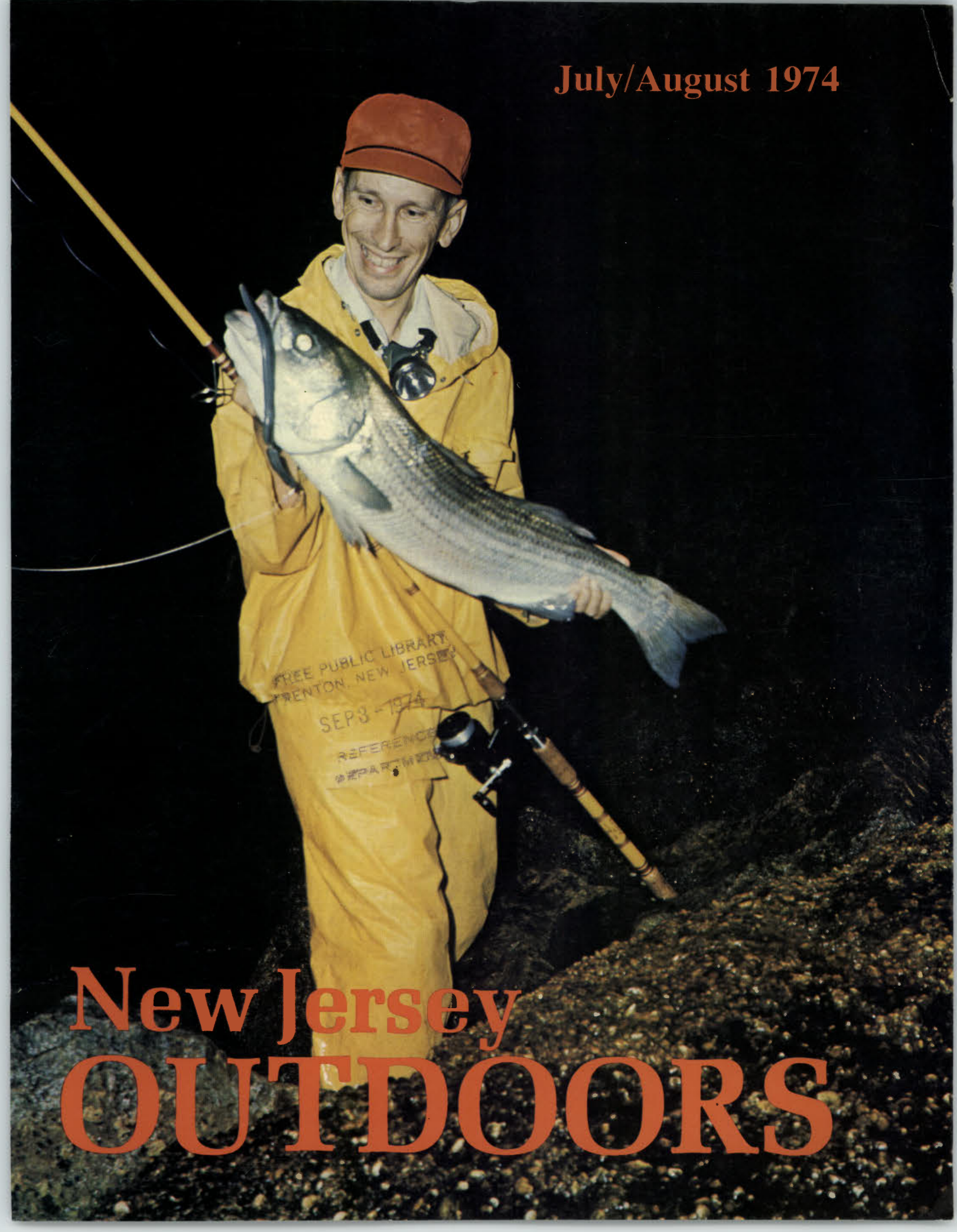
July/August 1974



New Jersey OUTDOORS

NEW JERSEY OUTDOORS is published bi-monthly by the Division of Fish, Game and Shellfisheries of the Department of Environmental Protection of New Jersey. This publication is dedicated to the wise management and conservation of our natural resources and to foster a greater appreciation of the outdoors.

Second-class postage is paid at Trenton, N.J. and additional mailing offices. Subscriptions are $3.00 per year and three years for $8.00 payable by check or money order to New Jersey Outdoors Publication Office, P.O. Box 1809, Trenton, N.J. 08625. Change of address should be reported to the above address. Send old and new addresses and the zip code numbers. The Post Office will not forward copies unless forwarding postage is provided by the subscriber. Allow six weeks for change of address to take effect. Unsolicited material is sent to the magazine at the risk of the sender. Permission granted to reprint with credit to New Jersey Outdoors.

July/August 1974
VOL. 1 NO. 4

New Jersey OUTDOORS

FEATURES

Although rarely taken on lures, blackfish take a variety of bait including green crabs, sand bugs, fiddler crabs, clams, mussels and blood worms.

BLOWFISH or PUFFER

At one time the blowfish was considered a trash species and thousands were discarded by sport and commercial fishermen each year. Today the blowfish, alias "sea squab", demands a good price on the market. Blowfish can often be caught in numbers during May, June and July in any of our bays or inlets and sometimes from the surf. They take a variety of baits such as squid, clam, crab meat, shedder crab or blood worms. Since the edible portion of this fish is rather small, (about the size of the drumstick of a small fryer), it is not worth keeping unless a good number can be obtained. When a "mess" has been secured it is a simple matter to remove their back bones with the meat attached.

BLUEFISH

Adult bluefish generally make their first appearance in late May or early June. After this initial run they generally disappear for several weeks, only to reappear to provide excellent fishing during July, August, September and sometimes into October and November. Young Bluefish or snappers provide "snapper" fishing in August and September.

Bluefish are caught at many points along our coast. A few "hot spots" are Shrewsbury Rocks, Barnegat Ridge and Five Fathom Bank. Most fishing is done from a charter boat, but some party boats specialize in chumming for bluefish during the peak of the season. Numbers of both adults and snappers are taken by surf fishermen and thousands of snappers are taken in inlets and bays by bank and rowboat fishermen.

Adult fish can be taken, by trolling with various lures,

chumming from a boat or surf casting with either cut bait or lures. Snappers are usually caught with a cane pole, using spearing or silversides for bait. However, they can also be taken with bait casting outfit and small lures or with a fly rod and a small white bucktail.

Bluefish are subject to great fluctuation in abundance. At present they are abundant.

BONITA

July, August and September are the months during which bonita are most abundant. They vary in abundance over the years and are presently not at their peak. Fair catches are made from time to time but as a general rule they are taken incidentally while trolling or chumming for other species such as bluefish.

COD

Cod are cold water fish and are found in our inshore waters from November to April. Anglers willing to go further offshore can extend their cod-fishing season into the warmer months of the year by sailing with party boats which specialize in this type of fishing. Cod are generally taken on bait (clams or cut bait) on or near the bottom, but at times they can be enticed with a jig.

CROAKER

This species, like its relative the spot, is usually abundant in the south. When they become very abundant there, the excess "spills" northward into our waters during the summer months. Then they are taken from the surf, in inlets and in the estuaries. Preferred baits are shrimp, shedder crab and squid.

DOLPHIN

Usually found well offshore, this spectacular migrant from southern waters is generally taken by trolling or casting in the vicinity of flotsam during the summer months.

DRUM

Fishing for drum is best during May and June, and is confined to the bays of south Jersey. Only occasional schools venture north of Great Bay, Delaware Bay being the preferred fishing ground. This large, powerful species, is usually taken by using clams for bait in the vicinity of shellfish beds.

WINTER FLOUNDER

The winter flounder spends the cooler half of the year in our bays and estuaries, but is generally vulnerable to angling only during November, March, April and May. It is found in all of our bays and inlets. Most fishing is done from the banks or from small boats. Baits, including bloodworms, clam, shrimp and squid, should be fished on the bottom. Using a chum pot or a device to stir up the bottom will often improve your success. Since this species has a very small mouth special hooks are employed such as the "chestertown."

SUMMER FLOUNDER or FLUKE

The fluke is one of our most important summer species. A few are taken as early as May but the height of the season is during July, August and September. Fluke are found offshore, along the beaches, in the inlets, bays and estuaries of our entire coast. They are taken from all types of boats, from the banks of inlets, and from the surf. Being a voracious species, the fluke prefers a moving bait and the most successful fishermen let their boat drift with the tide or, when fishing from the bank, cast up and across the current. The object being, for either method, to let the sinker drag along the bottom and keep the bait in constant motion. Killies, silversides, other small bait fish or squid strips are favorite baits. Some anglers prefer to troll slowly with their baits dragging over the bottom.

KINGFISH

During the summer and early fall months, kingfish are found in the surf, inlets and bays of our entire coast. Bloodworms, squid, shrimp and shedder crabs are good bait, and should be fished on the bottom.

LING or RED HAKE

Ling are available during the cooler months of the year both offshore and from piers. They are a bottom species, and are usually caught on clams. When present they are usually extremely abundant.

MACKEREL

Two species are found in New Jersey waters; the common mackerel, which is the largest, and the small chub mackerel, also known as "tinker" or "thimble eye". Mackerel generally occur in our waters as transients enroute to the New England coast where they spend the summer. Consequently, they are present during the spring and fall. They are generally taken offshore from party and charter boats by jigging with small lures or fishing with cut bait. Chum is usually used to attract and hold the school of fish near the boat.

MARLIN

White marlin are the predominant billfish off the New Jersey coast, but occasionally a lucky angler hooks a blue marlin. Both species are generally taken by trolling well offshore.

SCUP or PORGY

Porgies might be considered one of the mainstays of the summer party boat fishery. Porgies are found on wrecks along our entire coast and are also taken over mussel beds in Delaware Bay and Sandy Hook Bay. Clam is the standard bait but bloodworms are also good.

SEA BASS

The sea bass, like the porgy, is of great importance to the party boat fishery. The two often occur together and angling techniques are the same. Many small sea bass, also known as "indigoes" because of their deep blue-purple coloration, are taken from rowboats in the bays and inlets of south Jersey.

SHARK

Sharks of several species are regularly taken along the New Jersey coast during the summer months. Sandbar sharks can be taken in the bays and inlets as well as in the ocean, while the dusky and hammerhead are usually found in the ocean. As one moves offshore tiger, white, mako and blue sharks can be found. They are generally taken on bait and chumming increases one's chances of success.

SPOT

Spots, or "Cape May goodies" are an important species in the Delaware Bay area but they also occur further north on our coast. Cape May Point, Crow Shoal, and the Cape Shore Channel are good fishing areas for this species. Early fall is considered the best time of the year to fish for this species, while clam and squid are excellent bait.

STRIPED BASS

Although striped bass are taken from time to time during the entire open season (March 1 — December 31), the best fishing occurs during the spring and fall migrations. They are caught along the entire coast and also in many of our larger bays and rivers. Popular fishing spots include Sandy Hook, Shrewsbury River, the Long Branch jetties, Island Beach, Barnegat Bay and Inlet, Great Bay, Mullica River, Great Egg Harbor River and Bay, Maurice River, and Egg Island Point.

Many lures, including metal squid, plugs, spinners, spoons and jigs are used successfully, while shedder crab, clam, bloodworms, shrimp and mullet are used for bait fishing. Stripers are taken from charter boats by trolling, casting or chumming, from the beaches and jetties by surf casting, and in our bays and rivers, by trolling, bait fishing, or casting plugs or bucktails.

TUNA

Except for the record-breaker pictured at the beginning of this article, large tuna have not been taken along the New Jersey coast during the past few years. School tuna have provided fair to good fishing during July and August quite regularly. They are usually caught well offshore by trolling or chumming.

TUNNY or FALSE ALBACORE

During August, September and October, albacore are common along most of our coast. Albacore are generally offshore fish, but occasionally they come into the surf in pursuit of prey and can be readily identified as they jump clear of the water somewhat like a porpoise. A fast moving lure will usually entice this species, but they are occasionally taken by chumming. They are comparable to school tuna in general appearance, size and fighting ability. The few anglers who have taken this species from the surf are extremely enthusiastic over their fighting ability.

WEAKFISH

Weakfish are found in our waters throughout the summer months, from May to September, and are caught from jetties, beaches, inlets, rivers and bays along our entire coast. Many are also taken in our bays by chumming with live shrimp. This type of fishing is done in Barnegat Bay, on the east side from Cedar Creek Point southward, and also in Great Bay, Great Egg Harbor and Delaware Bay. Shedder crab, squid and spearing are also excellent baits, while bucktail jigs, shad darts and plugs are effective lures.

WHITING or SILVER HAKE

The whiting is a cold water species often taken from party boats or piers during the winter months, along with ling. Clam is the standard bait. This species is not strictly a bottom feeder and the bait must sometimes be fished well off the bottom.

WHITE PERCH

White perch are found in tidal rivers and creeks as well as in the bays along our entire coast. In summer they are found in the salt marsh creeks. Early spring fishing is best in the larger rivers, bays and estuaries. Worms and shrimp are excellent bait. They can also be taken through the ice using shrimp, worms or small killies, particularly in Collins Cove on the Mullica River. □

New Jersey State All-tackle Records
Fresh Water

Species	*Angler*	*Year*	*Weight lbs. oz.*	*Where Caught*
Brook Trout *Salvelinus fontinalis*	George J. Hornung	1956	6 8	Lake Hopatcong
Brown Trout *Salmo trutta*	Howard Devore	1964	16 11	Greenwood Lake
Rainbow Trout *Salmo gairdneri*	Richard Ruis, Sr.	1970	8 5½	Round Valley Res.
Salmon (landlocked) *Salmo salar*	John A. Mount	1951	8 0	New Wawayanda Lake
Smallmouth Bass *Micropterus dolomieui*	Earl H. Trumpore	1957	6 4	Delaware River
Largemouth Bass *Micropterus salmoides*	Logan B. Whitesell	1960	10 12	Mt. Kimble Lake
Chain Pickerel *Esox niger*	Frank McGovern	1957	9 3	Lower Aetna Lake
Calico Bass *Pomoxis nigromaculatus*	William Hanna	1961	3 5½	Alloway Lake
Rock Bass *Ambloplites rupestris*	Harold Webb	1968	1 2¼	Lake Hopatcong
Channel Catfish *Ictalurus punctatus*	William Otten	1918	28 0	Greenwood Lake
White Perch *Morone americana*	Robert Huber	1950	2 8	Lake Hopatcong
Yellow Perch *Perca flavescens*	Dr. C. C. Abbot	1865	4 3½	Bordentown
Bluegill *Lepomis macrochirus*	Silas Matthew, Jr.	1956	2 0	Farm Pond, Wantage Twp.
Walleyed Pike *Stizostedion vitreum*	Stanley Norman	1934	12 12¾	Delaware River
Striped Bass (landlocked) *Morone saxatilis*	Mrs. Albert Beebe	1952	23 8	Union Lake
Brown Bullhead *Ictalurus nebulosus*	Robert Dorf	1966	22 15	Spring Lake
Northern Pike *Esox lucius*	Edward Kistner	1971	21 0	Lake Wawayanda
Muskellunge *Esox masquinongy*	John Fleming	1970	19 0	Delaware River
American Shad *Alosa sapidissima*	Richard Lepes	1971	7 13½	Delaware River
Carp *Cyprinus carpio*	John A. Pisa	1971	41 2	Delaware River
White Catfish *Ictalurus catus*	Tom Calandra	1973	4 8	Cranberry Lake

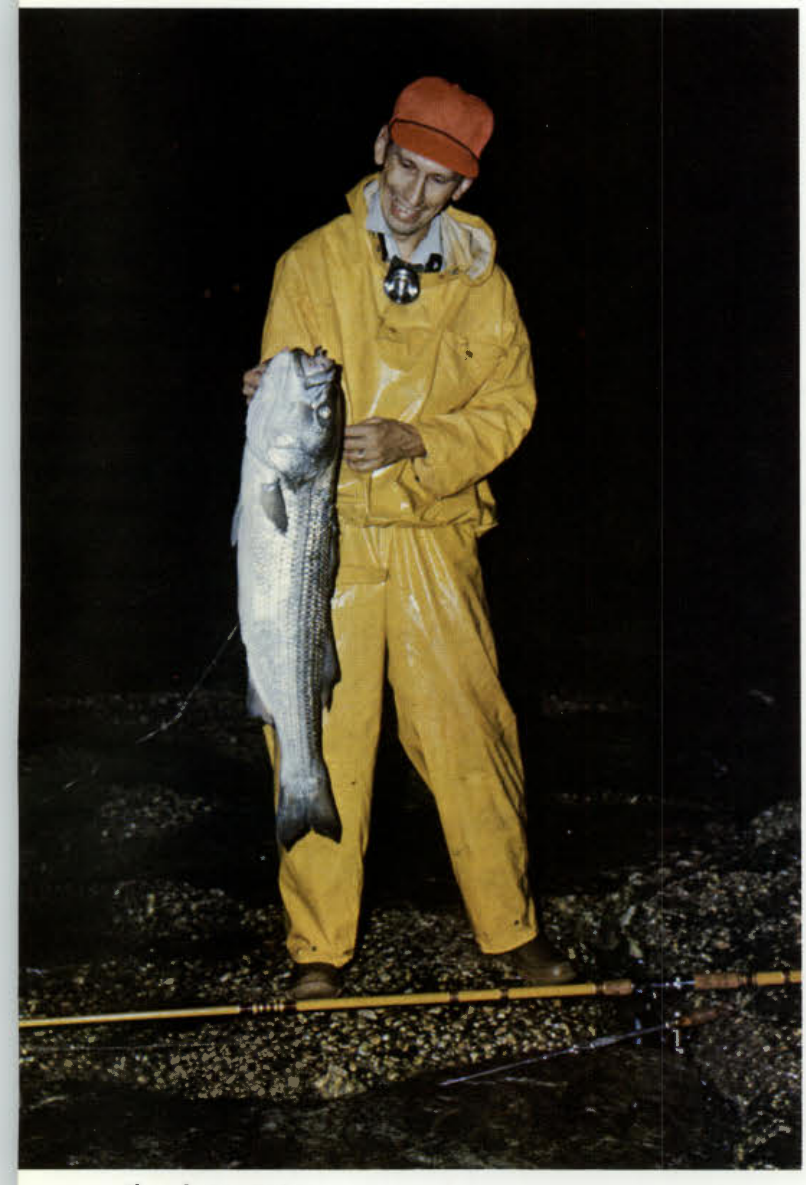
New Jersey State All-tackle Records
Salt Water

Species	*Angler*	*Year*	*Weight lbs. oz.*	*Where Caught, or out of*
Albacore *Thunnus alalunga*	Walter C. Timm	1961	69 1	Hudson Canyon
Red Drum *Sciaenops ocellata*	Dr. R. D. Alexander	1953	46 0	Sandy Hook
Black Sea Bass *Centropristis striata*	Clarence N. Davis, III	1973	6 4	Delaware Bay
Striped Bass *Morone saxatilis*	Donald Zboyan	1970	68 0	Off Sandy Hook
Tautog (Blackfish) *Tautoga onitis*	R. N. Sheafer	1954	21 6	Cape May
Bluefish *Pomatomus saltatrix*	William DiSanto	1971	23 14	Off Cape May
Atlantic Cod *Gadus morhua*	Joseph Chesla	1967	81 0	Brielle
Black Drum *Pogonias cromis*	Herschel Layton	1944	92 0	Delaware Bay
Summer Flounder (Fluke) *Paralichthys dentatus*	Walter B. Lubin	1953	19 12	Cape May
Pollack *Pollachius virens*	Philip Barlow	1964	43 0	Brielle
Shortfin Mako *Isurus oxyrinchus*	W. J. Mahan	1952	322 0	Elberon
Bluefin Tuna *Thunnus thynnus*	Joseph Casale	1973	796 0	Off Long Branch
Wahoo* *Acanthocybium solanderi*	Dr. Wm. E. DiSanto	1969	93 10	Cape May
Weakfish *Cynoscion regalis*	A. Weisbecker, Jr.	1952	17 8	Mullica River
Blue Marlin *Makaira nigricans*	Joseph Teti, Jr.	1964	620 0	Atlantic City
White Marlin *Tetrapturus albidus*	Merrill P. Arden	1968	123 0	Ambrose Light
Dolphin *Coryphaena hippurus*	Yvonne DiSanto	1969	48 15	Cape May
Atlantic Bonito *Sarda sarda*	Frank G. Lykes, Jr.	1945	13 8	Sandy Hook
Broadbill Swordfish *Xiphias gladius*	Edmund Levitt	1964	530 0	Wilmington Canyon
Winter Flounder *Pseudopleuronectes Americanus*	Frank Coleman	1968	3 2	Great Egg Harbor
Cobia* *Rachycentron canadum*	Eli P. Hitchner	1972	45 2	Delaware Bay
Scup (Porgy) *Stentomus chrysops*	Ernest M. Ritchie	1967	4 6	Off Barnegat Light
Yellowfin Tuna* *Thunnus albacores*	Tony Keeley	1969	138 2	Hudson Canyon
Atlantic Mackerel *Scomber scombrus*	Rosemary Sackawicz	1969	3 0	Atlantic City
American Shad *Alosa sapidissima*	Rodger G. West	1967	7 0	Great Bay
Tarpon* *Megalops atlantica*	Jack Hoagland	1972	42 8	Shrewsbury Rocks
Spotted Seatrout *Cynoscion nebulosus*	Clay C. Sutton, Jr.	1973	9 8	Near Stone Harbor

* LESS COMMON SPECIES

To submit information concerning possible record fish you may obtain forms from the Trenton office. Anglers are invited to submit applications for possible record fish not included in the current listings. Regulations for Recognition of New Jersey State Record Fish are obtainable from Division of Fish, Game & Shellfisheries, P.O. Box 1809, Trenton, N.J. 08625.

JETTY STRIPERS AFTER SUNDOWN



Photos by June Rosko

The author unhooks a nice striper he hooked while casting from a coastal rock-pile while using a rigged eel.

By Milt Rosko

Oftentimes you'll hear of the exciting spring run of striped bass as they move north along the coast and later of their southward migration in the fall, both of which provide fine fishing for surfmen, jetty jockies and boatmen. Moving into the summer months, especially July and August, such species as bluefish, school bluefin tuna, Atlantic bonito, fluke, weakfish and a host of other popular Jersey species enjoy most of the headlines. Rightly so, because the fishing for these species is at its seasonal peak.

But while all this is going on a select group of striper enthusiasts are busy enjoying what I feel is among the finest striped bass fishing of the entire season, and right in the middle of the summer at that!

Beginning during June and continuing right through until fall, a substantial population of stripers that dropped off from the migrating schools and set up residence in our waters provide superb fishing for a select breed of Garden State angler known as a "jetty jockey." A breed apart from most anglers, the "regular" on the jetty circuit has learned to move cautiously on the rockpiles in the dark of night, plying his sport from jetty to jetty, knowing that somewhere out there in the wave-tossed darkness a hungry striper is searching for a meal.

It's exciting sport, totally dependent upon the individual, a one-on-one situation, with no aid from a boat or a guide. Right from the selection of a spot to fish, the presentation of the lure, the hooking and fighting, and subsequent landing of the striper, it is

all up to you. A challenge of this sort attracts fewer anglers than one might expect, and there is always plenty of room on the coastal rockpiles after sundown.

I began jetty fishing for stripers as a youngster, and in the intervening years have done practically every type of fishing there is, from tangling with blue marlin weighing a quarter-ton, to presenting a tiny dry fly to a wary old brown trout in a quiet pool. But I always come back to the rockpiles, simply because I have found few types of fishing that offered such a great challenge and equally great satisfaction once a fish was hooked. Over these many years I've told many people of this fishing, and will continue to tell many. I never fear the jetties will be crowded, because I've long ago learned that but a handful will absorb this information, and ultimately join that select fraternity along the seacoast who dub themselves "jetty regulars."

To fish effectively from the jetties you've got to dress properly and use tackle suited to this type of fishing. Because the jetty rocks are often slippery you've got to wear footwear that will secure your footing. Many anglers wear ice creepers, which they strap to their hip boots. Others wear an oversize pair of golf rubbers, which they slip onto their boots. The golf cleats securely hold firm as they move from rock to rock. I have a shoemaker cement a pair of golf soles to the soles of my boots, and this enables me to move about the jetties with ease.

Foul weather gear is a must, for often you're showered with salt spray as the wind blows the spray of the crashing waves across the jetty front. A miner's head lamp proves an asset in maneuvering in the dark, as it leaves both hands free. A gaff is essential; a short-handled one will suffice when it's calm, but a six to eight-foot long model is preferred when the surf is rough.

The basic equipment used for jetty fishing is specialized gear. Basically the rod is designed for casting, but it is substantially shorter than most surf rods, with seven to eight feet being the average overall length, although I've known some anglers to use even shorter rods. The rod should have sufficient backbone to handle a rigged eel, or bucktail jig that may weigh three ounces, yet be called upon to cast a plug or other small lure weighing but half an ounce.

An intermediate size multiplying or spinning reel is ideally suited to this fishing. Regulars spool 27-pound test braided nylon or 30-pound mono on multiplying reels, and most favor 17 pound test mono for the fixed spool reel. Two hundred yards is more than adequate, and it's wise to select a reel with this

Pictured here are some of the author's favorite jetty lures, including a hammered stainless steel jig, popping plug, rigged eel, subsurface swimming plug, block tin squid and pork rind, mirror plug and bucktail jig. The rigged eel is his favorite for night work on jetties.

The author prefers landing his fish from the jetty, rather than taking them to the beach, and here he prepares to gaff a lunker.

(Continued on page 29)

Helen Musick at work at her desk. She retired this past spring after almost 44 years with the Division of Fish, Game & Shellfisheries.

Fish and Game From the Beginning

New Jersey is no "Johnny-Come-Lately" in recognizing the value of conserving and managing its fish and game resources.

By Helen Musick

As early as 1911 a publication by the New Jersey Board of Fish and Game Commissioners of data collected by Charles E. Brewster, Game Law Expert of the U. S. Bureau of Biological Survey, cites New Jersey's early interest in conservation. The first enactment noted in the statutes of the state was an act adopted by the General Assembly held in Elizabethtown in 1675 which provided for the payment of 15 shillings for the killing of wolves which were native to this region at that time. The report continues:

"The right to hunt on all lands of the Province not surveyed or planted, and to fish in the inland and coastal waters is provided for in the Concessions and Agreements of 1678, and remained undisturbed until 1722, when an act was passed fixing a season for killing deer and prohibiting the carrying of guns by persons not qualified to hunt."

With the advent of the white man, creating a market for the skins of deer and fur-bearing animals for commercial purposes, it was early found necessary to regulate this traffic, and in 1679 the export of Indian-dressed deer skins was forbidden under a penalty of a fine as well as forfeiture of the skins. This statute is the first enactment relating to game in New Jersey, as well as the first law prohibiting the export out of State or Territory in the United States.

Oysters were first protected in New Jersey in 1719, and fishing was regulated in the eastern part of the Province north of the mouth of the Raritan river as early as May 10, 1768.

An act for the preservation of deer and other game enacted in 1771, contained the following interesting section: "And, whereas, great numbers of idle and disorderly persons made a practice of

hunting on the waste and unimproved lands in this colony, whereby their families are neglected, and the public is prejudiced by the loss of their labor, be it therefore enacted . . . that no person or persons whatsoever (except such persons as are by the laws of this Colony qualified to vote for representatives in General Assembly, in right of their freehold, and their sons being of the age of 18 years or upwards and living with their parents) shall, on any pretense, hunt upon the waste or unimproved lands."

This same law also made it unlawful to watch for game with a gun in the night or within 200 yards of a public road or path, a forerunner of our current regulations on hunting at night or from a road or highway. This act remained on the statute books until 1846.

The first local game law was enacted in 1772 and forbade the killing of deer for five years in Morris township and also made it unlawful to hunt with firearms or dogs in Great Swamp, under a penalty of six pounds, half of which went to the informer and the rest to the "Poor Fund."

In 1783, an agreement fixing the jurisdiction on the Delaware River, made by Concessions from Pennsylvania and New Jersey, was ratified by the Assembly, and an act regulating the fisheries in that river was approved by the Governor on June 13, 1799.

Hunting and fishing on Sunday were forbidden in 1798 by a law which was referred to as "An act for suppressing immorality". It was made unlawful to shoot, hunt or gun, or make use of any seine or net to take fish on Sunday.

The year 1813 marked the incorporation in Upper Township, Cape May County, of the first fowling and fishing association in this state. The first law placed upon the records for protecting game other than deer, during certain seasons of the year, was passed February 21, 1820, and protected all game except wild turkeys, pigeons and waterfowl. The act fixed open seasons as follows: Deer, Sept. 1-Jan. 2; Woodcock, June 25-Feb. 1; Moorfowl*, Grouse, Partridge, Quail, and Rabbit, Sept. 1-Feb. 1.

In 1829 muskrats were protected from April 20 to December 1, this being the first act of the state relating to fur-bearing animals and provided a penalty of $4 for each animal unlawfully destroyed.

The first insectivorous and songbird protection law was enacted in 1850 and prevented the destruction of "small and harmless birds".

A Board of Fish Commissioners was created in 1870, when the Governor appointed two Commissioners to inspect fisheries and recommend legislation for improvement; and an act providing for the incorporation of the "West Jersey Game Protection Society" was enacted in 1873. The act gave the Society authority to enact by-laws for the protection of game and game fish in Camden, Gloucester, Atlantic, Salem, Cumberland and Cape May Counties.

The commission form of wildlife administration in New Jersey was initiated in 1892. At that time the State Legislature passed an act that provided for the appointment of three Commissioners by the Governor. These Commissioners were to receive Senate confirmation and serve without remuneration for a term of five years. This act further provided for the appointment of a salaried Fish and Game Protector, in addition to the county wardens first authorized in 1876. The total budget appropriated was $12,000 annually, of which $3,000 was to be expended for improvement of fish propagation. (Today our fish hatchery operations cost approximately $350,000.)

Legislative action in 1894 increased the members of the New Jersey State Board of Fish and Game Commissioners to four, and specified that not more than two could be of the same political party. The Commission was maintained in this status for 23 years and stressed law enforcement, stocking of wildlife, particularly pheasants, quail and deer, and instigated the passage of laws, many of which included the principles that are found in present New Jersey statutes. During this interval, the foundation of game conservation took form and personnel was improved by setting up by statute in 1895, a law enforcement staff consisting of a Protector at a salary of $1200 and 25 county wardens at $600 per annum. A year later, also through legislative action, the deputy fish and game warden, without compensation, became a reality.

The first licensing requirement was enacted in 1902 and provided for a non-resident hunting license of $10.50. This was amended to include unnaturalized, foreign-born residents in 1908, followed by legislation the very next year requiring all residents of the state to procure a hunting license at a fee of $1.15. When we consider how the costs for all goods and services have inflated since the turn of the century, our present hunting license fee of $7.25 is a bargain.

By an act in 1917, the Board was increased to a total of seven members, and game conservation activities received added impetus. During the administration of the seven-man Commission, the fish hatchery and game farm production was stimulated and stressed.

The number of Board members was increased to nine in 1928. This type of Commission administered the wildlife resources for 17 years and innovated many desirable conservation practices. It was during this period (1922) that the funds of the department were dedicated by legislative act creating the hunters and anglers license fund, to be expended for fish and game activities. Further than this, the purchase of public shooting and fishing grounds for use of future generations was made mandatory in 1932 through the creation of a "public shooting and fishing grounds fund", composed of a portion of each hunting and fishing license fee.

A Bureau of Wildlife Management was formed in 1934 and game farm techniques were improved. A farmer-sportsman plan was emphasized and a concerted effort was made to curb the decrease in wildlife by an increased stocking effort through purchased game.

In 1945, many governmental units in New Jersey were consolidated. A Department of Conservation was created which included a Division of Fish and Game, with an advisory Fish and Game Council. The then existing nine-member Board of Fish and Game Commissioners, who had all been appointed by the Governor, became the first Council members. A further reorganization took place in 1948, changing the unit to the Department of Conservation and Economic Development, and it provided for a Fish and Game Council of eleven members. Three of such members were designated to be farmers, recommended to the Governor by the agricultural convention, six to be sportsmen, recommended by the New Jersey State Federation of Sportsmen's Clubs; and two commercial fishermen to be selected by the Governor. The members of the Council were to serve without remuneration for terms of four years. The law stipulated that the Council appoint a Director to have immediate supervision of the Division and administer the work under the direction and supervision of the Commissioner.

The Department of Environmental Protection replaced the Department of Conservation and Economic Development in April of 1970. The units consolidated in this new agency included the present Division of Fish, Game and Shellfisheries. □

*Red Grouse

Botulism

(Western Duck Disease)

and its Effects on Waterfowl in New Jersey

Black Duck Dead From Botulism

By Steve Toth

Assistant Wildlife Biologist

Botulism and its effects on waterfowl have been noted in the United States since 1870. It probably has been present in waterways and wetlands since waterfowl first used these areas. The first study of botulism was started in California in 1913 by the Fish and Game Commission of the state. Research studies in 1920 culminated in the isolation and identification of the organism. It was found that C. botulinum type C was responsible for the so-called "Western Duck Disease".

During the winter and spring of 1952 it is estimated that between four and five million ducks of all species perished from botulism in the western part of the United States.

In New Jersey botulism has been reported to occur in ducks since 1950 up to the present time. Although the mortality reported here has never reached the levels for the western part of the United States, deaths as high as 1000 have been reported for waterfowl.

The Wetlands Section of the Game Management bureau is responsible for all investigations concerned with waterfowl mortalities in the State. This group is responsible for collecting data concerned with the occurrence of botulism, its effects on waterfowl, and delineating the factors responsible or associated with the disease.

During 1973, eight occurrences of wildfowl mortality were investigated which were directly attributed to botulism. A loss of 392 wildfowl of various species occurred in these cases.

Snowy Egret Dying From Botulism *Photography by Don Smith*

Symptoms of and Conditions for the Occurrence of Botulism

Botulism is a paralytic disease caused by the ingestion of food which contains a toxin produced by the anerobic bacteria Clostridium botulinum. The occurrence of the organism is directly related to the habitat. The epizootic stage of the organism occurs naturally in most soils and when conditions are favorable it develops rapidly. The optimum temperature range for its growth is 25°-30° C (77°-86° F) and anerobic conditions. When these conditions prevail, germination of the spores result with the subsequent production of toxins by autolysis. The toxins are apparently ingested by fauna and pass directly to the birds after ingestion or may be absorbed by uneaten food such as bread scraps.

The symptoms of botulism in birds is characterized by a flaccid paralysis. The affected bird cannot fly, leg use is lost, and control of the nicitating membranes diminishes. The cervical muscles lose tone and "Limberneck" results. Difficulty in breathing and diarrhea and plugging of the vent occurs. The intensities of those symptoms depend largely upon the amount of toxin taken in.

Outbreaks of the disease which have occurred in New Jersey seem to be related to specific habitats. A partial listing of the outbreaks in various areas and the species involved are listed in Table 1. For example, 50 percent occurred in park ponds, 25 percent in lagoons along the bays while the rest were found in diked marshes and spoil ponds. In all these situations the necessary conditions are present, at various times during the summer and fall, for rapid development of the organism. These conditions are: (1) Viable organisms are present, (2) temperature ranges between 25°-30° C (77°-86° F), (3) Shallow waters containing only traces of dissolved oxygen and (4) waterfowl are present.

During 1973 a study of the species killed by botulism showed that 82.6 percent were Mallards, 4.1 percent Black Ducks, 4.3 percent Gadwall, and 0.9 percent Peking ducks (domesticated) and other species. The high mortality noted with mallards is simply due to the fact that these species are present in the highest numbers in park ponds and lakes as well as in lagoons along the shore.

Table 1

Listing of Botulism Outbreaks and Mortality in New Jersey in 1973

Date	County	Location	Type of Water	Species	Killed	Total Killed
July	Passaic	Gothelus Brook Park	Park Pond	Mallards	87	102
				Black Ducks	15	
August—September	Ocean	Lavalette	Lagoon	Mallard	22	22
June	Bergen	Lyndhurst	Diked Area	Gadwall	15	22
				Mallard	6	
				Black Ducks	1	
July	Ocean	Silvertown	Lagoon	Mallard	26	30
				Pekin	4	
September	Ocean	————	Spoil Pond	Mallard	13	20
				Pekin	4	
				Herring Gull	2	
				Black Gull	1	
June—August	Burlington	Strawbridge Lake	Park Pond	Mallard	84	106
				Pekin	20	
				Gadwall	2	
August	Bergen	Glen Rock	Park Pond	Mallard	36	40
				Pekin	4	
July	Monmouth	Silver Lake	Park Pond	Mallards	50	50

Control and Prevention of Botulism

The Division of Fish, Game and Shellfisheries recommends the following program for the control and prevention of botulism. As soon as an outbreak of the disease occurs, it should be immediately reported to the Division of Fish, Game and Shellfisheries in Trenton. The regional wetlands biologist will make an on site inspection of the area and collect specimens for examination to verify the presence of botulism. After botulism is diagnosed as the causative factor for the mortality, various procedures are initiated to reduce the effects of the disease on the population. These are: (1) removal of all infected and dead birds, (2) elimination of algae, food scraps from both the feeding area and in shallow water, (3) increase shallow water depths to at least 18-24 inches if possible. The removal of organic residues and increasing the water flow will tend to increase the dissolved oxygen contents and reduce anerobic conditions.

Infected birds tend to recover if treated in the early stages of the disease with a specific anti-toxin for the disease. This, however, will not eliminate the problem if environmental conditions which are favorable for the disease persist in the area.

At the present time, the division is cataloging all known areas of botulism outbreaks and is making recommendations for managing or eliminating the environmental factors responsible for the disease.

At the present time, the outbreaks in New Jersey are rather limited, but serious mortalities can be expected if programs are not instituted to control the disease. Help from the public in reporting mortalities is absolutely necessary for immediate controls. Please report any groups or concentrations of dead or dying ducks to Game Management Bureau of Division of Fish, Game & Shellfisheries in Trenton; phone number is (609) 292-2965. □

WILDLIFE BOOKSHELF

Confessions of a Bird Watcher

by Roger Barton
McGraw-Hill Book Co. 1974 Pp. 236 $7.95

When my husband was growing up in Newark, he and his birdwatching buddies used to read Roger Barton's column about birds in the *Newark Sunday News*. It was a good column, and with the demise of the newspaper has been successfully transplanted to the *Plainfield Courier*. As he writes in his book, Barton is an amateur birder in that he does not earn his living from ornithology. Until 7 years ago he worked in advertising and resided in Caldwell. Then, he retired to 25 acres in rural Pittstown, N.J. not far from the Delaware River.

His new home, Mt. Salem Farm, has a brook, deciduous and evergreen woods, an open field and a house with plenty of glass. The varied habitat has so far attracted 148 different species of birds to the farm, to the delight of Barton and his wife, Priscilla, who shares his deep interest in natural history.

"Confessions of a Bird Watcher" is about birds and natural history in general on Mt. Salem Farm, all over New Jersey, and in the Bartons' wide travels throughout the U.S., Canada, the Caribbean and Europe. Although they have seen the Spanish imperial eagle on the Coto de Donana, and the least grebe in Texas, their favorite birding grounds are the ones they know best. In fact, Barton has called one chapter "Widely in New Jersey" because,

"Thoreau said he had travelled widely in Concord, and I have travelled widely in New Jersey."

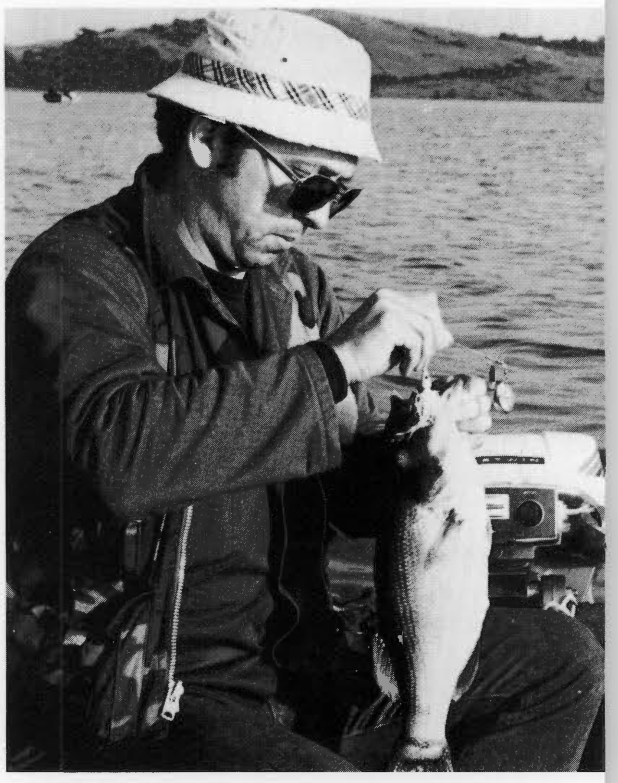
This state is rich in birds — 400 species out of a possible 600 north of Mexico. The habitat is extremely varied; the Atlantic shore, the Pine Barrens, Troy Meadows and The Great Swamp, and the Sussex county mountains. Barton has been everywhere, leading Audubon club field trips, talking to professional and amateur ornithologists, observing and chronicling its birdlife. He is a charming man with a great store of knowledge, a sharp eye, and gentle good humor that makes his book a pleasure.

For readers who are just getting their ornithological feet wet, there is a good section on "Becoming a Birder Painlessly". It suggests feeders and plantings that will attract birds, lists of specific local, state and national organizations where beginning birders can meet like-minded people and swap information, and most important, lists specific books which will help to identify birds by field marks and songs, and tell where to find them.

The book concludes with a chapter on environmental protection, in which the author has become interested and active, a logical outgrowth of his — or anyone's — interest in birds and nature. □

Shayna Panzer

Author unhooks 8-lb Morris County Bass



Spinner-bait took 4-pound bigmouth at Round Valley.

Our Bass Are Getting Bigger and Bigger . . .

A BIGMOUTH RECORD IN '74?

Editors Note: *The author, a former N.J. Fish & Game Councilman and a widely-known outdoors writer and columnist, recently accepted the editorship of the Michigan Out-Of-Doors magazine in Lansing, Michigan.*

By Jim Stabile

Editor, Michigan Out-of-Doors

Greatly improved bass fishing techniques are proving what many Garden State bass fans have known for years — New Jersey's largemouth fishing is as good or better than that found in many northern states.

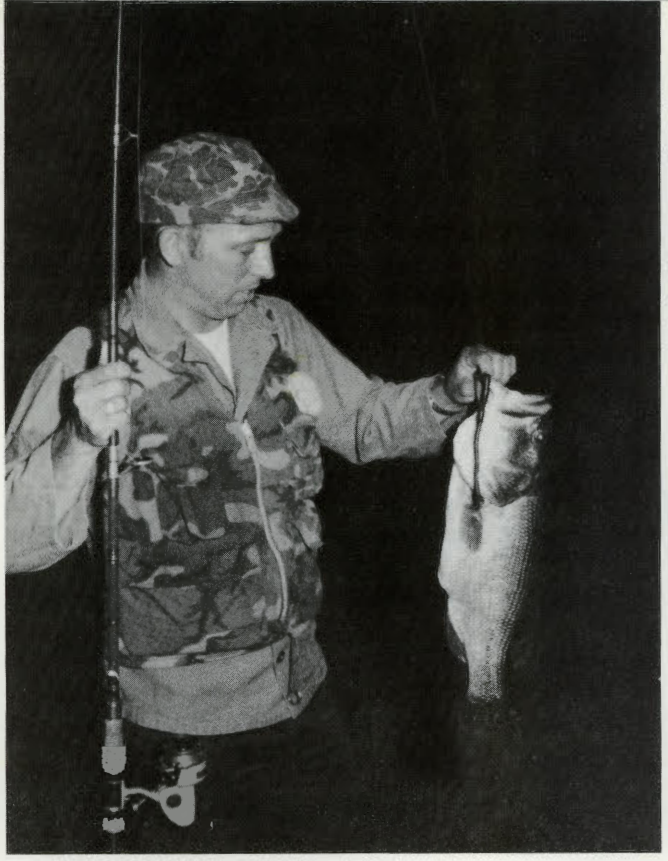
Live bait and gurgling top-water plugs were the bass man's mainstays in the not-too-old days before bass buffs discovered the eight-inch plastic worms, alphabet plugs and spinner baits.

A check of fishing contest entries around the state in recent years often turned up the results of the new lures' and methods' effectiveness.

Many contests hardly considered a six-pound bigmouth worth weighing in. In fact, one Central Jersey contest location said fishermen shouldn't bother bringing in largemouths unless they weighed at least seven pounds!

Big largemouths were probably present for decades in the state, but they apparently weren't caught in numbers until recently.

Still, the 10-pound 12-ounce state record has stood since 1960, when it was taken from Mount Kemble Lake, a long, narrow and private Morris County im-



An 8-inch worm took this 6-pounder at a golf course pond.

poundment where only residents and their guests are permitted to fish.

Spruce Run Reservoir and a few South Jersey waters have produced bass which were a shade over the 10-pound mark, so there very well may be a new state record largemouth swimming around right now.

One of the interesting aspects of Jersey bass fishing is a general lack of secrecy about productive waters. It seems the big bass are smart enough to elude many fishermen in heavily fished waters such as Spruce Run Reservoir.

There are a few hotspots that are kept quiet — Swimming River Reservoir in Monmouth County is one — but a bass specialist generally has little competition in most areas.

Farm ponds and ponds at golf courses are often overlooked, even though they are usually consistent producers of hefty bass for those who work at their sport. Chances are good that many of these off-the-beaten-track ponds have bass that have never seen the latest in bass lures and techniques.

But old habits die hard. I can remember resisting using plastic worms until I saw a youngster take two chunky bass on successive casts while using an artificial worm.

Properly fished, these worms consistently take bass. My favorites are black or purple eight-inchers fished on weedless 2/0 hooks. A slip-sinker gets the worms down to the fish if you can't find bass in the shallows.

Spinner-baits are having one of their biggest years. A Bergen County angler gave me three chartreuse models of spinner baits in May 1973, and I've been sold on them ever since.

They come in about as many weights, colors and varieties as artificial worms and they're deadly, especially when fished parallel to shore after dawn or just before dusk.

Alphabet plugs are deadly when reeled fast and fished deep. They are well-suited to catching bass that are deep and hard to please, even in waters fished as heavily as Lake Hopatcong.

One thing's certain: Jerseyans don't have to be ashamed of the largemouths in the state. Just check the results of national contests or compare state records and you'll see our bass more than hold their own against entries elsewhere.

Fishermen who've sought bass down South or in Southern California, then returned to New Jersey, have found that our state has a high percentage of heavyweight bigmouths.

The season is open the year-around, the fish are wild and the opportunity to catch big bass is available to everyone.

Who knows? The new fishing methods may just turn up a new record largemouth this year.

Photography supplied by the Author

Author displays 6-pounder and 4-pounder. Both fell for spinner baits at a farm pond.

The Computer Takes Over the Deer Range

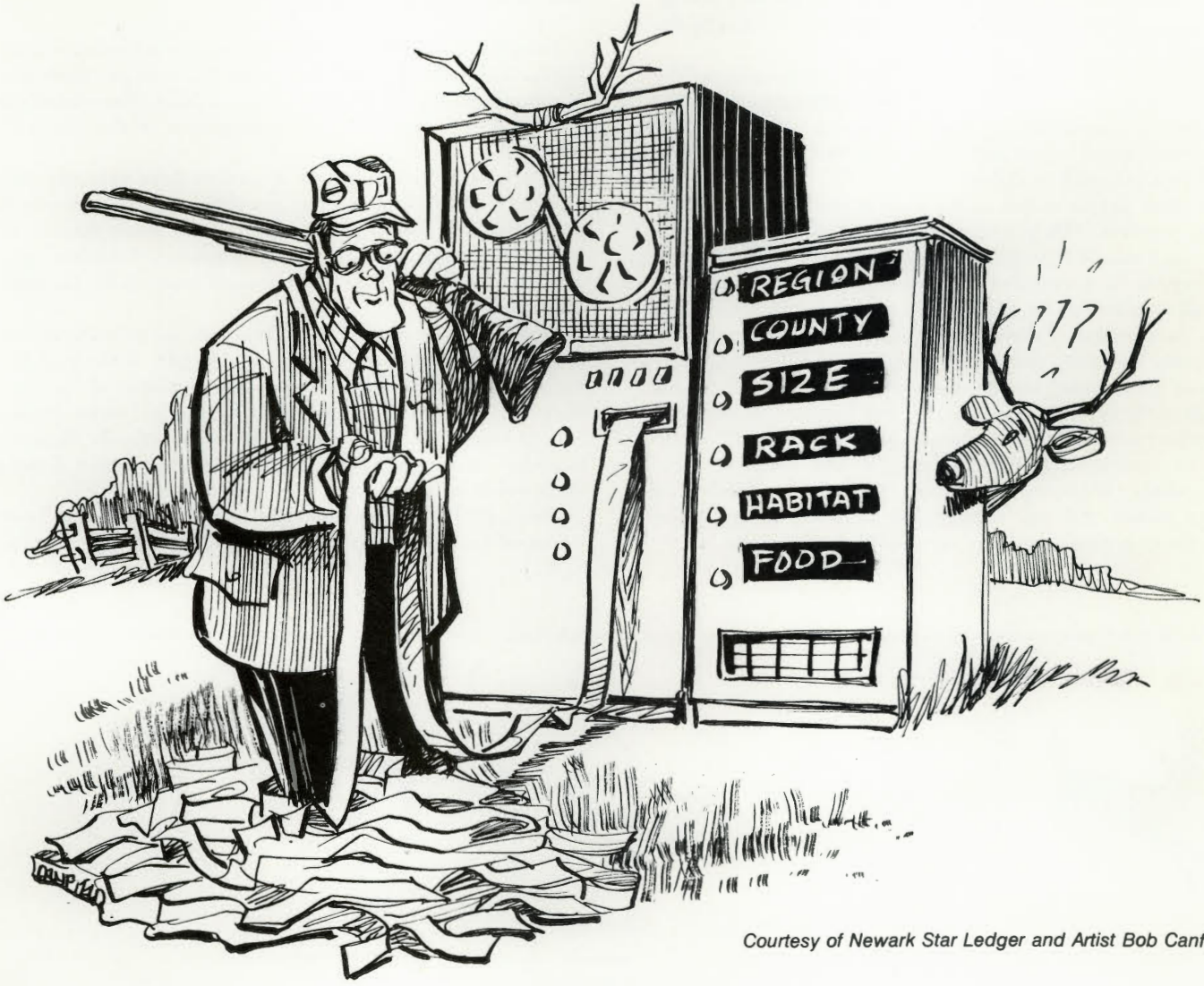
DEER MANAGEMENT BY THE NUMBERS

BY ROBERT C. LUND
SENIOR WILDLIFE BIOLOGIST

The blinking lights and whirling tapes of a modern computer seem far removed from the wooded world of the white-tailed deer. However, the development of the computer has not only benefited the fields of industry and technology, but that of natural resource management as well. The value of computers in the study and management of natural resources is receiving increasing recognition, especially in those areas where large volumes of information must be processed quickly and accurately.

With the current demands on our natural resources, it is becoming increasingly important to collect as much pertinent information as possible regarding these resources, and to process this information quickly and efficiently. In the past, much of the information collected received scant attention because of the time and labor required to analyze this mass of data. However, computer use has reduced processing and analysis time to a minor fraction of what it was, thus freeing investigators from time wasting, manual calculations. As a result, research and management efforts are more productive, and information needed for resource management decisions is available when needed, not six months hence.

Deer project biologists were annually subjected to an increasing deluge of information concerning the white-tailed deer populations within New Jersey and the habitat necessary for their support. This information was processed by desk calculators, allowing little time for critical evaluation and was costly in both time and labor. Obviously, a more efficient data processing system was badly needed to keep pace with the increasing load of available information. However, it wasn't until the adoption of the mandatory Deer Checking Station Systems in the fall of 1972, that a new system was feasible.



Courtesy of Newark Star Ledger and Artist Bob Canfield

The implementation of the mandatory check station system, replacing the pre-paid post card report, has provided deer biologists with a means of collecting large quantities of accurate, statewide information relative to deer numbers and condition in a relatively short period of time. In a single season, as many as 400,000 information items (data points) are collected at the 72 checking stations scattered throughout the state. However, regardless of the quality of the information obtained, it is of little value until it is processed, analyzed, and the results are used in the formation of management programs for the benefit of the deer resource and the people of New Jersey.

We were introduced to the application of computer processing and its possibilities in deer management programs late in the fall of 1971 by Bob Rogers of Rutgers University. Rogers, who at that time was an instructor in forestry, had developed numerous computer programs to aid in his studies of the forest resources of New Jersey. Working with deer instead of trees was new to him, but after numerous meetings with Division biologists and several revisions of his original designs, he succeeded in developing a new data processing system, utilizing the Rutgers University computer facilities. Figure 1 illustrates the flow plan of the system developed, listing the types of information currently being tabulated and summarized by computer.

The system begins with the hunter, since without his aid the best of programs would be little more than a good intention. Since the fall of 1972, the successful hunter has been required to bring his deer to a check station for examination. Here, the necessary information needed to manage the deer resource on a sustained yield basis is recorded on a specially designed data form (Figure 2). The information recorded includes data and locations of kill, and the sex, age, weight, antler development and reproductive potential of the animal.

The second step in the process begins at the end of the deer season. All the information collected on the field form is checked for accuracy and transferred to a "mark sense" sheet (Figure 3). This is the most time-consuming portion of the system, since over 11,000 deer reports must be processed. The use of the mark sense sheet permits the conversion of written information into numerical codes for computer processing.

After coding, the completed MSS is fed into a series of machines which "reads" the information and punches it onto cards, one card for each deer. The punched cards are "read" into

the computer, and through a complex process, the data is summarized according to the instructions (programs) provided by the operator.

A sample of the information currently being summarized by computer includes harvest data for county, township and management unit, age structure, antler development, productivity (reproduction) and hunter distribution. Figure 1 lists the computer outputs currently available.

The most unique output of the current system is that of the Symap program. This program permits information to be displayed on a map of New Jersey. For example, the distribution of total harvest by season (firearm, bow and arrow, etc.) and the fawn/adult ratios can be displayed in map form. This permits a visual examination of deer harvest and reproductive potential throughout the state, and aids in separating the state into management zones based on the characteristics of the deer herds instead of the political boundaries of the counties. It has been known for some time that the various deer herds within the state differ in many ways, including density, weight, antler development, number of fawns produced, etc. Knowing this distribution pattern permits different management recommendations to be made for each zone, instead of on a strictly county basis.

How is the information used?

Even the most accurate and representative information available has little value if it is not put to use. The time and effort spent in collecting and processing deer harvest information can only be justified if it is applied in the management of this renewable resource.

At present, this information is used in three principle ways. First, it is an aid in monitoring population change; not only the number of deer present, but their condition. Since the deer is a mirror of its habitat, it can be used as a means of monitoring not only the condition of the herd, but more importantly, the condition of its range.

Second, harvest data can help determine the progress and success of management programs. For example, if the goal is to increase the productivity of a population (number of fawns produced) or the antler growth in the 1 1/2 year old males, through harvest regulation, habitat development or both, the change in fawn/doe rations, embryo counts and yearling antler development will help determine if it is being met.

Third, minimum population size and productivity can be determined for individual deer populations, regardless of county

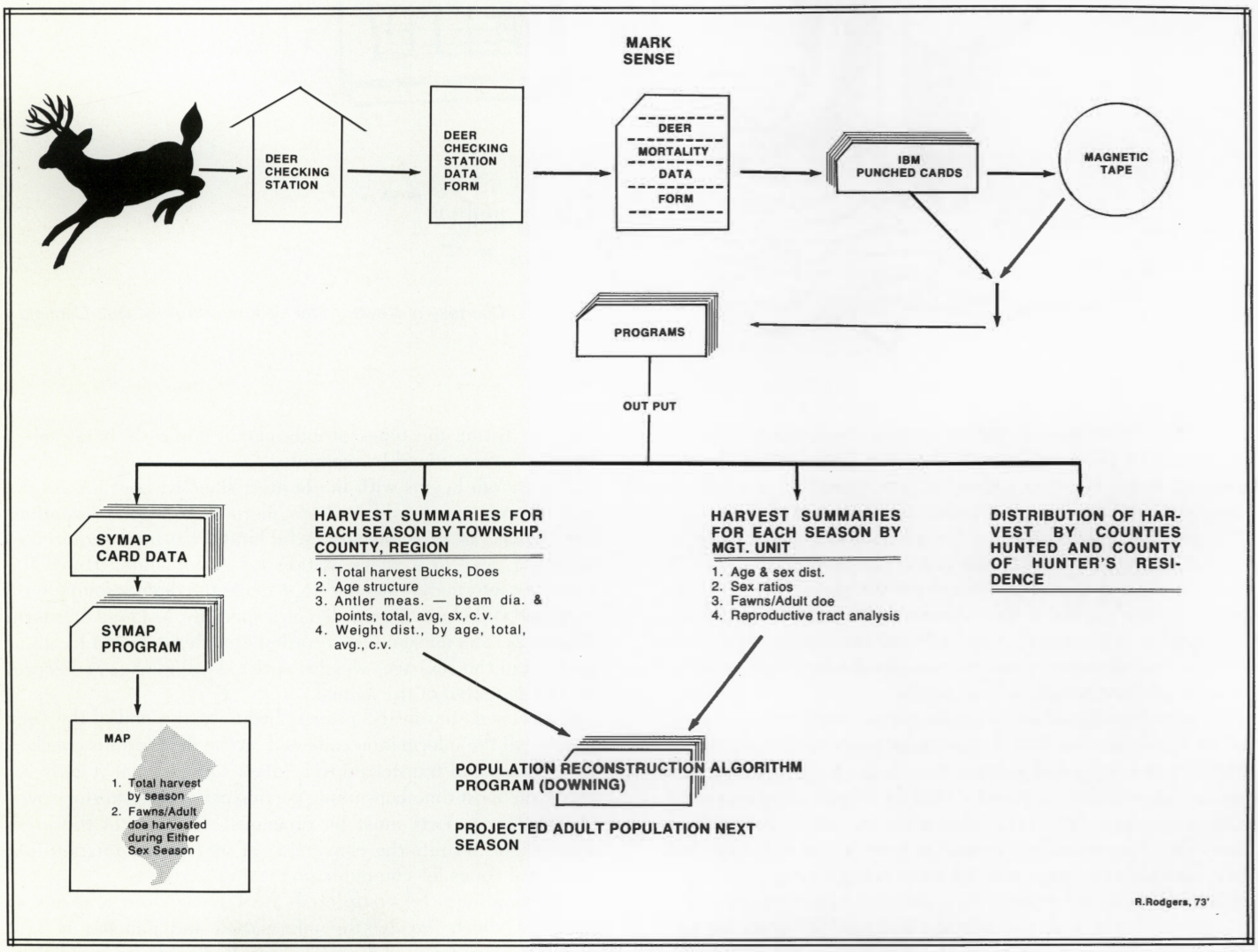


Figure 1.

DEER CHECKING STATION DATA FORM

Specimen identification	Specimen identification	Specimen identification	Specimen identification
Time of death month	Time of death month	Time of death month	Time of death month
day	day	day	day
year	year	year	year
cause of death	cause of death	cause of death	cause of death
Location Region	Location Region	Location Region	Location Region
County	County	County	County
Township	Township	Township	Township
Management Unit	Management Unit	Management Unit	Management Unit
Hunter residence	Hunter residence	Hunter residence	Hunter residence
AGE system	AGE system	AGE system	AGE system
method	method	method	method
months	months	months	months
years	years	years	years
SEX	SEX	SEX	SEX
WEIGHT Class.	WEIGHT Class.	WEIGHT Class.	WEIGHT Class.
pounds	pounds	pounds	pounds
Kidney Fat Index	Kidney Fat Index	Kidney Fat Index	Kidney Fat Index
Bone Marrow fat	Bone Marrow fat	Bone Marrow fat	Bone Marrow fat
color	color	color	color
Disease Incid.	Disease Incid.	Disease Incid.	Disease Incid.
Avg. Antler Beam Diam.	Avg. Antler Beam Diam.	Avg. Antler Beam Diam.	Avg. Antler Beam Diam.
Total # Antler Pts.	Total # Antler Pts.	Total # Antler Pts.	Total # Antler Pts.
Checking Station	Checking Station	Checking Station	Checking Station
Investigator	Investigator	Investigator	Investigator
Rep. Tract	Rep. Tract	Rep. Tract	Rep. Tract
Hunting Lic. No.	Hunting Lic. No.	Hunting Lic. No.	Hunting Lic. No.
Hunters Signature	Hunters Signature	Hunters Signature	Hunters Signature
Affix transport tag	Affix transport tag	Affix transport tag	Affix transport tag

Figure 2.

boundaries. This is a more meaningful approach to deer management since it is based on the ecological boundaries recognized by the deer and not the artificial political boundaries recognized only by man. Harvest recommendations can now be made based on the productivity of individual deer herds and their habitats, minimizing problems of deer population, habitat damage and land use conflicts.

Where do we go from here?

Our present data processing system will be refined and expanded to meet the increasing demands for reliable information by both public and private agencies. Greater use will be made of the computer in pre-testing proposed management programs through simulation before they are actually applied in the field. It will also aid in determining the importance of various controls, both natural and man induced, on population density and productivity.

The computer and modern data processing techniques are versatile tools, whose application in the field of wildlife management is still in its infancy. However, their value in the study of complex biological systems, such as New Jersey's white-tailed deer resource, cannot be denied. □

FIREARM—BUCK

DEER MORTALITY

DATA FORM

SPECIMEN IDENTIFICATION
TIME OF DEATH — Month, Day, Year
CAUSE OF DEATH
LOCATION — Region, County, Township, Mgt. Unit
HUNTER RESIDENCE COUNTY
AGE: System, Method, Months, Years
SEX
WEIGHTS — Classification, Poundage
KIDNEY FAT INDEX
BONE MARROW — Fat, Color
DISEASE INCIDENCE
ANTLER MEAS. — Avg. Beam Dia., Tot. No. Points
CHECKING STATION NO.
INVESTIGATOR

Avg. Teats Length
Avg. Teats Dia.
Lactating: Y N
OVARIAN ANAL. — Corpora lutea, Corpora albicantia, Corpora rubra
UTERINE ANAL. — Tot. Number
LIVE EMBRYOS — Males, Females, Unknown, Length of Longest
EMBRYO CALC. — Age, Conception, Calc. Birth
EMBRYOS DEAD — Tot. Number, Age
Male, Female, Unknown

Figure 3.

It's shocking: A conservationist, an environmentalist and an ecologist!

Courtesy of William Hamilton and the San Francisco Chronicle

ROLE OF FISH AND WILDLIFE IN THE ENVIRONMENTAL COALITION

by Robert L. Schueler

Staff Specialist, Water Resources
National Marine Fisheries Service
Washington, D.C.

Public awareness of environmental problems and concerns has developed on the American scene from virtual invisibility to significant political force in an amazingly short period of time — at least as such developments are normally measured. It is probably safe to say that we are talking about a span of 10 years — certainly no more than 15. There are some, I am sure, who remember when these concerns that today automatically rate front page coverage received very little attention from the general public.

Explanations of the mechanics of this type of change properly belong in the domain of political science and sociology and there, as elsewhere, experts disagree. It is apparent, however, that the change does not just happen. What seems to transpire is that a message, doggedly and fruitlessly pushed for decades by a dedicated core of professionals, suddenly captures the attention and imagination of a broad segment of public opinion and picks up a momentum of its own. An immediate example that comes to mind is the efforts of the American Fisheries Society even before the turn of the century to draw attention to the problems of water pollution long before the sixties, when the public caught on. There are many, many other examples.

In this year of 1974, of course, one cannot marvel at the speed of development of the ecological revolution without recognizing at the same time that the ecological backlash it has generated seems to be setting a few speed records of its own. The latter development poses many serious problems in the area of public policy, resource decision-making and conservation politics. Nevertheless, although the environmentalists are having tougher sledding than in the palmier days not too long ago when ecology was everybody's religion, the conservation coalition produced by the ecological awareness revolution will doubtlessly stay in business at some respectable level of power, influence and effectiveness.

And what is the role of the fish and wildlife professional within the ecological coalition? "Professional" in this context includes not only the salaried Federal and State biologists and administrators; the salaried staff of non-governmental fish and wildlife groups; but also the dedicated, long-term volunteers in the latter groups, whose labors and vision go back much farther than the current climate of environmental awareness.

Initially, in the late sixties, there was a tendency on the part of the fish and wildlife professionals to include this new, widespread sentiment of environmental concern as automatic, majority backing for fish and wildlife interests; a backlog of support convertible on demand in the political process. And the temptation to superimpose the clear-cut motivations and objectives of the Fish & Game proposals upon the new and somewhat ambiguous popular concensus was overwhelming. In fact, however, although environmental concern is a political force to be reckoned with, it does not follow automatically that fish and wildlife will inherit the benefits. To the new breed environmentalist, the fish and wildlife professional tends to come across as a narrow specialist with little understanding of the broad sociological implications of the new movement. And in truth, the dedicated fish and wildlife professionals are in the business because they love the resource, not the people who use it. Many react with distaste, if not outright horror, to the prospect of servicing the additional fish and wildlife demand that successful social and economic opportunity programs in the urban areas would generate. Their reaction would probably be that the presently affluent, largely suburban populations have already sufficiently demonstrated their capacity to reduce the quality of the fish and wildlife experience, without reinforcement. This is not an altogether unfounded or unreasonable reaction.

If there are some differences of opinion between fish and wildlife interests and people in the mass, it is probably equally true that people in the mass do not really relate to fish and wildlife in a primary way. Even among those who buy fishing and hunting licenses, the relation for many is peripheral compared with what they expect of their society and economy in terms of the day-to-day American "good life" with its air conditioners, two-plus cars to a family, etc. The same can probably be said for the rank-and-file non-consumptive fish and wildlife users, such as bird watchers and canoeists.

Parenthetically, it should be stated that this last group — the non-consumptive users — whose large numbers are necessary to build broad support for fish and wildlife programs, have some inherent limitations in terms of effectively contributing to this support. Precisely because they do not consume the resource, a relatively small amount of it can often be all too effectively recycled. A few squirrels, one V of Canada geese across the March sky or a mile of carefully selected and properly-interpreted nature trail can service a large number of users without significant impairment. It may be heresy to raise the point, but it can be questioned whether anything like the program magnitude the fish and wildlife "pros" would like to see activated is necessary to satisfy most of this non-consumptive demand.

The fact is, the main motivation behind the new environmental consensus is people's fear that what they eat, drink and breathe is going to hurt them, plus their resentment of the abrasive, megalopolis surroundings in which they live their day-to-day lives. A direct relationship between such concerns and fish and wildlife interests is far from obvious. As a means of building a majority power base for fish and wildlife programs, it leaves much to be desired.

There is an immediate psychological hang-up as the fish and wildlife "pros" try to face this problem. For a long time, the fish and wildlife interest was almost alone in taxing itself, lobbying, and, in general, fighting the good fight to protect and conserve the fish and wildlife resource and restore its habitat base, while the general public picked up large incidental benefits of which it was only dimly aware. While it was a lonely role, it had some compensations. There was little competition for leadership and there was a great sense of belonging to a crusading elite. The odds were great and the victories were hard to come by. But there was no question of relevance, and if the general public did not appreciate what was being done for them, their descendants surely would.

Now suddenly, everyone is an instant environmentalist and the woods are full of ecological amateurs and converts. To this loose environmental coalition, fish and wildlife are only a minor part of the total ecological symphony — minor enough that there is no particular inclination on the part of the newcomers to look to the old line fish and wildlife interests, be they sportsmen, commercial fishermen or bird watchers, as the automatic leaders of the new movement. The new environmental battlelines have been vastly extended to include everything from air pollution to the energy crisis. If the fish and wildlife professionals cannot adjust, they may find they have lost their right to leadership in the new lineup and that a new generation is marching to different drums.

Part of the answer may lie in frankly accepting minority status for fish and wildlife but minority status of a special kind. It requires the assumption that what is good for fish and wildlife (1) takes care of the needs of the overall environment and (2) does it better and sooner. At first glance this may seem to be a bit on the heroic side, as assumptions go. Actually, however, there is considerable backup. If the assumption could be reasonably validated, it would insure for fish and wildlife in the future a sort of "litmus

paper" role that can be performed by no other interest.

It has been generally demonstrated in the water quality and water resources planning fields that fish and wildlife tend to require more restrictive standards than most other water uses with the exception of some parameters related to public health. For example, if Lake Erie could be rehabilitated to bring its former high quality fisheries back to previous abundance, other uses would have considerably less to worry about from the water quality standpoint. On streams, downstream flows geared to meet acceptable standards for fishlife tend to take reasonable care of other esthetic and recreational considerations. As long as the commercial fisherman can harvest and sell his product, while meeting stringent public health regulations, a lot of other things can be safely assumed about the body of water from which the fish came.

With any kind of reasonable provision for quality public hunting and fishing opportunity, partial solutions for such problems as open space, greenbelts and esthetically-pleasing landscapes would be automatically forthcoming, particularly if the holdings were close to urban centers. It must be added that for this relationship to hold, a broad-minded, multipurpose approach to the planning and operation of these holdings would have to prevail. The relationship holds true even in the heart of urban centers. When the song-bird populations in New York City's Central Park can increase and prosper, the citizenry is likely to feel more confident that air pollution abatement is making real progress.

There is no need to belabor the point further. Once the role of an inherently minority interest like fish and wildlife becomes recognized for what it is — the logical environmental trailblazer for society as a whole — majority backing for specific fish and wildlife programs will be easier to obtain. Charges of elitism and anti-people bias would certainly be easier to refute.

In the meantime, let us by all means continue to forward the legitimate interests of the bird-watcher, the hunter, the angler and the commercial fisherman. By itself, however, mere tallying of hunter and angler days, the commercial fishing catch, bird-watcher days and sportmen's expenditures will not bridge the relevancy gap. We must face the fact that a growing proportion of our increasingly urbanized and sophisticated population will probably have less and less interest in these pursuits. Trying to convince them that they do not know their own minds, that deep down in their hearts they want to return to a rural womb, is likely to be unrewarding and certainly is presumptuous. On the other hand, the idea that the well-being of fish and wildlife is an inseparable indicator of their own well-being offers a much more promising approach. It could be used far more forcefully than has been done, as a standard to which a new generation of environmentalists can rally. It may even hold some clues to the larger question of ultimate accommodation between the ecological revolution and the ecological backlash. □

I Didn't Know That!

A soft drink can dropped in the woods on Labor Day 1972 will likely be completely degraded by Labor Day 2473, a scientist at Pennsylvania State University recently reported. The prediction flows from a study a university group has undertaken on the life expectancy of litter. A conventional plastic wrapper would be fully degraded by late 2200 "or thereabouts". A glass bottle would not be broken down until 1,001,972 and this was a guarded estimate because glass-like rocks, such as obsidian, may be as old as the earth. Decay rates vary with local conditions and in a tropical rain forest the numbers should be reduced by a hundred years.

❖❖❖❖❖❖❖❖

Hurry, Hurry, It's Free

— The Water Pollution Control Act of 1972 specifically provided mechanisms by which interested citizens could get involved in the Act's major programs. The "whys" and "wherefores" of the Act and information on how you can actively participate in the Act are contained in an excellent 94-page booklet published by the Izaak Walton League. For a free copy of **A Citizen's Guide To Clean Water,** write the Izaak Walton League of America, Suite 806, 1800 N. Kent St., Arlington, Va. 22209.

TROPHY DEER PROGRAM

The 1973 State Trophy Deer Program was sponsored by the New Jersey State Federation of Sportsman's Clubs. The awards were made at the Federation's annual convention at Wildwood Crest.

Photography by John Russack

Photography by Dr. Stanley Golub

Photography by John Russack

TYPICAL FIREARM

Hunter – Address	County	Year	Score
1. T. Robert Kean, Little Falls	Hunterdon	1973	134 5/8
2. Howard Gleasman, Pennsgrove	Salem	1973	132 1/8
3. Frank R. Priory	Ocean	1973	128

TYPICAL BOW AND ARROW

Hunter – Address	County	Year	Score
1. **Joseph DiGiovanni, Iselin	Somerset	1973	154 2/8
2. Frederick Goshen, Neptune City	Monmouth	1973	128 4/8
3. Richard E. Hinchman, Jr., Hancock Bridge	Salem	1973	124 7/8

** New State Archery Record

NON-TYPICAL FIREARM

Hunter – Address	County	Year	Score
1. Bruce Emerson, Gibbstown	Gloucester	1972	*176 3/8

* (This is an all-time record)

NON-TYPICAL ARCHERY

Hunter – Address	County	Year	Score
1. Steve Bush, Tuckerton	Burlington	1973	99 6/8

200-POUND CLUB

Hunter – Address	County	Year	Weight
1. Joseph Getchius, Newton	Sussex	1973	238
2. Richard E. Hinchman, Jr., Hancock Bridge	Salem	1973	214

Rare and Endangered Vascular Plants of New Jersey

One hundred and ninety species of plants that were once regarded as native to New Jersey but that are now rated as rare or endangered are listed in a new Science Notes booklet published by the N.J. State Museum under the title "Rare or Endangered Vascular Plants of New Jersey."

Compilation of the report was made possible through the collaboration of 12 prominent botanists and naturalists who provided a wealth of factual and statistical data for consolidation by authors David E. Fairbrothers and Mary Y. Hough of the Rutgers University Department of Botany.

Common names, scientific names, past reportings, habitat characteristics, potential threats and an estimate of current status are included for each plant when applicable.

Seventy-four of the 190 species are classified as "endangered" and in need of protection to prevent extinction; 90 species are classified as "rare" with constant observation of their status essential, and 26 are listed as "undetermined" pending additional study and consideration.

Single copies of "RARE OR ENDANGERED VASCULAR PLANTS OF NEW JERSEY" are available for 75 cents postpaid from the N.J. State Museum Shop, 205 West State Street, Trenton, N.J. 08625. Checks should be made payable to Treasurer, State of New Jersey. □

❖❖❖❖❖❖❖❖❖

Forestry Incentives Program

New Jersey has been allocated $50,000 through the U.S. Department of Agriculture to provide cost-sharing incentive payments with private landowners for the purpose of increasing timber production. All counties have been designated for this new forestry incentives program (except Essex, Union and Hudson Counties).

Timber production for housing, lumber, construction materials, etc. is the goal of this program. This can be accomplished by reforestation of idle acres and timber stand improvement work in young woodlots. Because these are long range conservation efforts, the Federal Government is inducing landowners to reforest open land and do timber stand improvement work by cost-sharing with the landowner to accomplish the practice.

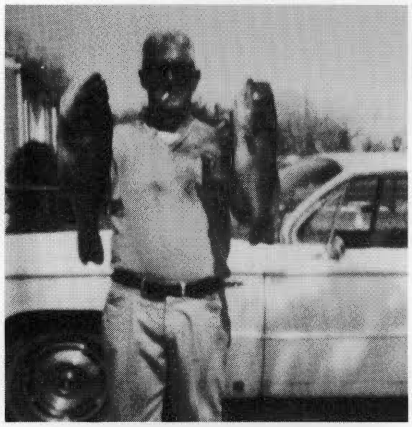
Emphasis is placed on the small woodland owner — ownership of 500 acres or less — to have these woodlots managed. A managed woodlot will produce more fiber in less time than an unmanaged woodlot. There are approximately 63,000 woodland owners in New Jersey that own less than 500 acres with an aggregate ownership of 1.2 million acres.

Is your woodlot being properly managed? Do you have any idle acres that should be reforested. Will your land qualify for forestry incentives payments?

For information, call your area forester on any Monday. See list —

Area I. Cumberland, Gloucester and Salem Counties, Charles W. Holsworth, Phone 609 - 692-2350
Area II. Atlantic, Cape May and Camden Counties, Ronald L. Detrick, Phone 609 - 625-1124
Area III. Burlington and Ocean Counties, John E. Perry, Phone 201 - 349-3991
Area IV. Bergen, Essex, Morris, Passaic, Somerset and Union Counties, Paul P. Berezny, Phone 201 - 538-1552
Area V. Hunterdon County, Otto W. Kunkel, Phone 201 - 782-3915
Area VI. Sussex and Warren Counties. David R. Edelman; Phone 201 - 398-7300
Area VII. Middlesex, Mercer and Monmouth Counties, G. Lester Alpaugh, Phone 609 - 292-2531 □

national hunting & fishing day
September 28, 1974
national hunting & fishing day
September 28, 1974
national hunting & fishing day
September 28, 1974
national hunting & fishing day
September 28, 1974
national hunting & fishing day
September 28, 1974



A REAL FISH STORY

Jack Kilpatrick is a consistently successful angler who has reeled in prize-winning fish at several New Jersey locations.

Jack says he has his own ideas on how to land bass and pickerel, and obviously his own ideas are sound because he does land some fine specimens.

And unlike most fish stories, Jack's are true. Pictured is a ten and one-quarter pound largemouth bass caught on April 22, 1973 at the Tuckahoe impoundments. The fish hit a Creek Chub lure on a four-pound fish line. The fish was officially weighed by Pat Gant at Gant's Marina at Bidwell's Creek.

One interesting aspect of this story is that after the fish was weighed and photographed, it was still alive, so Jack released it. And this fish was caught on a rod Jack won last year in the Cape May County Fishing Contest. He took first prize there with a six-pound chain pickerel caught in East Creek Lake in Belleplain State Forest.

The year before he took second prize in this contest with a four-pound, two-ounce chain pickerel. Also, the same year, he won the Bass Fishing Contest at Cape May with a seven-pound, four-ounce bass.

Good luck, Jack, and keep fishing. And how about sharing some of your secrets . . . □

A SLY FOX

We recently received an interesting letter from an angry woman in Absecon which told of her trials and tribulations with what we imagine is one of the smartest foxes around.

She wrote: "I hope you will be able to help me. A red fox has made my home his breakfast stop and in three months has carried off 55 young hens, one pecan duck, and 25 older hens. He even outsmarts veteran hunters, not showing up when a hen is set out as a decoy. Last week he stole six hens in five days. I might add that he or she is putting on weight. When I have a gun, he is out of range; when I don't have a gun, he will come within six feet of me to grab a hen. That's when I turn and run. I always thought foxes were afraid of people. One time I bounced a broom off his head. And that was the only time he didn't get a chicken." □

Compiled by ***Steve Perrone***

Here's Milt unhooking a husky striper that fell for a rigged plastic eel while he was casting from a coastal jetty.

Photos by June Rosko

Teenagers enjoy jetty fishing too. Here's Bob Rosko beaming approval on the brace of nice stripers he landed while casting a rigged eel from a coastal jetty after sundown.

It's a matter of personal preference as to whether to use a spinning or multiplying outfit. Pictured here are some of the author's favorite jetty lures.

(Continued from page 9)

capacity, so you don't burden yourself with a reel that is overly heavy.

To the terminal end of my line I tie a twenty-four inch long leader of 30 pound test monofilament when I'm spinning, for I've found the terminal end takes a lot of abuse, especially sliding over rocks, and as it occasionally becomes wrapped around a fish's gill cover or fins while you're fighting a heavyweight.

I use a Fuo-lock snap at the terminal end of the leader, as I find it's one of the lightest weight, strongest snaps made and does not detract from the action of most of the lures I use.

So equipped and rigged, I'm ready to select a few lures from my arsenal and go jetty jumping. For summertime night striper sport my favorite lure is a rigged eel. I usually use eels ranging in length from 10 to 14 inches, and rig them on a small, one ounce block tin squid. The tin squid gives them a tantilizing action as they are retrieved, and I've found it a superior way to rig the eel.

Swimming plugs, both surface and sub-surface models, in the one ounce size, often produce for me as do mirror plugs in the deep-running models. I also carry a selection of bucktail jigs, the half to one ounce models for jetty work, and heavier two to three ounce models for fishing the inlets. For night work I seldom use metal squids, again prefering the rigged eel and tin squid combo.

I stick to a very small selection of basic lures that have provided me with good sport over many years and I stick with them. For I've found it a waste of time to be constantly changing lures and trying too many new lures as they come on the market. The old standards come through for me.

At this point many anglers immediately ask several questions: Where should I go fishing and when? In answer, let me say that I most often select jetties that have no fishermen on them. I have found that I always catch more stripers when I fish from jetties that are devoid of fishermen. Reduced to a simple explanation, if there are no fishermen and one fish to be caught, I'll catch it. If there's a crowd your chances are just cut too much. Also, I like the peace and solitude of fishing alone; crowds leave me cold, so I always avoid them.

In answer to when to go fishing, I say go every opportunity you have. Don't worry about the wind, tide and other variables. You've got to be consistent to score on the jetty circuit, and you'll find that the regular who goes fishing whenever he can, invariably scores more frequently than the casual angler who is always waiting for conditions and fishing reports to be right. More often than not he gets fishing too late, after the best fishing has passed.

Always carry a rope with you, on which to string your catch. Here Milt Rosko adds a bass to his stringer while working a coastal rockpile.

Because stripers move close to coastal rockpiles in search of food such as the crabs, mussels, sand fleas and myriad baitfish, it is not usually necessary to cast long in order to receive strikes. Newcomers all too often try to cast as far as they can, not realizing that the bass are often feeding within 50 to 75 feet of where they are standing.

I saturate a jetty with casts, working every spot that is likely to hold a bass. If I receive no strikes, I move on to another jetty, covering as much area as I can in the course of a night. Sooner or later I'll run into fish. Sometimes it'll be but a single striper, but other times I'll be fortunate and run into a pod and perhaps score with a half dozen or more. Some nights I don't get a strike!

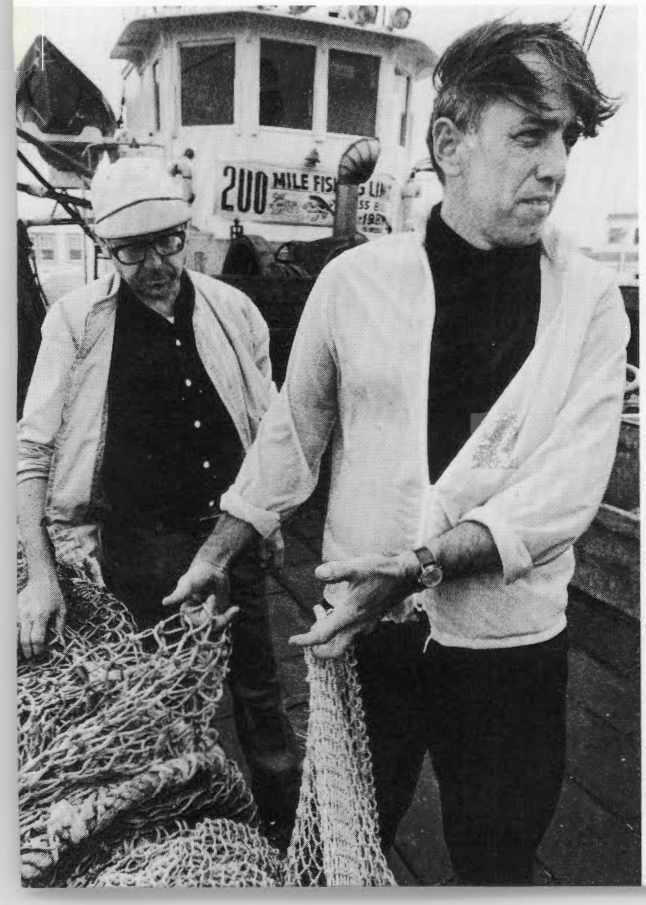
Inasmuch as I use rigged eels during the summer months, most of the fish I hook range from 15 to my tops of 43 pounds. True, occasional small fish will wallop the eels, but most often when a bass takes hold it will be a good one.

Oftentimes I've been asked if there's really a secret to catching stripers, and quite honestly I don't think there is. The nearest thing I can see to being a secret is that regulars do not travel all over the map in search of their linesiders. They study an area, get to know it well, and then concentrate their efforts where they know the rockpiles and water surrounding them. In this way they're fishing an area they know well, and when the bass are in a feeding mood they'll get their share of fish.

So this summer, put a little spice in your fishing. Select a dozen or so jetties, don your creepers, miner's light and foul weather gear, and grab your pet outfit and a few rigged eels and join that select fraternity who climb around coastal rockpiles after sundown in search of the princely striped bass. It's as exciting a type of fishing as you're apt to find along the Jersey coast. □

New Jersey Welcomes The Sail-On-Washington Crews Of The Sharon-Noreen In Support Of The 200-Mile Fishing Limit

Photography by
David A. O'Neill

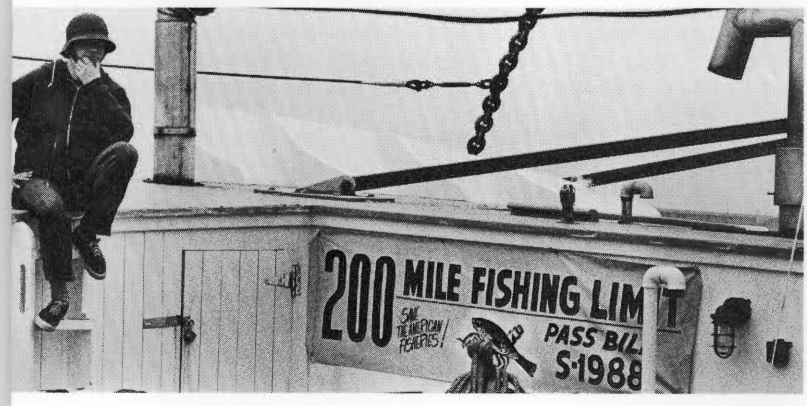


Captain Luongo compares small-holed foreign nets and larger holes in American nets.

Channel 3 television coverage of Save the Fisheries crew.

N.J. Public Broadcasting interviews Bruce Pyle, Chief of Fisheries Bureau and Paul Hamer, Principal Fisheries Biologist, on the proposed 200-mile limit.

Bringing in the Sharon – Noreen at Atlantic City



The Sharon – Noreen, Flagship of the Sail-to-Washington Save-the-Fisheries flotilla.

from the director

A Look at Our Renewable Resources

Most public concern revolves around our "Non-renewable energy resources, such as gas, oil, coal, etc., which are most important to our immediate needs. But this problem must not overshadow our concern as well as our understanding of the management of our "renewable" living resources. These resources are equally important to our long-term economic well-being as well as many related social considerations.

Misuse of renewable resources is sometimes brought dramatically into focus through incidents such as the massive exploitation of marine fish through a vast international fishing effort off the United States shore. Lack of international regulating capability frustrates the efforts of fishery scientists and administrations to come to grips with the problem. Uni-lateral and bi-lateral treaties between the U.S. and other nations usually represent a case of "too little too late."

In sharp contrast here at home where we have the ability to regulate and legislate the utilization of living resources, the problems we are faced with are not over-exploitation but rapid habitat destruction.

Several resource protection plans such as the Green Acre acquisition, flood plain zoning, wetland protection and coastal zone management represent a refreshing redirection of our thinking in land use. However, the rapid urbanization of New Jersey, including continued industrial growth, means the continuing loss of farms and forests which result in the associated degradation of land, water resources and wildlife.

In our concern for living resources (forests, fish, and wildlife) concerned citizens, especially those of urban backgrounds, frequently fail to recognize the role of habitat and thus direct their criticisms against the consumers such as tree farmers, fishermen, trappers, and hunters rather than against those who are removing or systematically destroying the environment. Such criticism fails to take into account the dynamics of "renewable living resources."

The wood product industry is a prime example of this renewable resource management. Foresters for years have developed technology to manage woodlands on a sustained yield basis, an absolute necessity if our wood product industries are to survive. Today, some foresters are often criticized for cutting "any tree" under the misconception that the forests are being destroyed.

Fish and wildlife scientists find themselves in the same "fix" in the management of wildlife. Practically all animal life classified as game species and subjected in recent years to scientific management are in abundant supply where their habitat requirements are being fulfilled. These species are providing millions of recreational days for use by sports fishermen and hunters as well as a growing number of birdwatching and nature lovers. Economic benefits from sportsmen-related industries are considerable.

The reproductive characteristics of living organisms called "population dynamics" is a subject well understood by biologists and professional ecologists, but usually little understood by the general public unless they have made some effort to become informed. Population dynamics means the ability of wild populations to reproduce at a rate much in excess of what the habitat can support. These surpluses may be removed by "limiting factors" which come rapidly into play following the annual reproduction cycle. These limiting factors may take the form of predation, disease, starvation and a reduction in reproduction rates. Contrary to what many would like to believe, wildlife cannot be stockpiled. Animal surpluses, under scientific sound regulatory controls can be utilized for food, fur, and recreation, and at the same time allowing the habitat to remain healthy and capable of maintaining wildlife population at the maximum "biological carrying capacity."

This represents one of the most basic concepts of scientific fish and wildlife conservation, a concept which must be understood if we are to intelligently manage our living renewable resources through reason rather than emotion. □

Sincerely,

Russell A. Peterson

Division of Fish, Game and Shellfisheries

FRONT COVER

Jetty Jockey Milt Rosko landing a striper after sundown
June Rosko – Ektachrome X

INSIDE FRONT COVER

Frog taking a mudpack beauty bath – Bob McDowell – Nikkormat FTN Kodachrome II

INSIDE BACK COVER

A spring sunrise over Stokes State Forest in Sussex County
Bob McDowell – Nikkormat FTN Kodachrome II

BACK COVER

National Hunting and Fishing Day Poster – from National Shooting Sports Foundation

National Hunting & Fishing Day

September 28, 1974