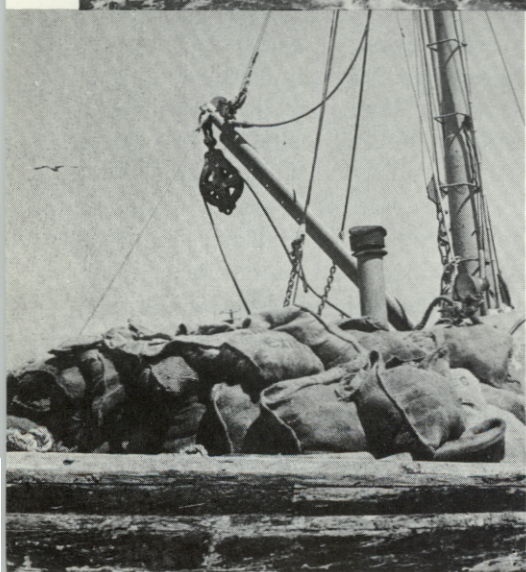
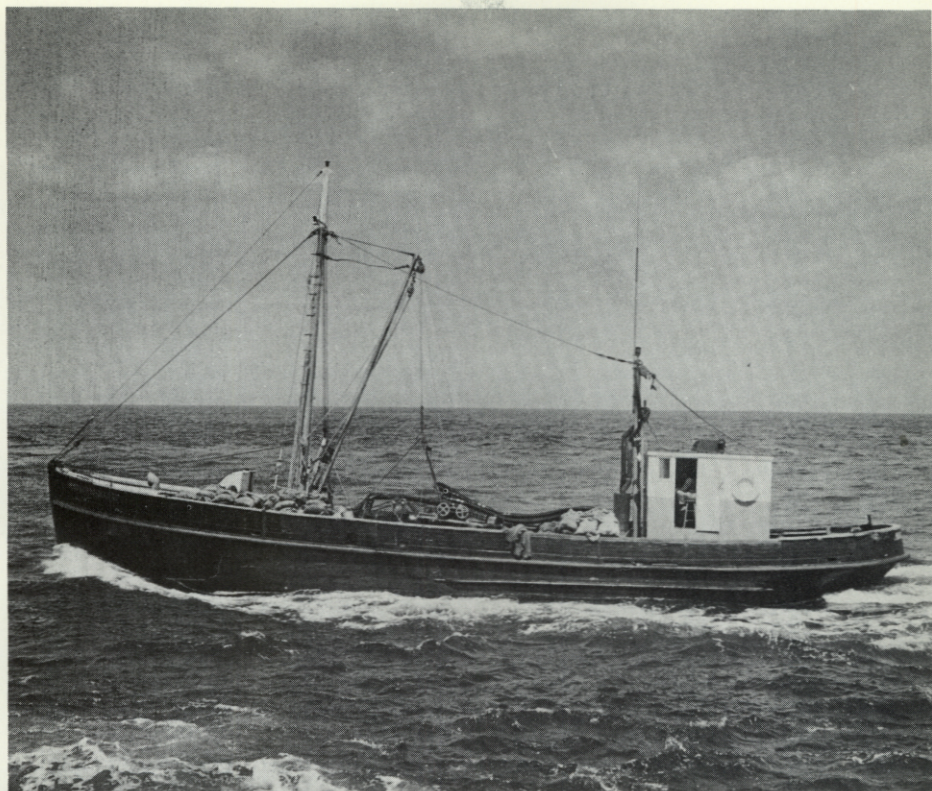
Below, otter board, or barn door, used with trawler gear



Trawlers, or draggers, fish with otter trawls for fin fish of any kind except striped bass. The \$50.00 license permits trawlers to operate at a distance not less than two miles from the coast line.

Typical New Jersey trawlers, although there are many variations, look pretty much like the above vessel. Trawlers use nets held open by the otter boards, or barn doors. The two towing cables serve to identify trawlers when fishing, provided the observer knows what to look for and is either not too far away or has suitable binoculars.

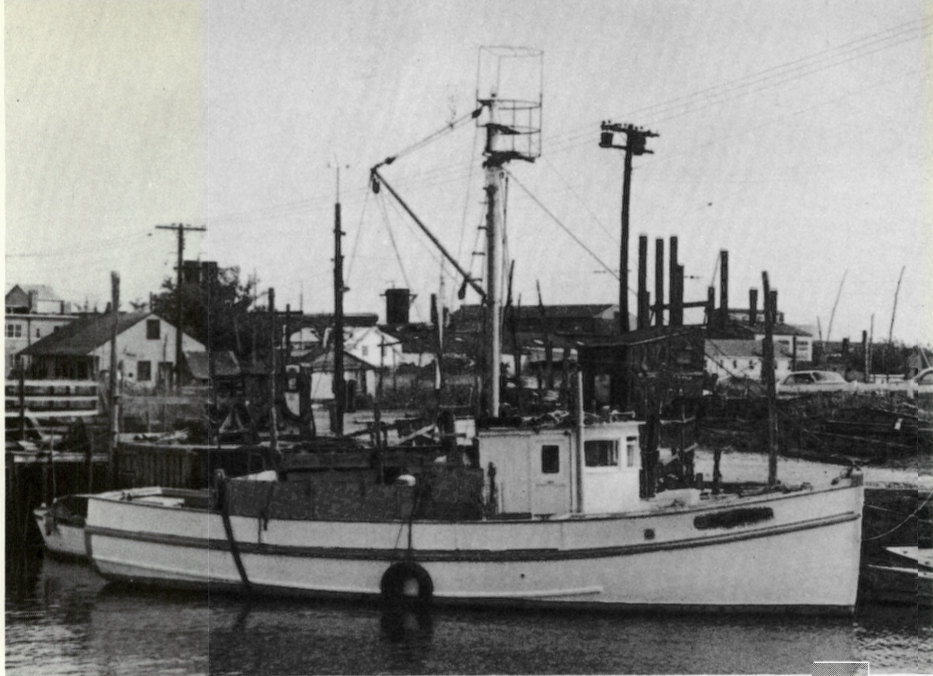
New Jersey Outdoors



*Sacks of clams stacked on the deck
of a clammer*

Sea clammers, or clam dredgers, are usually virtually identical to trawlers except for the gear used. In fact, many clammers and trawlers are used interchangeably simply by converting with a change of gear.

Clammers dredge for the large sea, or surf, clams with an hydraulic dredge and may legally fish right up to the surf. They have one towing cable and, in addition, a large, relatively conspicuous hose to feed water to the dredge jets. After making a successful set, clammers generally show bags of sacked clams on their decks.



. . . Fishing Vessels

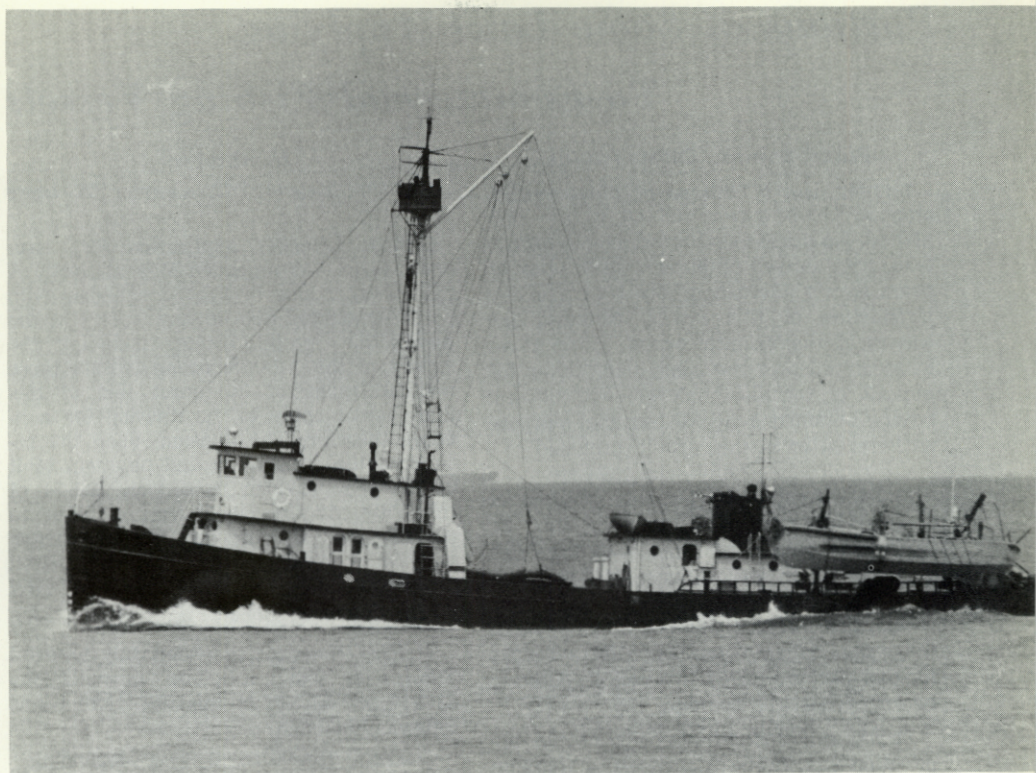
Stab netters, below, use a run-around or drifting gill net to fish for any fin fish except striped bass. Properly licensed stab netters may fish right into the beach. There are comparatively few such boats operated in New Jersey waters nowadays.

Stab netters usually are rather small, have a small cabin forward, and an open cockpit aft. The nets and rings, although not always conspicuous, may often be seen when aboard the vessel.

Belford seiners, as the above type of vessels are commonly called, carry a dual licensing. They are licensed to take food fish in to the two-mile limit, excepting striped bass. In addition, they are licensed to take menhaden, as provided by law, right into the beach waters. Belford seiners have purse seines and some have a seine boat.

This type of vessel, although commonly called Belford seiner, is not a classical commercial fishing vessel and can be hard to identify.





Menhaden vessels fish for menhaden which are processed for meal and oil. Properly licensed menhaden fishermen may fish just as close to the shore as the captain deems safe, since the license permits such the Atlantic Ocean, within three nautical miles of the coastline.

Menhaden vessels, as such, are actually cargo carriers. The fishing itself is done from the two purse, or seine, boats which accompany the large vessel. The nets are set and fished by the crews working in the purse boats, which may work as much as one-quarter of a mile from the "mother ship."

Since the menhaden fisherman is seeking a specialized catch, he is not after food or game fish. He is not legally permitted to take fish other than menhaden and he is not allowed by his company to even have aboard any game fish.

Vessels used in the primary menhaden fishery are relatively large, have a conspicuous cabin far forward, and a crow's nest. If the vessel is under way, the purse boats may be seen swung from the davits. If the vessel's crew is engaged in fishing, the purse boats may be observed in the vicinity of the large vessel.

Portions of Some Laws Applying To Commercial Fishing Vessels

Purse Seines, Otter Trawls

23:3-46. Use of shirred or purse seines, otter or beam trawls without license prohibited. No person shall take, or attempt to take, with shirred or purse seines, otter or beam trawls any fish in any waters in the jurisdiction of this state, including the waters of the Atlantic ocean within three nautical miles of the coast line, either for himself or for his employer, without first having obtained a license for that purpose as hereinafter in this article provided.

23:3-47. Application for and granting of license; fee; term. (As amended June 12, 1948.) A person who intends to take fish with shirred or purse seines, otter or beam trawls in the waters of the Atlantic ocean within the jurisdiction of this State shall make application to the board for a license for that purpose for each vessel proposed to be engaged in the fishing.

The board, upon the receipt of the application and the payment to it of the sum of fifty dollars (\$50.00) for each vessel proposed to be engaged in the fishing, shall issue to the applicant a license for the vessel to take with shirred or purse seine, otter or beam trawl, fish of any kind, excepting striped bass, in the waters of the Atlantic ocean within the jurisdiction of this State at a distance of not less than two miles from the coast line. The license shall expire on December thirty-first in the year in which it is issued.

23:3-48. Menhaden fishing excepted. Nothing in sections 23:3-46 to 23:3-49 of this title shall apply to vessels engaged in taking menhaden, but they shall be licensed to operate in the taking of menhaden pursuant to sections 23:3-50 to 23:3-53 of this Title.

Menhaden

23:3-50. Repealed by Chapter 86, Laws of 1961.

23:3-51. License; application for; issuance; term. (As amended May 22, 1951.) A person intending to take menhaden with purse or shirred nets in any waters in the jurisdiction of this State, including the waters of the Atlantic ocean, within three nautical miles of the coast line of this State, shall apply to the division for a license therefor. The division, upon the receipt of the application and payment to it of the fee provided in section 23:3-52 of this Title, may, in its discretion, issue to the applicant a license, to take menhaden with purse or shirred nets. The license shall be void after December thirty-first next succeeding its issuance.

23:3-52.—Fee. (As amended July 1, 1940.) The fee for issuing a license under sections 23:3-50 and 23:3-51 of this title shall be as follows: For each

(From \$100.00 to \$1,200.00 depending on gross tonnage and other factors.)

Such gross tonnages shall be determined by Custom House measurements.

Nets

No person may set, erect or operate a net for taking fish in the tidal waters of this State or in the Atlantic ocean within three nautical miles of the coastline without first obtaining a license from the Division.

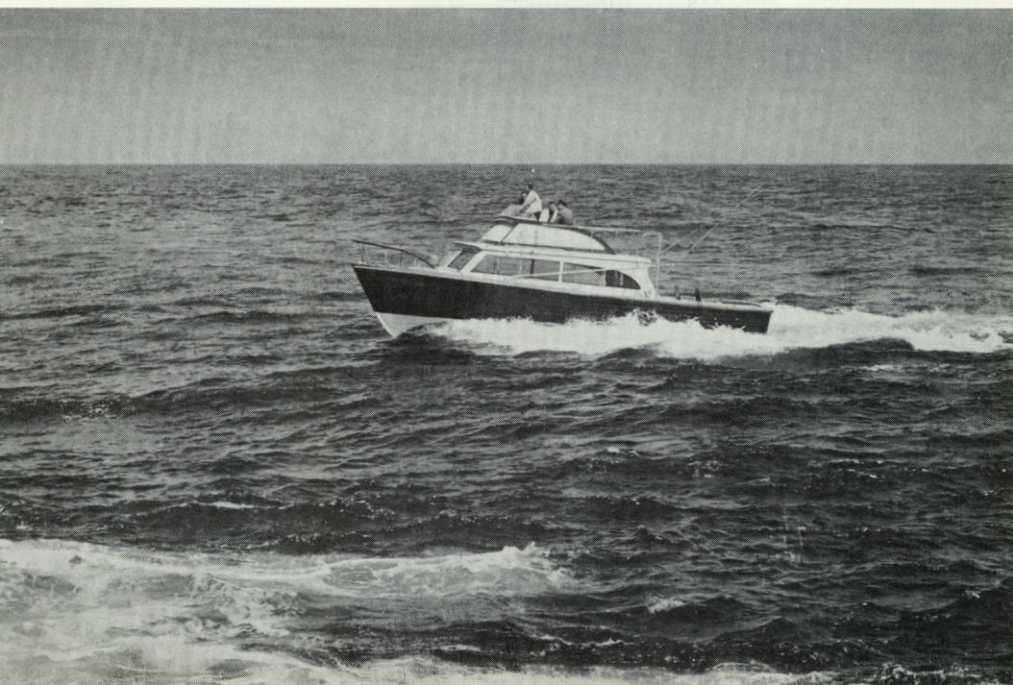
Drifting gill nets, run-around or stab nets, the smallest mesh of which shall be two and three-quarters inches while being fished and the length of which net shall not exceed 200 fathoms, March 15 to December 15 for all species excepting striped bass. Fee: \$10.00. These nets shall be used in the Atlantic Ocean only.

The above notes, excerpts, and portions of the laws applying to commercial fishing vessels are presented merely as a sample of the regulations. For the laws in full refer to the published Fish Laws.



Sport Fishing Boats

Sport fishing boats, both private and for hire, are both numerous and varied along the Jersey coast during the fishing seasons. There are so many types, sizes, and classes of such boats that they defy cataloging. Therefore, it is not surprising that many persons mistake sport fishing boats for commercial fishermen. Head boats, above, are usually large and have many fishermen aboard using rods or hand lines. They often have advertising signs on their hulls or cabins. Most other sport fishing boats may be recognized by the fishing rods to be seen in use or stowed openly and the fishing methods which usually involve rod and reel.



Delaware River Launching Sites

This list of major public launching sites and boat renting facilities has been compiled by the Division of Fish and Game to aid fishermen who wish to fish along the Delaware River. The list indicates whether the sites have boats for rent or whether charges are levied for launching. While every attempt has been made to include all launching sites, the Division requests persons knowing of additional ones to forward the names of the facilities to Chief Conservation Officer William P. Coffin, P.O. Box 1809, Trenton, N. J. 08625, so that they may be included in future lists.

<i>Name</i>	<i>Location</i>	<i>Facilities</i>	<i>Fee</i>
Sussex County			
Wm. Hartnum	Below Milford Bridge	Launching	Fee
	Below Dingman's Bridge	Launch	Free
	(very steep, portable boats only)		
Rosencrans Ferry	Above Wallpack Bend	Launch	Fee
Pennsylvania Side			
Bob's Beach	Above Milford Bridge	Launch, rent	Fee
Riverview Tavern	Below Dingman's Bridge	Launch, rent	Fee
Warren County			
Leonard Rue Camp	8 Miles North of Water Gap	Rent only	Fee
Copper Mine Inn	7 Miles North of Water Gap	Launch, rent	Fee
Worthington Tract	2 Sites:		
	Ranger Sta. 3.5 mi. No. of Gap		
	Picnic Area 4.5 mi. No. of Gap ..	Launch	Free
Kittatinny Beach	Route 611 at Water Gap	Launch, rent	Free
Al's Fixit Shop	Route 46, Ramseyburg	Rent only	Fee
Riverside Trailer Park	Route 46, Manunka Chunk	Launch	Free
Riverton Bridge	Belvidere	Launch	Free
S.S. Diana	Hutchinson	Launch	Fee
	Harmony Station	Rent	Fee
Hampton St. Bridge	Phillipsburg	Launch	Free
Riegel Paper Co.	Riegelsville	Launch	Free
Hunterdon County			
Raven Rock Island	Raven Rock	Launch	Fee
Delaware River Power Boat Assn....	Lambertville	Launch	Free
Mercer County			
None			
Burlington County			
Bordentown City Ramp	Launch	Free
Curtin-Hope Marina	E. Pearl St., Burlington	Launch	Fee
Dan's Boat Yard	Delanco	Launch	Fee
Camden County			
Farragut Sportsmen's Assn.	25th St., Camden	Launch	Free
Gloucester County			
Halscheid Launching Ramps	Almonesson Rd., Westville.....	Launch	Fee
Sweeten's Dock	Mantua Creek, Mount Royal	Launch	Fee
Mullen's Dock	Island Rd., off Rt. 130, Bridgeport..	Launch	Fee
Oldman's Creek Marina	Route 130, Nortonville	Launch	Fee
Salem County			
.....	Pennsville	Launch	Fee
Several Ramps	Salem River & Cove, Route 49	Launch	Fee
Cumberland County			
.....	Fotescue	Launch	Free

Sheppard Pond Open to Fishing

Sheppard Pond, a 70-acre lake located in the Ramapo Mountains of northeastern Passaic County and recently acquired by the state under the Green Acres Program, is open for fishing.

Other recreation facilities on the 541-acre site will be provided by the Conservation Department's Division of Resource Development. Skeet and trap shooting are currently available.

The area was formerly operated as a private recreation club under the name of Thunder Mountain Lodge. The management stocked the lake with trout in 1962 and 1963 and reported the presence of large northern pike, channel catfish, and pickerel.

Catches during a ten-day period last August, as reported in a Thunder Mountain newsletter, included rainbow, brown, and tiger trout in the 13- to 15-inch class, pickerel in the 18- to 22-inch class, a 26-inch northern pike, and a 4-pond channel catfish. The newsletter also referred to earlier catches of two pike over 30 inches and a number of brown trout over 20 inches.

The large trout were believed to be fish that had held over and grown in the lake, which is over 100 feet deep.

Additional trout will be stocked later this spring by the Division of Fish and Game. Fisheries biologists will survey the lake this summer to gather specific information about fish populations and make management recommendations.

Bank fishing is available and a boat livery will be operated during the summer as well as a swimming area, snack bar, restaurant, and locker facilities. A ski slope will open in December.

Further details about these developments will be announced by the Forests and Parks Section of the Division of Resource Development. There will be a nominal charge to enter the park.

Sheppard Pond, in the area currently called Shepherd's Lake State Park, can be reached by turning northeast off Passaic County Route 511 after it passes Wanaque Reservoir. Signs are posted at this point. It can also be reached from New York State by turning southwest off Route 17 at Sloatsburg.

#

If You Are Changing Your Address

Please send both your old and new address to *New Jersey Outdoors*, P.O. Box 1809, Trenton, N. J., 08625, so that you will continue to receive your copies of the magazine without interruption. (*New Jersey Outdoors* can not be forwarded by the post office. Therefore, we need your new address in advance. Allow six weeks for processing.)

New Jersey Salt Water Game Fish Records

<i>Species</i>	<i>Weight (lbs.—ozs.)</i>		<i>Length (inches)</i>	<i>Girth (inches)</i>	<i>Year</i>	<i>Where Caught</i>	<i>By Whom Caught</i>	<i>Line Test</i>
Albacore	*	69 1	48½	33¼	1961	Hudson Canyon	Walter Citimm	50-lb.
Channel Bass		46	—	—	1953	Sandy Hook	Dr. R. D. Alexander, South River	—
Sea Bass		6	—	—	—	—	Thomas C. Rosewall, Camden	—
Striped Bass	‡	56	53½	33½	1955	Sandy Hook	Mrs. H. J. Sarnoski, Hillside	80-lb.
		61 4	52	29½	1955	Manasquan (beach)	J. Nemeth, Manasquan	—
Blackfish	*	21 6	31½	23½	1954	Cape May	R. N. Sheafer	30-lb.
Bluefish		18 10	37¼	20	1960	Barnegat Light	Edw. Schlitz	20-lb.
Cod	¶	40 12	45½	28½	1960	Ambrose Light	Martin Haines	30-lb.
		64 4	—	—	1962	Brielle	M. Mushlitz	—
Black Drum	¶	70	55	37	1952	Great Egg Harbor	P. Bessor	20-lb.
	¶	74	47½	37	1956	Island Beach	Mrs. E. H. Conlon	30-lb.
		92	—	—	1944	Delaware Bay	Herschel Layton, Dias Creek	—
Fluke	§	12 2	31¼	25¼	1957	Avalon	Mrs. A. Berstein	12-lb.
	§	13 11	33	27½	1953	Long Branch	Mrs. Adele Taylor, Neptune City	30-lb.
		19 12	38	—	1953	Cape May	Walter B. Lubin, Philadelphia	—
Pollack	†	29	42	24½	1958	Manasquan	Ann Durik, Elizabeth	50-lb.
		33 8	—	—	1956	Belmar	G. M. Mayer	—
Mako Shark	¶	322	109	42	1952	Elberon	W. J. Mahan	30-lb.
Tuna		787	—	—	1950	Brielle	Ray Fromm	—
Wahoo		64	—	—	1963	Cape May	John J. Price, Glendora	—
Weakfish	¶	17 8	46	19	1952	Mullica River	A. Weisbecker, Jr.	50-lb.

* World Record (all-tackle)—IGFA

‡ 80-lb. Record for men and women—IGFA

† Women's all-tackle Record—IGFA

§ Women's Line Record—IGFA

¶ Line Record—IGFA

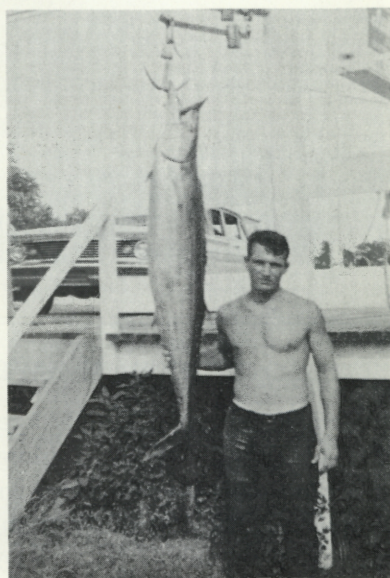
Record-breaking Wahoos



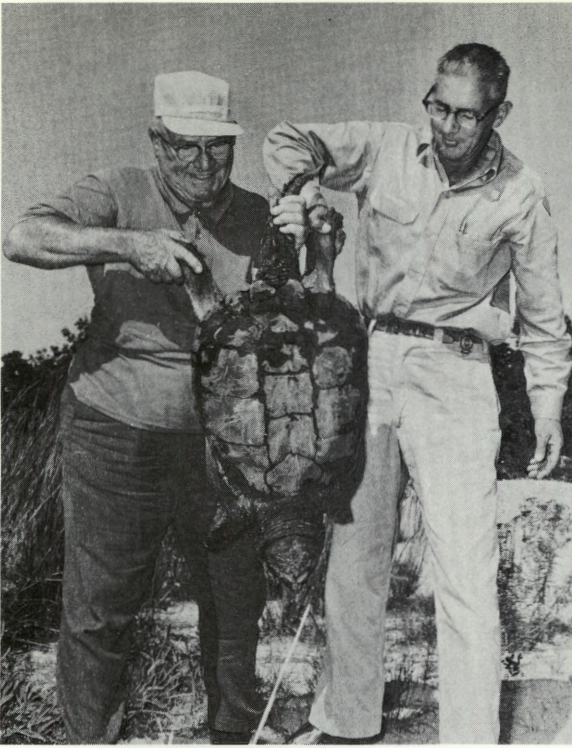
Warm water currents last summer brought New Jersey an unusually large number of wahoos. A few of these southern fish visit our coast each summer, but last year's large migration is witnessed by the fact that the former recognized state record of 50 pounds was broken four times within ten days. Three of the record-breaking fish are pictured here.

G. Dannehower of South Plainfield, shown with his son Gil III, caught this 55-pounder aboard the *White Squall*, 38 miles southeast of Manasquan Inlet on Friday August 2. (Picture courtesy of *Asbury Park Press*)

A day later, 16-year old Bill Hibbs of Washington Crossing, Pa., a senior at Newtown High School, hooked a wahoo weighing 56½ pounds. He was fishing the north end of Barnegat Ridge aboard his father's boat the *B-Bar-J* out of Forked River. (Picture, courtesy of S. W. Hibbs)



On August 10 John J. Price of Glendora landed a 64-pound wahoo while fishing aboard his boat, *The KaJon II* out of Cape May, approximately 30 miles SE by E of Five Fathom lightship. This fish is recognized as the state record.



Wharton Tract Snapper

This big snapping turtle, which weighed 59 pounds and seems to be somewhat of a state record, was discovered near Pleasant Mills, one-quarter mile from the historic, colonial village of Batsto on the state-owned Wharton Tract

—Department of Conservation and Economic Development

Lake Wawayanda for Fishing

Another good fishing lake is now available to New Jersey sportsmen for both warm water angling and trout fishing. Wawayanda Lake in Sussex County was stocked with trout for this season after the Fisheries Committee of the State Fish and Game Council approved the release of 500 trout in the lake. The 255-acre lake was acquired by the State under the Green Acres Program earlier this year.

The lake is situated in Vernon Township in the northeast corner of Sussex County. It can be reached by turning east off County Route 515 to Highland Lakes and turning north, following the Township Road, sometimes called Wawayanda Road, to the north and east. There is a boat launching site on Wawayanda Lake.

Water conditions are described as "very favorable for many members of the trout family" in the New Jersey Fisheries Survey Report of 1951. The lake attains a maximum depth of 82 feet with a mean depth of 30 feet.

#

Council Highlights

April Meeting

The open session of the regular monthly meeting of the Fish and Game Council was held in Trenton on April 14.

In addition to the members of the Council and personnel of the staff, the following persons were present: Roy Williams, Edward Jackson, John Russack, Robert Vreeland, and William Backus.

License Revocation Appeal

A serviceman appeared before the Council to request that his revoked license be reinstated. His hunting license was revoked on October 23, 1963. A summons was issued to the appellant and he pleaded guilty to the charge of hunting on Sunday, 23:4-24. He stated he is stationed in Maryland and comes home to New Jersey every weekend. One of his favorite pastimes is hunting and he would like to have his license reinstated. He understood that, if his license is revoked in one state, he could not obtain one in another.

Chairman Hart stated that with the charge of having an uncased gun in the woods it is assumed that one is going to try to kill something. The appellant claimed he was only carrying a .22 rifle, single shot, and he thought that the C.O. should have given him a chance by telling him to put the gun back in the car from which he was a distance of only a few feet. He added that he has not had his rifle returned to him from the C.O., who said he would send it to him when the fine was paid. Mr. Coffin stated that the C.O. still has the rifle in his possession. The Appellant was then excused by the Council and told to wait for the decision of the Council.

Discussions and Decisions

This case was then discussed by the Council. In answer to a question from Mr. Hart, it was stated that a single shot .22 rifle is an effective weapon, though illegal, for killing deer. Mrs. Godown made a motion that the revocation stand as it is since, if the Council is too lenient in matters like this, it will get to be a "scoff law." This motion was seconded by Mr. Space. Mr. Coffin then stated that, even though a serviceman may hunt or fish without a license, if he is put on the revocation list he is not allowed to hunt or fish, as the case may be. Mrs. Godown thought that the C.O.'s should be backed up when they apprehend violators. Mr. Hart stated he would have liked to have heard the boy say he was sorry the incident occurred. Mr. Lunsford thought that some cases deserved consideration and that the Council should not always be so stringent in this regard. Chairman Hart called

. . . Council Highlights

for a vote which resulted in three for the revocation to stand and five in favor of reinstatement. Chairman Hart said that there is a time when the Council should be lenient and a time to be harsh. In this case the boy is to receive a warning.

A Second Appeal

Mr. Coffin read a letter from another appellant who could not appear before the Council. The letter submitted explanations to plead the appellant's case to have his license reinstated. He was convicted on December 5, 1963, for violation of RS 23:4-1. This was his second conviction, the other being in 1959. A letter from C.O. Morrison dated April 8 was then read explaining the incident. Mr. Alampi then made a motion that the appellant's request for reinstatement of his license be denied. The motion was seconded by Mr. Canale and passed.

Waterfowl Season

Chairman Hart asked Director MacNamara about a letter from Floyd T. Staff of March 29, 1964, regarding the split waterfowl season. Director MacNamara said that this subject would be for the Council to consider when the set the waterfowl season.

Poultry House for Farms

In regard to the purchase of a poultry house by the Forked River State Game Farm, Mr. Alampi reported that he went to see this building and said that it is in good condition and the present owner would be willing to wait two years for the \$1,000. which is the price he has asked. The building is located about a half hour from the Forked River Game Farm. Superintendent Grant listed the value of the material that would be available from this building to be \$6,375.00. In answer to Director MacNamara's question as to whether or not the building is large enough to furnish quarters for both farms, Mr. Alampi stated that it would be as there are approximately 25,000 square feet. The purchase would have to be approved by the Division of Purchase. Chief Alpaugh reported that the two farms would be able to save the necessary amount of money for this purchase. A motion was then made by Mr. Alampi that, if it were financially feasible to purchase this building, it should be acquired. The motion was seconded by Mr. McCloskey and was passed.

Trout Season Opening

Observations of the first day of trout season were given by Councilmen McCloskey, Alampi, and Godown. Mr. McCloskey said the people he encountered from Trout Unlimited were well pleased with what they had seen and particularly that trout were being taken on flies. Mr.

Alampi said the trout fishing was very good in the South Jersey area. Mrs. Godown said she particularly enjoyed the dedication of the Pequest Hatchery.

Excess Pheasant Chicks

A letter address to Mr. Totten from the Whitehouse Rod and Gun Club regarding the distribution of excess pheasant chicks from our game farms was read. It was then stated that the same policy in this regard is in force this year.

Federation Resolutions

In regard to the Federation's resolution that the baiting of deer be made illegal, Mr. Coffin explained that he has studied this matter and found that there is no way this could be done by code. It could only be accomplished by legislation. The Council was sympathetic towards this resolution and it was noted that about six states do have baiting laws. Mrs. Godown stated that there were many other bills pending to be discussed which are more important than this one. For the sake of quicker action on bills, she thought it might be a good idea for the Federation to submit the bills to the Legislature directly instead of the Division of Fish and Game submitting them. Thereafter the Council could pass judgment on them. Chairman Hart concurred with this suggestion, especially in the case of controversial matters.

Hackettstown Sewer Line

Chief Hayford reported that the town of Hackettstown wants to lay a 24-inch interceptor sewer, a small portion of which will go through the lower end of the East Hatchery. He stated that this would not interfere at all with the operation of the hatchery and would probably be advantageous for the Musconetcong River. A motion was made by Mr. McCloskey that this project be approved and the motion was carried.

Law Enforcement Report

Mr. Coffin announced that three Conservation Officers were to retire in June of this year and three are now on sick leave. He believed some of these men should be replaced, but an examination must be requested from Civil Service as the list is exhausted at this time. Mr. Coffin is also concerned that seven of law enforcement's vehicles are now three years old. Mr. Coffin reported that trout season went well with very few violations such as a few fishing before eight o'clock in the morning.

Crow Shooting

Mr. Space asked Mr. Coffin if a man has to have a firearm permit to shoot crows if he has a legal hunting license. Mr. Coffin stated that people are asked to have a firearm permit to shoot crows as this acts

. . . Council Highlights

as a deterrent to the young hunter. However, technically, an individual does not need a firearm permit during the open season for hunting if he has a regular hunting license.

Fisheries Report

Mr. Hayford reported that this year 23,000 trout will be brought in from Vermont and that a total of 550,000 will be stocked by Decoration Day. In addition, most small streams are now on the stocking list.

Mr. Alampi asked about the pollution problem caused by the Owen-Illinois Glass Co. It was stated that a summons is going to be served on the company.

Conservation Education

Mr. Marron stated that the past month was a very busy one in regard to conservation exhibits and education in the schools. Director MacNamara added that Mr. Marron worked with the Middlesex County group in preparation of the Junior Sportsmen's Show and that he had done an admirable job. Some animals from Mr. Space's farm were used in the show.

Wildlife Report

Mr. Alpaugh reported on the experimental mirror project to repel deer from highways. This will be tried on a ten-mile strip of the Garden State Parkway near New Gretna. There is a complication in New Jersey not experienced in the system used earlier in Holland. In Holland mirrors were placed adjacent to the road, but in New Jersey they must be 18 feet from the concrete. This presents a problem which might be solved by engineers who are now designing a concave mirror. Three miles of mirrors have been erected so far.

Mr. Alpaugh also reported that the game farms are now in production and the Farm-Game project is in full swing with its spring planting program. He stated that the building for Jules Marron will be started April 20, 1964.

Mr. Hart inquired as to the reason why the Forked River Game Farm was \$5,000. over its budget on its feed bill. Mr. Alpaugh stated this was probably due to an incorrect estimate.

Cooperative Work

Director MacNamara stated that both the Bureau of Fisheries Management and Bureau of Game Management are cooperatively building a road for the Bureau of Parks and Forests at Stokes State Forest. In regard to cooperative work with other Bureaus outside the Division of Fish and Game, such as Forests and Parks, Mr. Space inquired whether it would be possible to establish better cover in areas where

there is big timber. Mr. Alpaugh thought this could be worked out but that there are many Fish and Game areas that have not been developed as yet.

Television Show

Mr. Marron announced that on Channel 13 television, Mr. Hayford was to appear on a taped, half-hour program regarding the Fish Hatchery. The schedule of the program was Thursday, April 16 at 7:30 p.m.; Friday, April 17 at 12 noon; and Saturday, April 18.

Coastal Patrol

Mr. Newman Mathis reported that the Coastal Patrol concentrated many hours along the coast between Manasquan Inlet and Surf City to protect striped bass, of which there were many much smaller than last fall.

The *Kathleen F.* has been completely stripped of all valuable material and the hull is being advertised for sale in the newspapers.

The shad in Delaware Bay are abundant but their price is down. A large quantity of shad is being taken. But, only the roe is worth selling and kept. The rest of the fish is disposed of in any way possible. Mr. Mathis believes this is very poor conservation. He stated that when the shad get to the Hudson River there will be a terrible waste.

Councilman Lunsford

Mr. Lunsford stated that this would be his last meeting as Fish and Game Councilman as his term has expired. He said he has enjoyed his association with the Division and invited anyone who is down in Cape May County to stop in to see him. Chairman Hart emphasized that Mr. Lunsford has contributed greatly to the Division. The Council joined him in saying that Mr. Lunsford was an asset to the Council and that he had done a good job.

License Sales

Mr. Space brought up the matter of the proposed extensive advertising program to sell licenses which he thought we should be looking into very deeply. Mrs. Godown said her committee plans on having another meeting very shortly on this matter.

Fisheries Topics

Mr. McCloskey announced that Lake Musconetcong will be put on the stocking list.

Mr. Ed Jackson has contacted the Borough and Council of Pompton Lakes regarding the access site on Pompton Lakes. Mr. McCloskey stated he would check on this matter.

Mr. McCloskey stated that the question of the ownership of the

. . . Council Highlights

access road at Swartswood Lake should be cleared up. The complaint regarding this came from the Sussex County Federation. Mr. Marron said that this matter is being taken care of by property owners in the area.

Hunting Ordinances

Mrs. Godown attended a civic group meeting of Piscataway regarding the ordinance prohibiting hunting in the township. The group had given it their approval. She told them they could post their own land but it has to be done by the individual property owner. Director MacNamara stated that, in the case of other ordinance situations throughout the state, the persons involved have to follow the same procedure.

Other State Lands

Mr. Space asked if it were possible to obtain information on other properties that are state-owned outside of the Department and if they could be publicized in some way as to their location and availability for hunting and fishing. Director MacNamara advised that the Bureau of Planning has such a list which can be had for the asking.

Land Acquisition

Chairman Hart Stated that the Cape May County Planning Board now realizes that open space is getting scarce. They plan an education program to inform the residents of that county of the purchase of land by Green Acres in order that they might cooperate more fully.

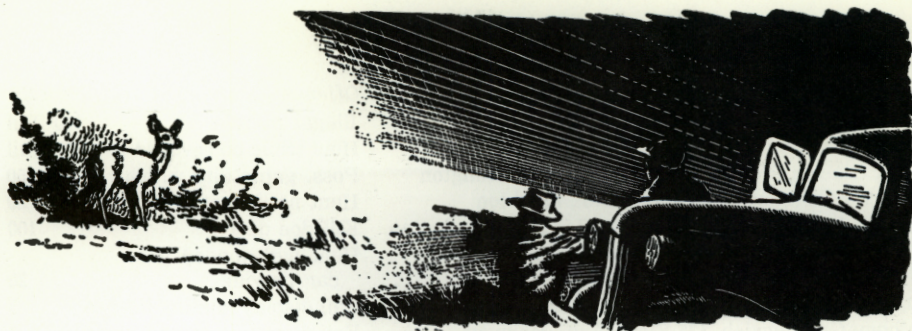
C.O. Horrocks

C.O. Russack reported that the PBA Local of the Conservation Officers on April 13, 1964, presented Mrs. Amos Horrocks, widow of the deceased C.O., close to \$5,000.00, together with a gold medal from the national association of law enforcement agencies. #

Our Beautiful Land

By Robert Nevins

Have you ever seen a mountain brook gleam,
or watched a clear running trout stream?
Never have I seen such a beautiful sight,
as a trout breaking water just at twilight.
Yet, this can be ruined at a very fast pace,
if people throw litter all over the place.
Keep hold of that paper—that wrapper or can,
and don't litter-up our beautiful land.



Violators Roundup

<i>Defendant</i>	<i>Offense</i>	<i>Penalty</i>
Robert W. Howell, East Main St., Waretown	Pheasant—closed season	20
Barrett Irwin, 25 Florence Ave., Leonardo	Use otter trawl within state limits	200
John B. Slater, 21 William St., Fords	Use otter trawl within state limits	500
Robert Brallier, 115 Sheffield Ave., Englewood	Discard refuse on state owned land	20
Franklin G. Moore, Union St., Dividing Creek	Poss. uncased weapon	100
Franklin G. Moore, Union St., Dividing Creek	Hunt aid of lights	20
Franklin G. Moore, Union St., Dividing Creek	Hunt no license	20
Barrett Griner, R.D. No. 4, Bridgeton	Set and maintain pole trap	20
Charles A. Chermati, Woodside Dr., Rockaway	Try to fish—illegal instrument	20
William Podhyski, 24 Corey Road, Denville	Ice fishing with more than 1 hook	50
Jeffrey D. Beall, 51 Marne Garden Apts., Moorestown	Poss. uncased weapon	100
Jeffrey D. Beall, 51 Marne Garden Apts., Moorestown	Discharge firearm on roadway	20
Jeffrey D. Beall, 51 Marne Garden Apts., Moorestown	Attempt take wild deer closed season	100
Gerard S. Chandler, Atsion Road, Vincentown	Discharge firearm on roadway	20
Gerard S. Chandler, Atsion Road, Vincentown	Poss. uncased weapon	100
Gerard S. Chandler, Atsion Road, Vincentown	Attempt take wild deer closed season	100
William R. Ross, 566 Girard Pl., Camden	Mutilating wild deer—conceal identity	100
David M. Tarry, Jr., 231 Chestnut St., Salem	Hunt deer with rifle	100
David M. Tarry, Jr., 231 Chestnut St., Salem	Poss. uncased weapon	100
Jack A. Cowan, 315 East Broadway, Salem	Poss. uncased weapon	100
Jack A. Cowan, 315 East Broadway, Salem	Hunt deer with rifle	100
Joseph A. Hudlock, 211 Sinnickson St., Salem	Hunt deer with rifle	100
Joseph A. Hudlock, 211 Sinnickson St., Salem	Poss. uncased weapon	100
Alfred Searfoss, Route No. 69 R.D., Glen Gardner	Poss. illegal missile (buckshot)	100
Alfred Searfoss, Route No. 69 R.D., Glen Gardner	Kill doe deer closed season	100
Alfred Searfoss, Route No. 69 R.D., Glen Gardner	Poss. uncased weapon	100
William G. Trembley, Route No. 513, Califon	Poss. uncased weapon	100
Ernest Kieineick, 1520 Burrnet Ave., Union	Poss. illegal missile	100
Robert Caucci, 222 White Horse Pike, Egg Harbor	Uncased weapon	100
Firman Lawless, 396 Peek Ave., Millville	Hunt on Sunday	100 Jail

. . . Violators Roundup

<i>Defendant</i>	<i>Offense</i>	<i>Penalty</i>
Firman Lawless, 396 Peek Ave., Millville	Illegal missile	100 Jail
Firman Lawless, 396 Peek Ave., Millville	Hunt while on revoked list	100 Jail
Frank Giacchi, Ferry Road R.D. No. 2, Flemington	Poss. game bird without license	50
Howard Bonsmier, Rodenbaugh Rd., Stockton	Hunt no license	20
Kenneth Robert Shahay, R.D. #2, Box 200, Flemington	Kill doe deer	100
Richard Larwa, 765 Avenue E, Bayonne	Hunt with loaded gun, car moving	20
Eugene Jakubowski, R.D. #2, Flemington	Fail display hunting license	5
Anthony Grazulewich, 135 Floyd Ave., Rahway	Fail display hunting license	5
Richard D. Shahay, R.D. #2, Box 200, Flemington	Hunt no license	20
Daniel Phillips, Pitman & Downer Rd., Sewell	Poss. illegal missile	100
Charles A. King, Jr., Atco Road, Indian Mills	Failure to exhibit license	5
Thomas B. Wujick, 601 Madison Ave., Magnolia	Poss. illegal missile	100
Joseph P. Schreiner, R.D. #1, Box 263, Asbury	Ice fishing closed season	20
Donald Brown, 284 Wanaque Ave., Pompton Lakes	Game bird—closed season	20
Frank B. Doyle, III, 2658 Massey St., Philadelphia, Pa.	Procure license wrongfully	100
	Lic. Rev.	
William Toliver, 25-A Pine Ave., Woodbury	Hunt no license	20
Siso Torres, Pakco Plantation, Mays Landing	Poss. uncased weapon	100
Siso Torres, Pakco Plantation, Mays Landing	Hunt no license	20
Siso Torres, Pakco Plantation, Mays Landing	Hunt aid of lights	20
William Rathbone, 25 Goose Lane, Pennsville	Hunt deer closed season	100

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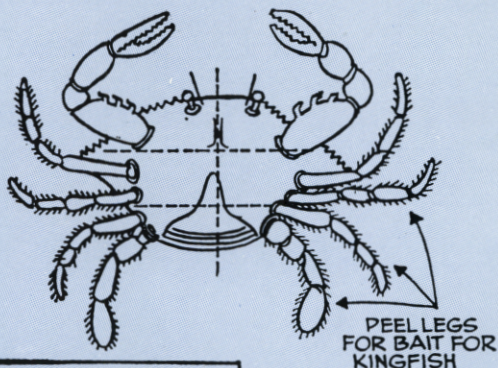
Fur, Fin and Campfire

By JACK SHERIDAN

SALT WATER BAIT

THE BLUE CRAB MAKES GOOD BAIT IF THE SHELL CAN BE BROKEN WITH SLIGHT PRESSURE AT THE POINTS INDICATED BY THE ARROWS. ARMS AND CLAWS ARE MOST POPULAR BAIT PIECES.

FOR BODY PIECES FOR BAIT, SECTION ALONG DOTTED LINES



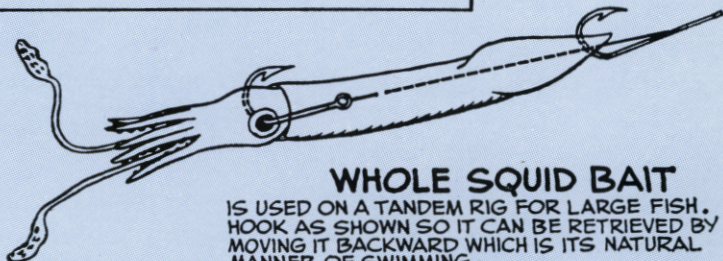
TANDEM RIG FOR SAND EELS AND BLOODWORMS

LONG-SHANKED HOOK WITH COPPER WIRE TAGS FOR HOLDING FISH.

NEEDLE-EYED DOUBLE HOOK IS USED WITH MULLET AS SHOWN



HEAD OF SQUID USED FOR STRIPERS, BLUEFISH OR WEAKFISH.



WHOLE SQUID BAIT

IS USED ON A TANDEM RIG FOR LARGE FISH. HOOK AS SHOWN SO IT CAN BE RETRIEVED BY MOVING IT BACKWARD WHICH IS ITS NATURAL MANNER OF SWIMMING.

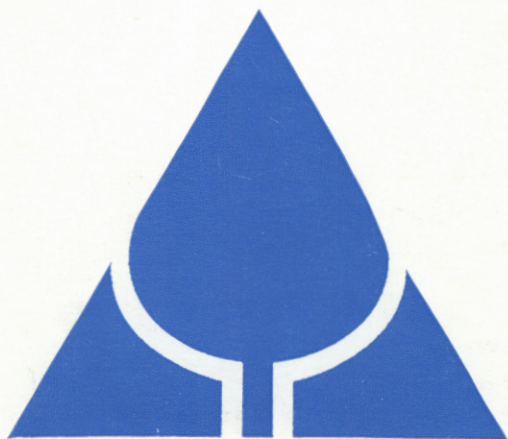
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