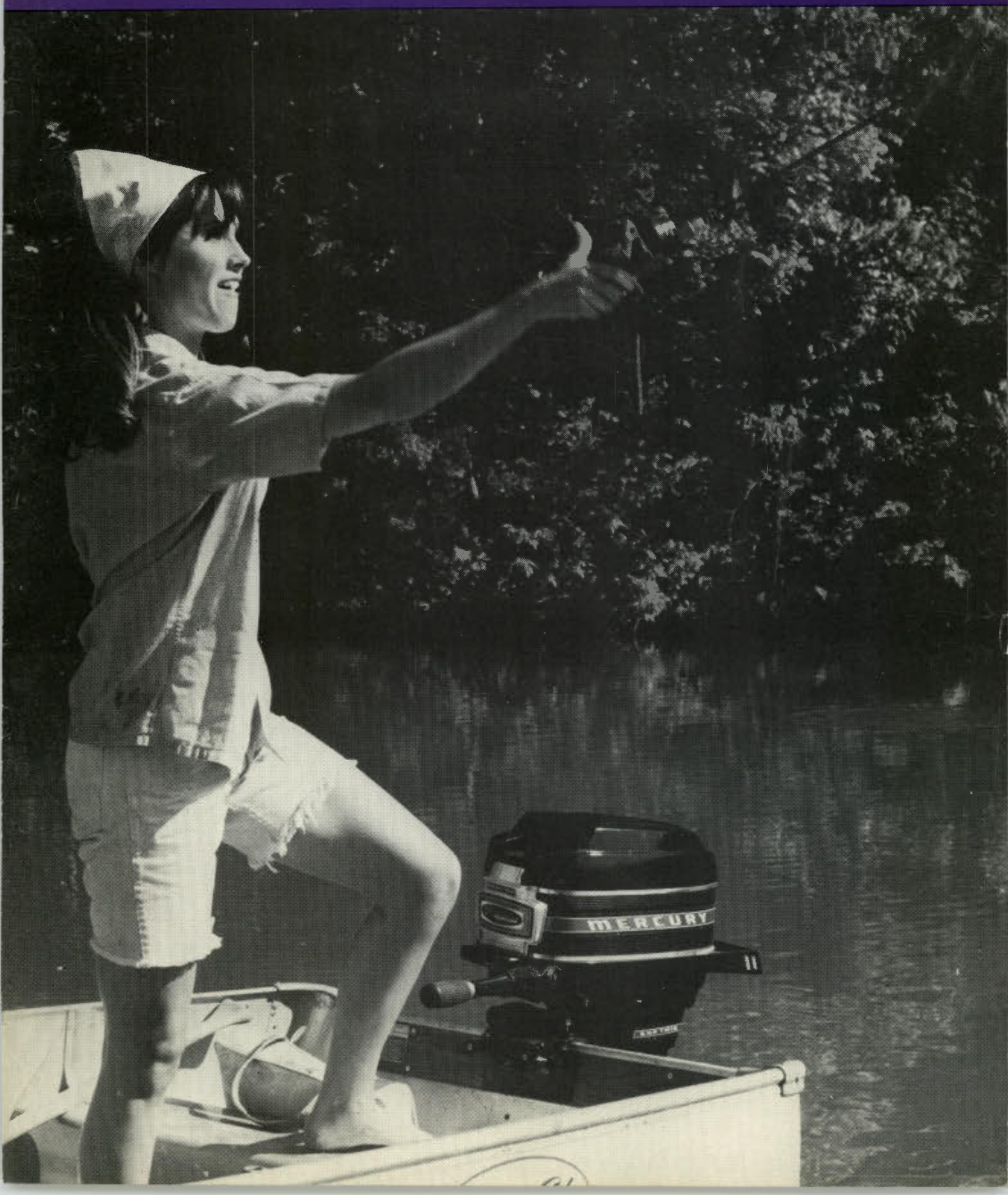


New Jersey *Outdoors*

June 1968



American Vagabonds

---1968 Version

By Bill Reavley

School's out, or just about out, and so are the attractive maps that make America seem a never-ending source of excitement and memorable vistas. Millions of American families have either started, or are planning, vacation trips to faraway places. Visitors from outer space (if any, by chance, should arrive over America this summer) probably would wonder in viewing our busy highways whether or not all of these travelers made any advance plans. At times, it does appear that, like Don Quixote, the vacationing vagabonds have merely gone off in all directions to tilt vacation windmills.

Now a recent research study provides some answers. Researchers report that of the tourists passing through the study area, 86 percent of all those interviewed said they carefully planned for each day of their vacation trip long before they left home. Morning interviews found tourists somewhat ahead of schedule; mid-morning turned up some behind schedule; and by late afternoon, nearly 50 percent of the travelers felt they were definitely behind schedule.

Almost 75 percent of the travelers said they would leave their main route for recreation activities. But two-thirds of these wouldn't stray more than 20 to 30 miles "off course." More than 80 percent wouldn't budge from their pre-planned route if the "off" route was not paved.

For their accustomed type of accommodations and services, these knights of the highway were even less inclined to change their plans. Only 1.5 percent seemed willing to venture more than 30 miles for accommodations. And only 55 percent would leave the main route for accommodations, even on paved side roads. A whopping 92 percent would not take unpaved side roads at all in search of a place to put up for the night.

At least in this segment of the population interviewed, the vacation of the average American is as rigidly planned and controlled as is his work-a-day world at home. If this is any indication, the frontier spirit or the joy of overcoming unforeseen obstacles is rapidly going out of style with the average traveler.

The fact that many persons are willing to seek the far horizon only if they can be accompanied by comparative comfort is attested by increased apprehen-

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Some people take their fishing seriously.

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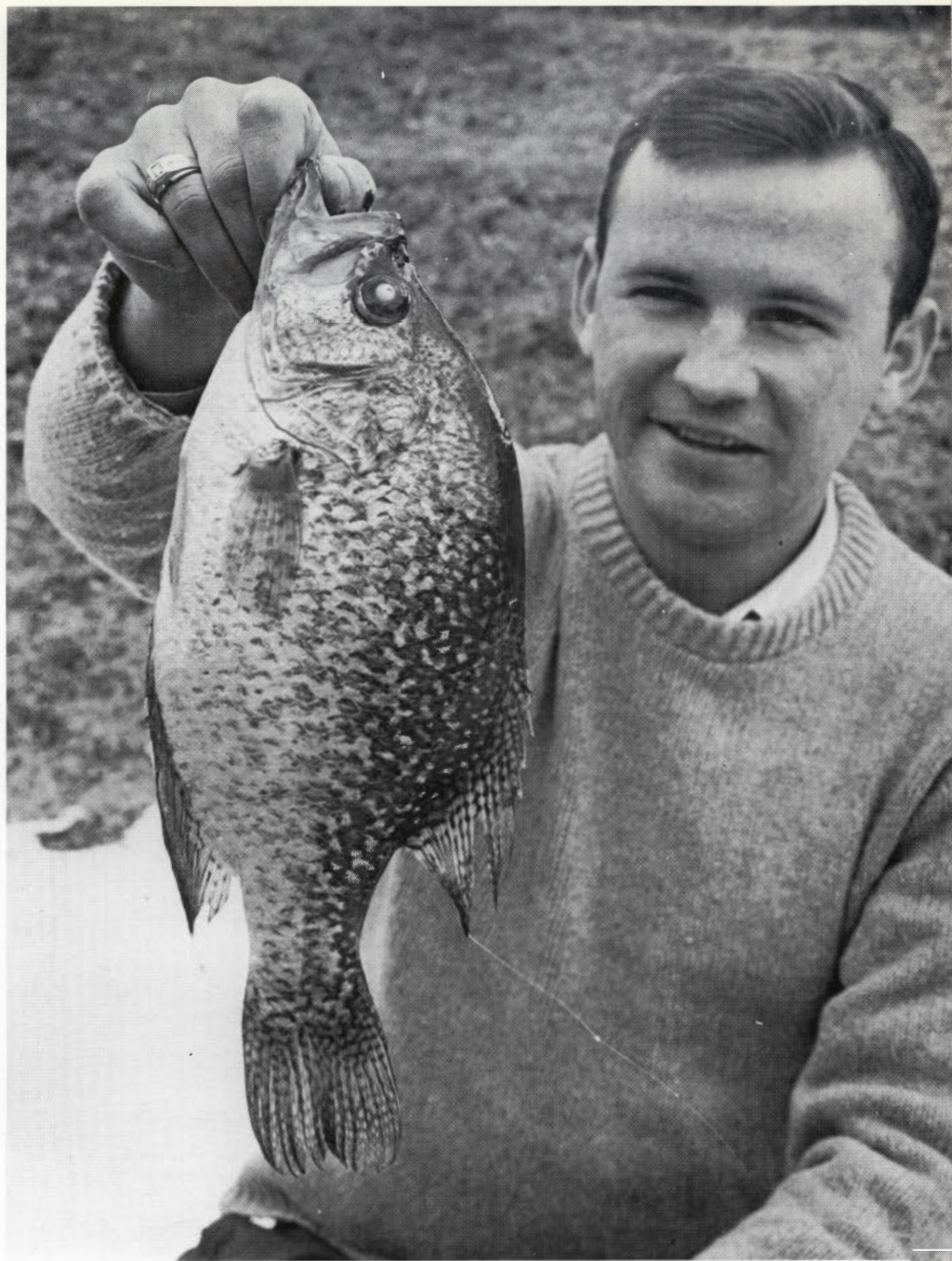
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A fine black crappie. Notice the dark, irregular markings

The Black Crappie

By Frank E. Bolton
Bureau of Fisheries Management

LAST MAY AS I WAS DRIVING around one of our lakes I noticed two men fishing. I stopped the car to watch. After two or three minutes I saw one man grab a medium action spinning rod and strike lightly. The rod tip bent almost into the water. As this was one of our more popular trout stocked waters I said to myself, "Man, what a trout". The fish was played for a few minutes and then pulled up on the bank. As I saw the fish I realized it wasn't a trout. It was shaped like a sunfish but much larger. As I was walking over to get a closer look the second man started to play a fish. I watched as this fish was landed, it was then that I could see that it was a black crappie or calico bass. Altogether, these anglers had caught seven such fish, the smallest of which was about eight inches. I could see as they baited up with 1½ inch golden shiners that their rig consisted of no more than the hook and a float set about four feet up the line. After they had cast their bait into the shadows of an old dock and appeared to have a free moment, I decided to talk with them.

The men said that they have been fishing regularly here for crappies over

the past five years. One of them said he was from Indiana, where crappie fishing is popular, and had started fishing for them as a child. They claimed that aside from being a fine sport in its own right, crappie conveniently filled the void between good trout and largemouth bass angling. Just then both floats disappeared and the men were in business again. After landing their fish and replacing the bait, the men declared that fishing was a bit slow. I pondered a few minutes over this statement as I had seen four nice fish taken in about ten minutes. If this was "slow" fishing I wondered what would constitute "fast" fishing and I decided to give it a try next spring.

Identification

The black crappie, *Pomoxis nigromaculatus*, is a member of the sunfish family, *Centrarchidae*. This family can be distinguished by several characteristics—sharp spines in the dorsal (top) fin; a compound but continuous dorsal fin; both sets of paired ventral (bottom) fins located close together and well toward the head; and relatively deep, flattened bodies.

The black crappie is usually confused with only one other member of

. . . Black Crappie

the sunfish family, the white crappie, *Pomoxis annularis*. Both crappies have a silvery background color with a dark green or black marking. The markings

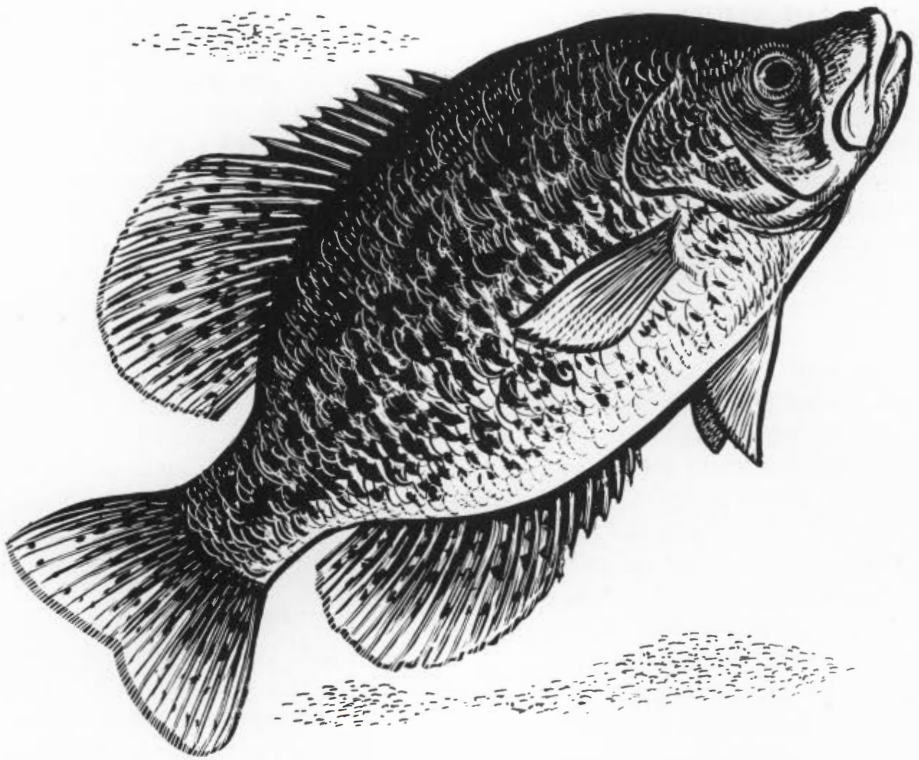
on the black crappie are irregular patches whereas the white crappie has vertical bar markings. The black crappie has black spots on the fins, the white crappie has none. The distance from the eye to the start of the dorsal

Sharp spines (7) in dorsal fin

Compound, continuous dorsal fin

Deep, flattened body

Both sets of ventral fins close together, well toward head



Silvery background color with dark markings in irregular patches

Black spots on fins

Start of dorsal fin relatively close to eye

How to Identify the Black Crappie

fin is equal to the length of the base of the dorsal fin on the black crappie while on the white crappie the distance from the eye to the dorsal fin is greater than the length of the dorsal fin base. The black crappie normally has seven hard spines in the dorsal fin while the white crappie normally has but six.

Range

The range of the black crappie in North America was "originally" confined to the eastern United States and the southeastern portion of Canada. They were not native to New Jersey or much of the northeastern United States.

See map inside back cover.

According to Jordan and Evermann (1920) black crappies were transplanted in large numbers for many years by the United States Fish Commission and, as a result, their range was expanded considerably. How or when they were introduced into New Jersey is unknown. The oldest known record of their presence in this state was made by Dr. Charles C. Abbott in 1885. Henry W. Fowler in the *1905 Report of the New Jersey State Museum* entitled "The Fishes of New Jersey" opined that it was an apparent introduction from the Great Lakes and Mississippi Valley Region. Today this species is found quite commonly throughout the state and is especially abundant in the lakes and ponds of the Inner Coastal Plain. In the spring of the year they are frequently abundant in the gateholes of lakes on streams tributary to the Delaware in this geological area, apparently they move into these from the fresh but tidal portions of these streams.

Some lakes with public access that are recognized to have good populations of black crappies include:

Hammonton Lake—Atlantic County
Browns Mills Lake—Burlington County
Strawbridge Lake—Burlington County
Sunset Lake—Cumberland County
Union Lake—Cumberland County
Verona Park Lake—Essex County
Almonesson Lake—Gloucester County
Iona Lake—Gloucester County
Swedesboro Lake—Gloucester County
Farrington Lake—Middlesex County
Deal Lake—Monmouth County
Carasaljo Lake—Ocean County
Parvin Park Lake—Salem County
Cranberry Lake—Sussex County
Little Swartswood Lake—Sussex County
Echo Lakes—Union County

Ecology

The black crappie is a school species, i.e., they band together and move about en masse. They particularly seek underwater debris such as old docks, auto bodies, bridge pilings, and the like. A management technique that has proven effective has been to leave standing timber and brush in small portions of newly constructed impoundments. These serve to concentrate this species and make them more readily available to the angler. Why they "prefer" such areas has not been determined, it could among other things, be due to the abundance of food or attractiveness of the cover.

During the spring of the year they tend to inhabit the warmer shallow waters at all times of the day while in the summer, after the surface waters have attained their "maximum" temperatures, they spend the daylight hours in deep waters and move into the shallow between dusk and dawn to feed. The winters are spent in the

. . . Black Crappie

warmest waters available, wherever they might be.

In the spring when water temperatures reach the low sixties black crappies commence their spawning activity. Like other sunfishes, the black crappie is a nest builder. The sites for these nests are usually under three to six feet of water. In New Jersey spawning most commonly occurs in May after the water temperature has reached about 65° F. Each female spawns once per year and normally deposits from 8,000 to 15,000 eggs. However, records show that some large females have deposited up to 100,000 eggs at one spawning.

The male prepares the nest by clearing an area of debris and silt with his caudal fin. He then herds a gravid female to the nest where her eggs are deposited and fertilized. After spawning is completed, the male takes up the role of "sentinel" and challenges any intruder that might come near the nest.

Hatching time is dependent upon water temperature and usually takes place within seven to fifteen days after the eggs are fertilized. As with most centrarchids, the crappie young go through the sac stage under the guardianship of the adult male. Shortly after the young start to feed, the male leaves them to fend for themselves.

Feeding Habits

The sac of the young sac-stage crappie provides a two to three day diet of high protein. When the sac is gone the young crappie must depend upon microscopic organisms for their food.

As the size of the young fish increases, the maximum size of the items they use for food also increases and they begin to take insects and crustacea. When the crappies reach a length of about 1.5 inches their diet changes and they begin to include some smaller fish. At the end of the first growing year, they are about 2.5 inches in length and their diet is about 80 percent fish. Their diet stays about the same the rest of their life except during spawning when the male will alter his feeding habits somewhat to include more crustacea, at this time he eats about as much fish as crustacea. Why the male does this is unknown except that crustacea might be easier to capture and more abundant than fish considering his role as nest guardian and the relatively shallow area he is restricted to at the time.

Reid (1949) ran a seasonal food habit study on black crappies in Orange Lake in northern Florida during which he found that 74 percent of the crappies over 100 millimeters (about 4 inches) in length contained fish in their stomach. Gizzard shad, a very abundant forage fish, was found to comprise 71 percent of the fish eaten by the adult crappies. In New Jersey forage fish most utilized by the crappie is probably dependent up the relative abundance of the species present and could vary considerably from site to site.

Age and Growth

The rate at which black crappies grow is related to the condition of the aquatic environment and such factors as food availability and competition with other species for space. In Okla-

homa, for example, the rates of growth for black crappies from 83 different bodies of water was determined. The results showed the following ranges in the rate of growth:

Oklahoma

Age in Years	Range in Length (inches)
1	1.5 - 8.5
2	3.8 - 11.9
3	5.9 - 13.2
4	7.1 - 14.8
5	9.3 - 15.7
6	12.1 - 16.2

Anging of black crappies from a few New Jersey waters thus far indicates that their growth rate is within this range. As an example, the growth rates of this species in Farrington Lake (Middlesex County) and Greenwich Lake (Gloucester County) are presented:

Age in Years	Length (inches)	
	Farrington	Greenwich
1	—	3.8
2	6.3	5.4
3	7.1	—
4	8.0	—

The normal life span for a black crappie is about 5 years but there are a number of reports that refer to crappies up to 7 or 8 years of age.

Angling

Black crappies are seldom taken by hook and line when ice is present but immediately after ice-out and until the end of their spawning season, about June 1 in New Jersey, angling for them is most productive.

Fishing during this season can be productive 24 hours a day because the fish are normally schooled up and feeding heavily in the shallows after

the long winter. Also, males guarding the spawning beds will hit almost anything that comes near them. During the spring season crappies can be taken by any number of methods. However, during the summer and fall season, the most productive fishing is at night with live bait since the crappies are in deep water during daylight hours.

Fishermen angle for black crappies with many types of tackle. The most common method employs live bait. Although the tackle might vary from cane poles to fly rods, the one rule which fishermen must observe is in regard to the size of the bait used. At no time should live bait larger than 1½" in length be employed since the crappie has a small mouth. Other productive angling methods include the use of bucktails, streamer flies, small subsurface spinning lures, and spinners. Remember, keep the lure small!

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Ten Commandments of Fishing

To Make Every Fishing Trip a Success

By Red Chaplin

1. Choose thy companions with care, that they may be of like mind on these commandments. This is the first and greatest commandment, for in unity is strength, and upon such strength depends the future of thy fishing.
2. Thank thy God that there still be fishing on this earth, and endeavor to learn and do all manner of things to ensure that fishing better than thou hast enjoyed shall be passed on to thy children and thy children's children, yea, even to the last generation. Then shall they rise up and call you blessed.
3. Let the keeper of the lands upon which thee must trespass to reach thy quarry be highly favored and thanked for his consideration. Verily, he doth observe thee with a jaundiced eye and locketh his gate against thee if thou so much as stretch his fence or leave thy trash in his way.
4. Thou shalt kill only as many fish as thee may comfortably eat in a reasonable time, and always fewer than the law allows. If fish be not on thy menu, thou shalt release alive all that thou catcheth, that they may tantalize the fishermen who follow thee.
5. Obey all the laws that are established regarding fishing, not because of fear that the minions of the law may catch thee in their nets, but because thee understandest that they work for the future of the sport thou art so lucky as to enjoy.
6. Let thy fishing trip be planned with care, lest thee get lost on the way, or find thyself casting upon empty waters, lose thy life in the deep, or leave thy lure-box at home. Look to thy tackle both mechanical and mental, for verily, he who thinks ahead may save his head.
7. Strong drink and strong language employ not in the light of day, lest thy companions count thee as a fool and leave thee twitching at the television set next time they go afishing. Observe this commandment also lest the natives at thy place of fishing come to regard all fishermen as hopeless boors and close their property against thee and thy companions.

8. Thou shalt take with thee to the place of fishing and employ therein the same courtesies thou wouldst practice in thy usual place of worship. Surely, while fishing, thou art not far from Heaven, and remember that He who keeps Heaven may be angling for thee.
 9. Lest the gentle art of angling die when thou diest, take with thee at least one younger than thyself, that youth may benefit from and keep alive thy love of fishing and thy great accumulation of knowledge.
 10. Count thy fishing trip successful when thou returnest to thy house tired but eager to go again, filled with memories of good companions, sympathetic landowners, clean streams, birdsong and the music of waters, clear air and the beauty of nature, and count not as lost those fish thee did not bring to net, for all that go before are the greatest blessing. #
-
-

Bait with a Blade

In the unending race to keep up with new fishing lures that "make the scene" each season, we tend to overlook some of the best fish-getters we used to buy or concoct for ourselves.

Take another look at the familiar old spinner, for example. Here is one of the most tried and true fish attractors ever devised, and its versatility with all types of fishing has never been equalled.

There's hardly a game fish that swims that isn't duped by some kind of a spinning blade. Spinners in various shapes and sizes are adaptable to an infinite variety of situations. They can adorn a natural bait, perk up a pork rind or enhance artificials. Even on their own with only a hook to swing, they can do pretty well on many occasions.

Spinner shapes are roughly determined by the speed at which they are pulled through the water. A round blade revolves easily at the slowest speeds. Thus, when fish are reluctant to move fast, go to the round design . . . but remember to start the retrieve with a sharp twitch to get the spinner going.

Elliptical shapes cause less drag and are more efficient in producing an attention-getting flash at higher speeds or in fast currents.

Though some excellent lures on the market incorporate a spinner, there are a whole host of offerings in the tackle box or bait can that could be greatly improved if a blade were snapped into place.

The experts won't guarantee a spinner will catch you more fish, but they do note that fish strike more aggressively at a whirling blade. Also, it takes a taut line to keep it whirling, so you can set the hook promptly. Blades aren't bait, but they do catch fish . . . when nothing else does. Try 'em . . . again! #



"Shoot the Works"

Many common everyday phrases and expressions are often glibly and comfortably employed with little thought as to their antecedents or origin. Frequently these expressions endure for generations simply because of the succinct way they reduce a description into a small flavorful capsule. Present usage, however, may bear little or no relation to the original or specific meaning.

Fertile Source

A very fertile source of such expressions is to be found in the fields of guns and shooting. In the days when gun, powder horn, and shot pouch were almost as necessary as pants, and often provided them, a lore came into being

that colors our thought and speech to this day, adding crispness to our expressions when used in connection with matters far afield from arms and ammunition.

Evolution

Suppose we examine a couple, with comparisons of their present-day usage and original meaning. Take the expression "lock, stock and barrel." When one accepts a proposition "lock, stock and barrel" it means that he accepts the matter in its entirety, without reservation. The expression stems from the colonial days when a gun, once acquired, was seldom scrapped or disposed of for a new one. Instead, when a part wore out or was broken, a new

part was made or procured, such as the trigger and hammer assembly (the lock) or perhaps a new barrel. Therefore, when it was desired to emphasize completeness of anything, the essential parts of an essential article were itemized . . . "lock, stock and barrel," the whole gun.

Today we use, in a derogatory sense, the statement "He is just a flash in the pan." This signifies that the person referred to is one who makes a big fuss, is noisily enthusiastic but whose actions are inconsequential. Or it refers to an individual who accomplishes something worth-while *once*, but only *once*. A "flash in the pan" was much worse for the pioneer armed with a flint lock musket or rifle when he stood face to face with an angry bear or when meat for the family stood poised for flight only a few yards away. If, at such a time, he pulled the trigger and the priming powder in the pan at the breech merely burned with a flash without discharging the gun, the shooter was a victim of an embarrassing, disgusting, and sometimes even tragic, experience.

Here are a few of the common expressions of today that originated in

the lingo of shooting. A little fanning of the embers of memory will undoubtedly recall many more.

- "Lock, stock and barrel."
- "Flash in the pan."
- "Our plans 'misfired.'"
- "Set your sights high."
- "He scored a bull's-eye."
- "To 'draw a bead on' something."
- "Keep your powder dry."
- "Don't fall short of the mark."
- "Straight as a ramrod."
- "He overshot the mark."
- "He is 'loaded for bear.'"
- "Sharpshooter"
- "Crackshot"
- "A shot in the dark."
- "He goes off half-cocked."
- "He is all primed for the occasion."
- "Hair-trigger nerves."
- "Hold your fire."
- "Always be a straight-shooter."
- "To 'hit dead center.'"
- "He has 'lined his sights on' . . ."



"Lock, stock, and barrel"

. . . American Vagabonds

Continued from inside front cover

sion about sanitary facilities. With thousands of trailers and campers sneaking their waste products out into the brush, some officials are fearful that public health authorities may close down campgrounds or places where the public may gather in the not so wide open country.

Another problem concerns the rental trailer parked on campgrounds. Space to accommodate this type of "luxury" camping is already at a premium in many places. Many parks show a steady increase in the traveling campers and their tent or house trailers. Multitudes of people may very well have their comfort and rustic pleasures conveniently contrived, but there's going to be many a crisis to be solved by municipal, county, state and Federal employees.

Along with the confusion that will prevail in many places during this outdoor season will come more concrete evidence that hordes of outdoor recreationists are rapidly wearing away the scenery. Rationing and zoning of nature's wonderland, already a reality in many places, may be due for elaborations and broader application. With increasing frequency, forest and park rangers, as well as others in administrative positions, express concern that organized campers such as youth groups are being led by adults who allow their young charges too many liberties with tree cutting devices and fail to impress them with litter bug warnings. Even highly conscientious groups that sponsor clean-up crews in the wilderness areas may be creating as many problems as they are solving through sheer weight of numbers.

It's still exciting, however, for most Americans to look and live outdoors, near home or far away. Outdoor opportunities in many respects are now more available and more enjoyable than ever before. But the 1968 summer frolic may be a disappointing one if the public expects to assume no individual responsibility in using nature's fragile facilities for their personal enjoyment. What will really count in all the traveling and camping this summer will be the attitude of about 75 million people as they go about re-creating themselves. #

The management of fish, wildlife and associated resources on lands under the administration of the Division of Fish and Game is based upon the recommendations of fish and game biologists, and regulations enforced by the conservation officers. Their recommendations give major consideration to the welfare of the resource, tempered by the complexities created by social, esthetic and economic factors. Because of the ever-changing face of rural areas, increased human populations and man-made influences, the planning, programming and budgeting of our natural resources for the future must continue to be based upon a broad spectrum of a very changeable nature.

L. G. MacNamara, Director

Fish Are Fussy About Their Water

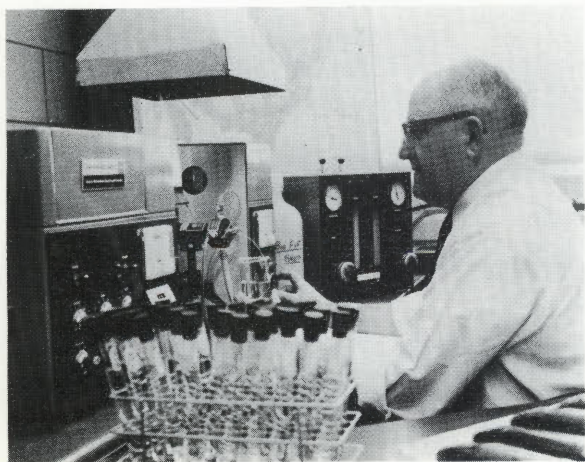
Why are fish big and biting in one stream and not in another? This question has long puzzled anglers and conservation agencies alike, but now science has come up with one answer.

It appears that fish are extremely fussy about their water environment and have a strong aversion to water containing even the slightest amount of nickel or other heavy metallic elements. This idiosyncrasy was discovered by scientists at Rutgers University using a new atomic absorption analysis technique. The results of these studies can eventually be utilized by state conservation agencies.

Rutgers researchers have been analyzing water samples from streams and ponds with a Perkin-Elmer Atomic Absorption Spectrophotometer, then relating the data to fish per acre ratings for areas analyzed. Results show that fish dwindle in water with more than $\frac{1}{10}$ part-per-million of nickel and other heavy metals and thrive in water with less than $\frac{1}{10}$ ppm nickel. With the atomic absorption instrument water samples can be analyzed for metals content down to the parts-per-billion level.

Atomic absorption applies the phenomenon that the atoms in every metallic element will absorb light of a characteristic wavelength. The amount of light absorbed gives a direct indication of the amount of metal present.

The technique can be used to analyze many materials including food, blood, lubricants, chemicals, metals, soil, cement, plant, animal, and human tissue. #



Dr. S. J. Toth of Rutgers using an Atomic Absorption Spectrophotometer to determine metallic content of water samples from streams



Two views of Round Valley Reservoir



Round Valley Reservoir

Hunterdon County

Construction of Round Valley Reservoir was "completed" under the supervision of the New Jersey Division of Water Policy and Supply during the summer of 1965. The principal purpose of this off-stream reservoir is to supply water for northeastern metropolitan New Jersey. The reservoir is in an elliptically-shaped bowl-like valley formed in the top of the Cushetunk Mountain by a horseshoe-shaped ridge of coarse-grained diabase. The impoundment was created by the construction of two earth-filled dams across the outlet valleys of Prescott Brook and a tributary to the South Branch of Rockaway Creek, and a dike across a saddle in the northwestern corner of the ridge. Together with the natural ridges these enclosed the valley.

Water to fill and eventually maintain levels in the reservoir is to be pumped into it from the South Branch of the Raritan River. No such pumping is permitted by the authorizing legislation between June 15th and September 15th.

The Division of Fish and Game has been monitoring limnological conditions and the developing fish population since 1965 as a basis for developing a sound fisheries management program. Presently smallmouth bass are the principal game fish and management objectives have been oriented toward this highly desirable species. Standing waters with smallmouth bass as the major warmwater game species are relatively scarce in New Jersey and it is the intent to perpetuate this fishery.

Because conditions in the reservoir have recently shown promise for the development of a "two-story" fishery a research program to this end is planned. As a prelude to this study fingerling rainbow trout were stocked in 1967. Subsequent recaptures of some of these fish indicated they were growing well. For the present this constitutes the second game species in the reservoir.

Regulations reflect our intent to maintain the smallmouth bass in this reservoir as much as possible. Because other game species are known to cause serious problems insofar as the maintenance of smallmouth bass populations are concerned it might be necessary to impose very liberalized regulations for competing game species. Because of this and the fact that the development of a fisheries management program for this reservoir has only just begun it is suggested that anglers keep abreast of regulation changes in the annual *Compendium of New Jersey Fish Laws*.

Although plans call for the development of recreational facilities which would include parking areas, boat launching sites and the like that are of particular interest to anglers, such development has not been accomplished as yet.

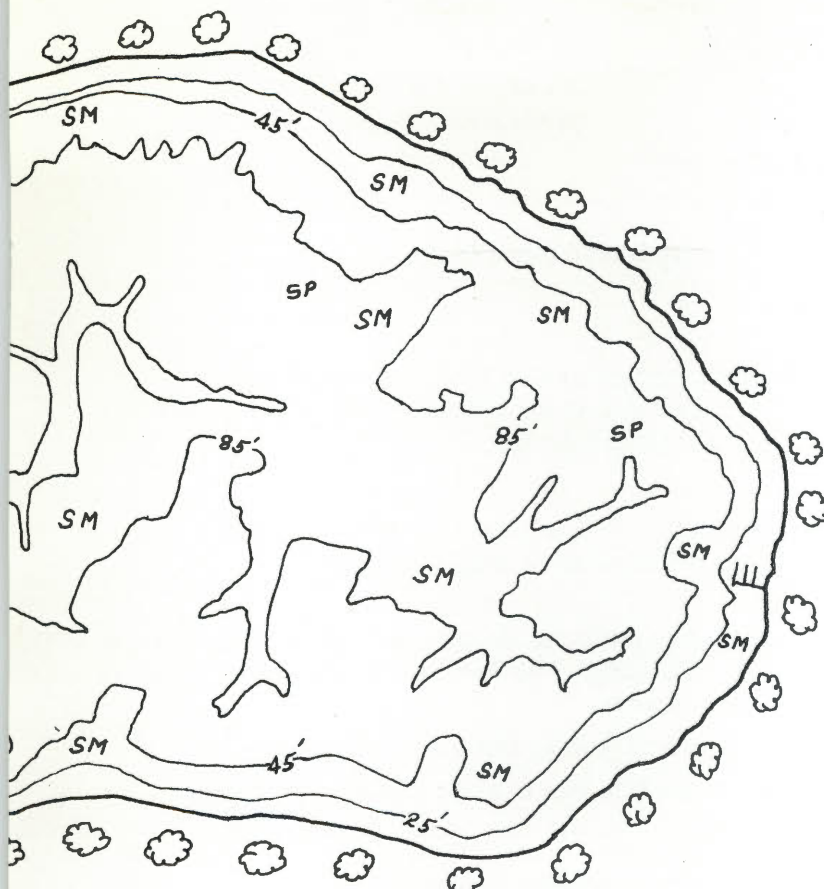


**ROUND VALLEY RESERVOIR
RARITAN RIVER DRAINAGE
HUNTERDON COUNTY**

New Jersey Outdoors

2,350 Acres
Max. Depth
Average Depth
Elevation
Storage Capacity





160'
71'
385'
55 billion gals.

Map Symbols

Vegetation

☁ Trees

Bottom Types

C - Clay

SM - Native Soil and Decomposing Plant Material

Miscellaneous

Sp - Springs

Location:

Approximately one-half mile south of Lebanon, N. J.

Physical Features (when full*):

Area: 2350 acres

Maximum depth: 160 feet

Elevation: 385 feet

Mean depth: 71 feet

*presently at 35% capacity

Chemical Features:

Oxygen: Sufficient to a depth of 30 feet at all times of year.

pH: Alkaline

Biological Features:

Vegetation: No aquatic vegetation has as yet become established.

Water Color: Clear except during the summer months when a green tint develops due to phytoplankton production.

Fish and Fishing:

Rainbow Trout: Fingerling rainbow trout have been introduced. Indications of growth from small numbers of individuals recaptured is that it has been good.

Smallmouth Bass: Angling prospects are excellent, fish are abundant and their growth rate is outstanding. Fish have been reaching 15 inches in length during their third summer.

Sunfish: Excellent population, with an above average rate of growth.

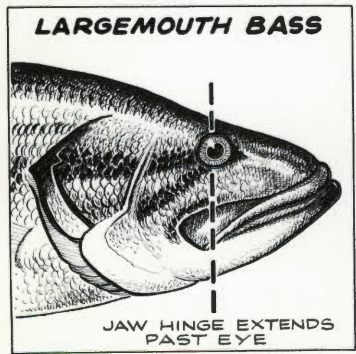
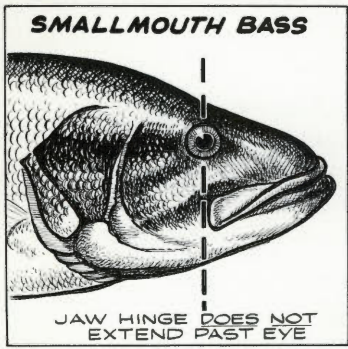
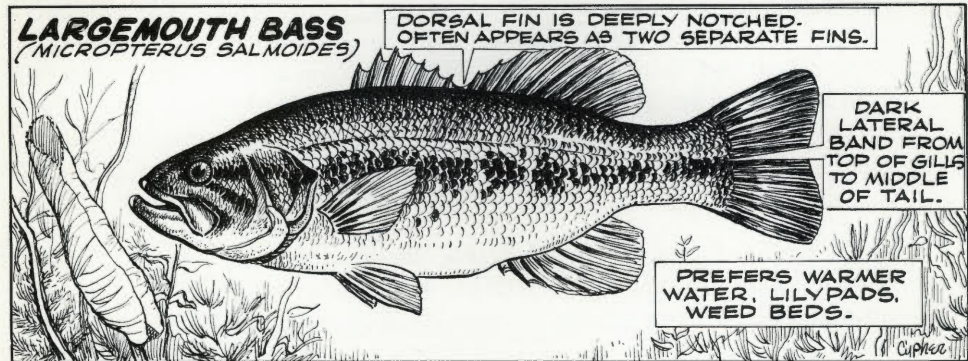
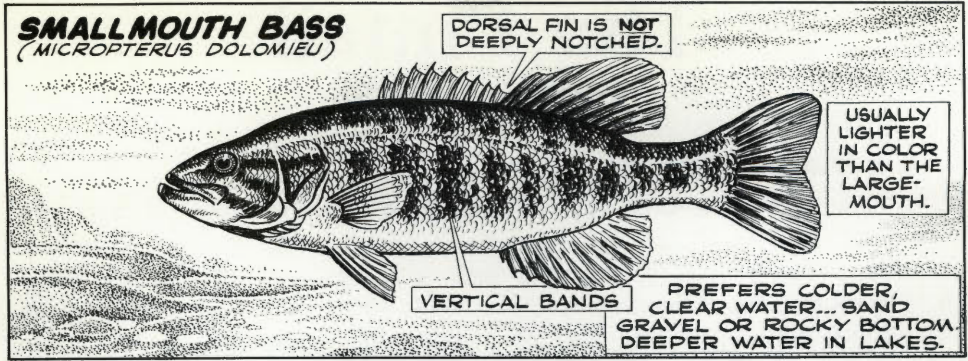
Bullheads: Excellent population with an above average growth rate.

White Perch: Abundant and growing well.

The 19 species of fish present are as follows:

- | | |
|---------------------|-------------------|
| Rainbow trout | Fathead minnow |
| Smallmouth bass | Banded killifish |
| Bluegill sunfish | Johnny darter |
| Pumpkinseed sunfish | Satinfin shiner |
| Redbreast sunfish | Common shiner |
| White perch | Spottail shiner |
| Brown bullhead | Golden shiner |
| Common white sucker | Fallfish |
| E. creek chubsucker | E. silvery minnow |
| Alewife | |

Robert W. Stewart
Bureau of Fisheries Management



Smallmouth Bass vs. Largemouth Bass

These sketches show the obvious characteristics by which fishermen may distinguish smallmouth bass and largemouth bass.

If you plan to fish in Round Valley Reservoir, it is important that you be able to distinguish the two species of bass since the minimum size limit on smallmouth bass is 15 inches and the daily bag limit is five. There are no size or bag limits on largemouth bass in the Reservoir.

The Pintail

Dafila acuta (Anas acuta)

General Characteristics:

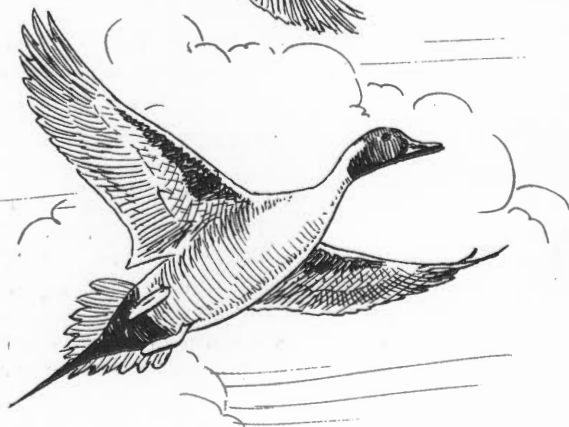
Male—a medium-sized, grey-backed, white breasted duck, with brown head, and long, thin tail. Female—a mottled brown duck, somewhat more slightly built than a black duck or hen mallard. This puddle duck has a hind toe without a lobe. The male's speculum is violet, bronze, and green, bordered behind with black then white bars, and in front by a cinnamon-buff bar and inwardly with black and white. The female's speculum is much duller, frequently with no iridescence. The males are long-necked and alert-looking. In flight, the pintail is a fast, graceful flyer, the males are easily identified by the long, slender neck, long, thin tail, and white neck and breast. The bills and feet of both sexes are bluish grey.

Range:

Breeds in northwestern United States, the prairie provinces of Canada north to, and including all of, Alaska. It migrates northward early in the spring and is an early nester. It winters along both coasts of the United



Pintail ducks are slim and graceful. The female, top, is a mottled brown. The male, below, has a long, thin, spike-like tail



States and most of Mexico and Central America. In New Jersey, the pintail or "sprig" is found principally along the coast from Barnegat Inlet to Cape May, but also up the Delaware River from Philadelphia to Egg Island. October is the month when 20,000 to 30,000 of these ducks are usually seen. The migration continues, and in November, 5,000 to 10,000 are to be found, and by the end of December, only a few thousand, or less, remain.

Life History:

The pintail is an early arrival on its nesting grounds and frequently begins laying in April, when the weather is mild, with 6 to 12 (usually 10 or less) eggs, hatching during June. The usual incubation period is 22 or 23 days. The nests are located on dry ground, usually near water, but frequently a long distance (as much as a mile) from open water. The diet of the pintail includes 80 percent to 90 percent vegetative material, with bullrush, smartweed, pondweed, millet, wildrice, and wigeongrass the most common foods. Animal foods include mollusks, crustaceans (especially crabs), aquatic beetles, and fly larvae. An occasional fish, frog, or marine worm is also eaten. Nearly all the foods are found in or near water as this duck seldom feeds on the upland as does the mallard.

Environmental Resistance:

Weather: Drought has an important effect on the pintail, as nearly all of its food is produced in or near water. The pintail does not hide its nest as well as some other ducks, and drought makes the nesting hen and clutch even more conspicuous and vulnerable to predators.

Diseases: Lead poisoning is an important cause of loss, and, on occasion, botulism can kill thousands of these birds; oil spilled on the water may occasionally be the cause of death; fowl cholera, bird malaria and sarco-sporidiosis have been reported in the pintail.

Predators: Foxes and owls may prey on the adults and ducklings; gulls or ravens may rob unprotected nests of their eggs. While a duck hawk is able to take a pintail, duck hawks have become scarce to the point of being rare, and have little overall effect on pintails.

Management:

Protection of nesting grounds is of prime importance, but much of the nesting territory is influenced by nature in the form of rain or drought or cold weather in the spring. Control of drainage and creation of ponds and potholes could help in the breeding grounds. In New Jersey, the clearing up of polluted water is one of the important factors which can aid this fine game bird. The preservation of our salt marshes is another necessity. One other factor under control of man is the regulation of the hunter. Proper laws provide for the sport of hunting as well as maintain sufficient brood stock to produce huntable surplus ducks. #

Shortleaf Pine

(*Pinus echinata*)

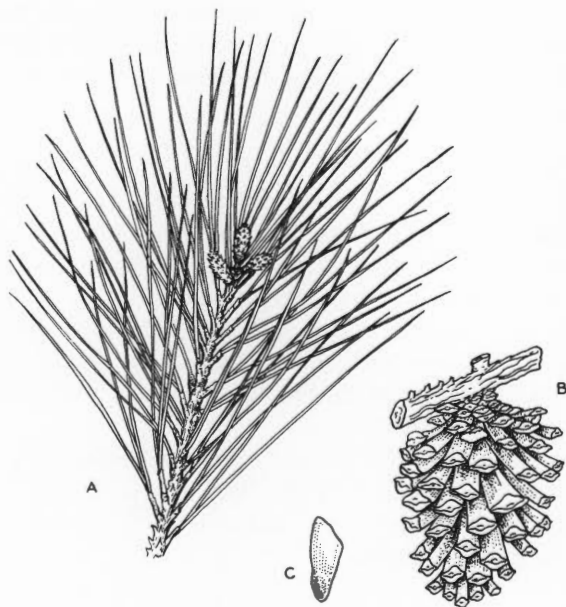
Shortleaf pine, sometimes called smooth-bark pine, grows fairly well on poor, sandy soils along with pitch pine, loblolly pine, and certain hardwoods.

Range:

Shortleaf pine grows from Central New Jersey to Florida and to eastern Texas, excepting the Appalachian and Mississippi Valley regions.

Leaves:

Needles: 3 to 4 inches long in clusters of 2, 3, or 4 on the same tree.



Shortleaf Pine

A. Leaves and flowers

B. Cone, on twig

C. Seed, with wing

The cluster of needles is surrounded by a persistent sheath at the base. The needles hang on the tree two to four years. They are dark green and pointed. (See figure A.)

Twigs:

Twigs are stout and brittle. When young, they often have a purplish color. Older twigs take on a reddish-brown color. The bark on older trees is reddish brown and broken into irregular, flat plates. The plates of bark peel off easily into many thin, filmy scales.

Flowers:

The male and female flowers occur separately on the same tree in early spring. The male flowers are pale purple, appearing at the base of the new growth. The pale, rose-colored, female flowers, usually two to four in number, are borne just below the end of the new growth. (See figure A.)

Fruit:

A cone, 1½ to 2½ inches long, maturing in two seasons. It often remains on the tree for two or more years. Cone scales have slightly enlarged ends with prickles, which are easily broken off. (See figure B.) The seeds are triangular and about 3/16 of an inch long. (See wing and seed, figure C.)

Uses:

The tree attains a height of 80 to 100 feet and becomes two to three feet in diameter on the better soils. Because the branches cannot stand shade, shortleaf pine prunes itself early, resulting in good quality construction lumber when the tree matures.

Shortleaf pine is capable of sprouting when young, and it is easily managed, making it one of the important yellow pines. In addition to being used for all types of rough construction lumber, it is used for pulpwood, boxes, crates, low-grade furniture, and container veneer. #

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

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

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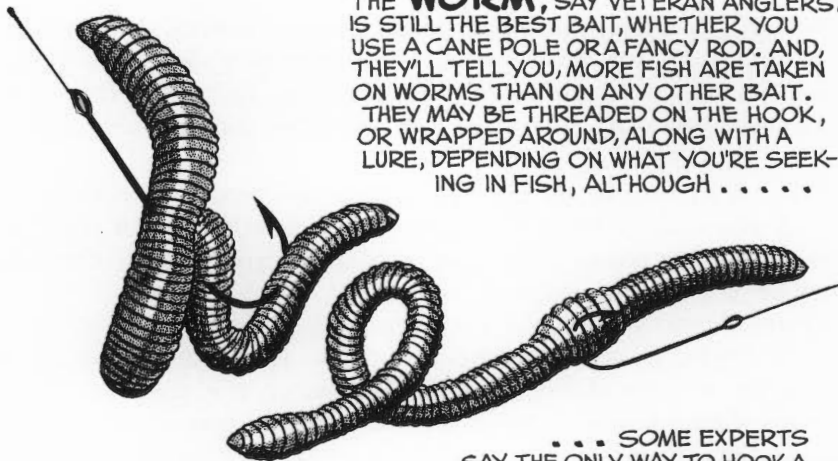
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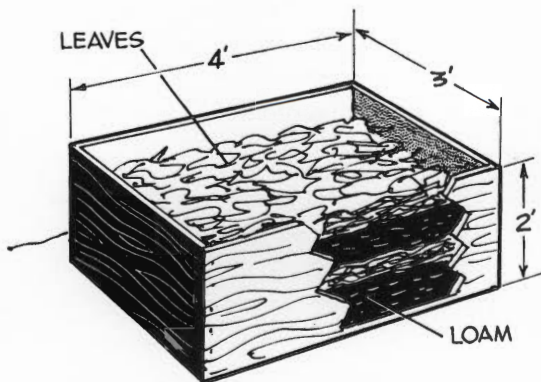
Fur, Fin and Campfire

By JACK SHERIDAN

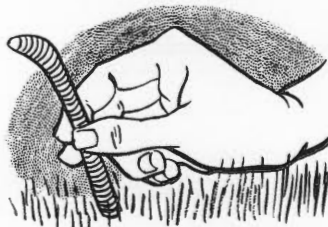
THE **WORM**, SAY VETERAN ANGLERS, IS STILL THE BEST BAIT, WHETHER YOU USE A CANE POLE OR A FANCY ROD. AND, THEY'LL TELL YOU, MORE FISH ARE TAKEN ON WORMS THAN ON ANY OTHER BAIT. THEY MAY BE THREADED ON THE HOOK, OR WRAPPED AROUND, ALONG WITH A LURE, DEPENDING ON WHAT YOU'RE SEEKING IN FISH, ALTHOUGH



. SOME EXPERTS SAY THE ONLY WAY TO HOOK A WORM IS ONCE, THRU THE MIDDLE.



To MAKE A WORM BOX, USE ABOVE DIMENSIONS, DRILL HOLES IN BOTTOM FOR DRAINAGE, PUT SCREEN OVER TOP TO FOIL BIRDS. USE LAYERS OF GARDEN LOAM, LEAVES AND CLIPPINGS. KEEP IN SHADY SPOT AND KEEP WELL MOISTENED.



GRAB QUICKLY, DON'T JERK OR THE WORM WILL BREAK AND DIE. HOLD FIRMLY AND IT WILL LOOSEN.



At NIGHT, HAVE RED COVER OVER THE FLASHLIGHT OR YOU'LL SCARE THE WORMS AWAY.

In Round Valley Reservoir only artificial bait and salmon eggs are permitted for fishing.

POLLUTION REPORT FORM

Pollution of our waters kills fish and wildlife, destroys property values, and endangers human health. To help fight pollution use this form, or a copy of it, to report cases of pollution.

A. Pollution is categorized into two types, **chronic** and **flash**. They are defined as follows:

Chronic—Pollution that is constant or occurs repeatedly, as often as three to four times per year. Fish are seldom found dead as the result of this type pollution because they do not have the opportunity to become re-established.

Flash—Pollution usually resulting in fish kills if toxic. Oil or other materials that coat the stream bottom may result in the destruction of fish habitat and/or waterfowl mortality.

B. How to Report:

Chronic—Complete this form in detail and send in as soon as possible.

Flash—Contact immediately the local Conservation Officer or alternate as identified on the following page. Then complete this form and send in as soon as possible.

Name of Water: Municipality: Co.

Condition of polluted water (indicate color, odor, presence of oil, other foreign matter):
.....
.....

Were dead or distressed fish observed: Yes....., No.....

Were dead or distressed waterfowl or furbearers observed: Yes....., No.....

Area contaminated (distance in feet downstream from point of introduction):
.....

Suspected source of pollution (if known):

Date pollution was observed Time a.m. p.m.

Reported by Tel. No.....

Address

If a flash pollution, to whom was it reported: Name

..... Date..... Time..... a.m. p.m.

Make a sketch of the immediate area on blank sheet of paper. Label it and send it in with the report.

Conservation Officers

Northern Districts 1 and 2

District Conservation Officer

John C. O'Dowd, 57 Hillcrest Ave., Washington 07882, 201-689-2158

District 1

Counties of Sussex, Passaic, Morris, Essex, Union, Hudson, and Bergen

Assistant District Conservation Officer

Morris-Essex-Hudson—Donald B. Patterson, 83 Mountain Heights Ave., Lincoln Park 07035, 201-694-0246

Conservation Officers

Sussex—Harry J. Morrison, 14 Bank St., Sussex 07461, 201-875-5858

Albert L. Wilbert, 100 Signal Hill Trail, Sparta 07871, 201-729-6286

Sussex-Morris—James R. Parrish, 10 Jennings Rd., Box 665, Hamburg 07419

Morris-Somerset—Hudson G. Amory, Box 394, Sterling Ave., Mendham 07945, 201-543-4005

Morris—Harold P. Chitwood, Box 37, North Rd., Chester 07930, 201-879-5123

Passaic-Bergen—Arthur E. Wendelken, R.F.D. 3, Newfoundland 07435, 201-728-8864

District 2

Counties of Warren, Hunterdon, Somerset, Mercer, and Middlesex

Assistant District Conservation Officer

Hunterdon—Wm. L. Jeschke, Box 422, R.D. 1, Ringoes 08551, 201-782-7245

Conservation Officers

Warren—Robert J. Burns, Ext. Locust Lake Rd., Box 89A, R.D. 1, Blairstown 07825, 201-459-4839

Edward J. Davis, Midland Ave., Box 217-D, R.D. 1, Washington 07882, 201-689-4923

Hunterdon—George M. Aber, Sr., Norton-Charleston Rd., Hampton, P.O. Box 5121, Clinton 08809, 201-537-2185

Hunterdon-Somerset—Norman S. Gebhart, Hollow Rd., Skillman 08558, 609-466-3645

Somerset-Union—Robert T. Troisi, Nimitz St., Box 669, Somerville 08876, 201-722-3581

Mercer—Lentho Burns, 3885 Quaker Bridge Rd., Trenton 08619, 609-587-4411

Middlesex—Frank Glotta, 670 Old Stage Rd., E. Brunswick 08816, 201-3673

Southern Districts 3 and 4

District Conservation Officer

Alfred S. Jones, Weekstown-Pleasantmills Rd., R.D. 1, Sweetwater, Hammonton 08037, 609-561-2569

District 3

Counties of Monmouth, Ocean, and Burlington

Assistant District Conservation Officer

Monmouth—Matthew F. Ferrigno, 81 Hope Rd., Eatontown 07724, 201-741-7354

Conservation Officers

Monmouth—Karl Kristiansen, 41 Sunnycrest Ct., Little Silver 07739, 201-747-4327

Ocean—H. Howard Harrison, Chapel St., Box 266, Waretown 08758, 609-698-8541

Thomas J. Mulvey, 401 Tudor Ave., Pine Beach 08741, 201-349-3705

Charles Torluccio, 614 Willow St., Lakehurst 08733, 201-657-6301

Burlington—Everett Carmelia, W. Lake Ave., Lake Pine, R.D. Marlton 08053, 609-983-3125

Alfred P. Nasiatka, Box 76, U.S. 9, New Gretna 08224, 609-296-4377

Raymond Fennimore, Ridge Rd., Vincetown 08088, 609-463-2448

District 4

Counties of Atlantic, Cape May, Camden, Cumberland, Gloucester, and Salem

Assistant District Conservation Officer

Cape May—Francis L. Jones, 10524 Second Ave., P.O. Box 128, Stone Harbor 08247, 609-368-7151

Conservation Officers

Atlantic—Joseph F. Gallo, Weymouth Rd., Box 196, Mays Landing 08330, 609-625-4391

Edward F. Cartier, Somers Pt.-Mays Landing Rd., Box 216, R.D. 1, Mays Landing 08330, 609-927-2812

Cape May—William D. Nevins, Lake Drive & Maple Rd., Dennisville 08214, 609-861-4751

Camden—Wm. P. Hutchison, White Horse Pike, R.F.D. 1, Box 88, Berlin 08009, 609-767-1902

Cumberland—Hershel Beebe, Eldora Rd., Woodbine 08270, 609-785-0973

Kenneth Arnold, 84 Columbia Ave., Vineland 08360, 609-691-8861

Gloucester—Walter Mabey, Jr., 3 Cherry Lane, Greenfield Village, Woodbury 08096, 609-848-6573

Bruce Young, 19 Zane St., Glassboro 08028, 609-881-0216

Salem—Marco S. Busnardo, Willow Grove-Deerfield Rd., Olivet, R.D. 1, Elmer 08318, 609-358-8504

Coastal Patrol

Chief—Newman Mathis, 8 N. Holly Drive, Tuckerton 08087, 609-296-2742

Captain—John Russack, 65 N. Main St., Mullica Hill 08062, 609-478-2306

Captain—Robert French, 32 Shady Lane, Absecon 08201, 609-646-0899

If a Conservation Officer in your area can not be contacted, try to contact one of the following in the order listed:

Bureau of Fisheries Laboratory, Lebanon	201-236-2313
Nacote Creek Research Station, Absecon	609-641-0889
A. Bruce Pyle	201-681-3674
Walter Robinson	201-479-4369

Council Highlights

March Meeting

The regular monthly meeting of the Fish and Game Council was held at the Charles O. Hayford Fish Hatchery in Hackettstown on March 19.

Logan Pond

Director MacNamara advised that Interstate Highway 295 adjoins Logan Pond in Gloucester County and the Transportation Department plans to install a fence along the roadway which will close off all access to the pond. Further than this, the state police have declared that they will strictly enforce the "no parking" regulation along the highway. In view of this, and since there is no other established means of access to Logan Pond, Conservation Officer Mabey has recommended that the pond not be stocked this year and that the fish be placed in other lakes in the vicinity instead. The Director estimated that it would cost approximately \$50,000 to build a new access road into the pond since it will be necessary to construct a bridge over Repaupo Creek of sufficient capacity to handle our stocking trucks.

Councilman McCloskey made a motion that, in view of the circumstances, Logan Pond not be stocked and the fish be equitably distributed in other waters in that area. Motion was seconded by Councilman Wilson and passed.

Russian Fishing Vessels

Chairman Hart commented on recent incidents when Russian fishing vessels were purported to have damaged the lines of a New Jersey commercial fisherman and to have fished in the Atlantic Ocean within the 12-mile territorial limit, contrary to the provisions of the cooperative fishing agreement between the United States and Russia. In the final analysis, Chairman Hart stated it was questionable whether the Russian vessel had actually transgressed beyond the lawful fishing limits; furthermore, it was believed that the cutting of the American's fishing line was purely accidental. The Coast Guard is maintaining close surveillance of the area.

Bow Season

The Council noted correspondence protesting any shortening of the bow and arrow deer season. By motion of Councilman McCloskey, seconded by Councilman Alampi, and passed, the letters were referred to the Game Committee to receive thorough study and to be given consideration when final action is taken on setting the 1968 hunting seasons.

Fees Increase Opposition

Numerous letters from persons opposed to any increase in fees were re-

. . . Council Highlights

ceived. By motion of Councilman McCloskey, seconded by Councilman Marron, and passed, the Council referred the letters to the Finance Committee for careful review and study.

Salt Water Fishing License

Reference was made to correspondence and the generally unfavorable reaction generated throughout the state by rumors that a salt water fishing license might be enacted. Chairman Hart emphasized that the Council has not proposed and does not anticipate proposing any action on a salt water license. Brief discussion followed regarding methods of increasing revenue, and Councilman Alampi made a motion that the two bills previously proposed by the Council to provide for a Deer Stamp and a Use Stamp be withdrawn, and that, instead, a bill to provide a \$2.00 across-the-board increase in license fees and a \$25.00 non-resident hunting license fee be introduced. Motion was seconded by Councilman Totten who stated that he represents six boards of agriculture who are all in favor of an across-the-board license increase and also in favor of a Use Stamp on Fish and Wildlife Management Areas. Motion failed to pass with Councilman Totten, Wilson, and Alampi voting in favor of and Councilman Marron, Reid, Allocca, McCloskey, Space, and Hart voting against the motion.

Farm Bureau

Chairman Hart read a letter he received from Mr. C. H. Field, Executive Secretary of the New Jersey Farm Bureau, suggesting that Farm Bureau directors and leaders meet with the Fish and Game Council, possibly for dinner, to discuss mutual interests and problems.

Financial Measure

Councilman McCloskey reported that at the combined meeting of the Fresh and Salt Water Fisheries Committees held in Trenton on March 5 the members went on record to recommend complete support of Assembly Bill 361 at present as an emergency financial measure.

Muskrat Season

Also, they went on record to extend the muskrat trapping season to March 31 if biologists so recommended and the Governor would declare an emergency situation exists.

Former Councilman Charlesworth

Chairman Hart referred to the libel suit he had filed against Mr. James M. Charlesworth, Jr., former Fish and Game Councilman, who had made public charges against Chairman Hart. The Chairman stated that his principal purpose in suing was not for monetary return but for a complete retractment of

the statements made by Mr. Charlesworth. He read to the Council a statement signed by Mr. Charlesworth retracting the charges made.

By motion of Councilman Marron, seconded by Councilman McCloskey, and passed, the Council directed that the statement, as follows, be included in the minutes:

In April, 1965, while serving as a Sportsman representative on the New Jersey Fish and Game Council, I wrote an article dealing with the menhaden controversy in Delaware Bay. This article was published in various newspapers in New Jersey and Pennsylvania. The article contained statements of a serious nature against Captain David H. Hart, who was then and still is serving as Chairman of the Council. These statements were made upon information furnished to me which I believed to be true. I have since learned that the information as interpreted by me was not correct and my criticism of Captain Hart was unjustified. I hereby retract the statements I made and regret any harm or annoyance which has been caused to Captain Hart.

Signed: James M. Charlesworth, Jr.

State Line Posting

A letter was received from the Passaic County Fish and Game Protective Association advising that the posting of the state line between New York and New Jersey had been completed and expressing their thanks to Conservation Officer Arthur Wendelken for his assistance on this project.

Director MacNamara stated that this was a large task and the Passaic County Fish and Game Protective Association was to be commended for their cooperation and efforts. By motion of Councilman McCloskey, the Council directed Mr. MacNamara to write a letter of appreciation to the Passaic County Fish and Game Protective Association for carrying out this very worthwhile project. Motion was seconded by Councilman Wilson and passed.

Square Circle Club

At the request of the Square Circle Club, Chairman Hart extended an invitation to the members of the Council to attend a dinner meeting of the club on Thursday night, April 4, at Clementon.

Firearms Bill Hearing

Councilman McCloskey called attention to the fact that the public hearing on a firearms bill had been scheduled to be held on April 6. While Councilman McCloskey had represented the Council at a previous similar hearing, he stated that he would prefer to participate in the Trout Tour this year with his family. It was the consensus of opinion that Mr. McCloskey had done an excellent job of representing the Council at the previous hearing and Chairman

. . . Council Highlights

Hart had requested him to be the Council's representative at the hearing scheduled for April 6.

Chick Program

For the information of those present, it was announced that persons inquiring about the 4-H program are being advised that the program is being continued this year on the same basis as last year, but that no new cooperators will be added.

Trapping Activities

Art Monto of the New Jersey Trappers' Association questioned the recent extension of the muskrat trapping season to March 31 on a state-wide basis. It was pointed out that the trappers in South Jersey had requested an extension of the season because frozen marsh conditions had prevented a sufficient harvest of rats to protect the marshes from damage that would result if the high population of animals was allowed to remain.

Mr. Monto also questioned the trapping of beaver by state personnel a month or two preceding the opening of the trapping season. He was advised that state personnel were sent in response to requests for assistance from landowners who were suffering damage from the activities of beaver.

Reports and Tours

The meeting recessed at 1:25 p.m. for lunch. During the luncheon the Bureau Chiefs reported on the activities of their respective bureaus. The meeting was adjourned at the close of the luncheon and the Councilmen toured the Hatchery and the Rockport Game Farm. #

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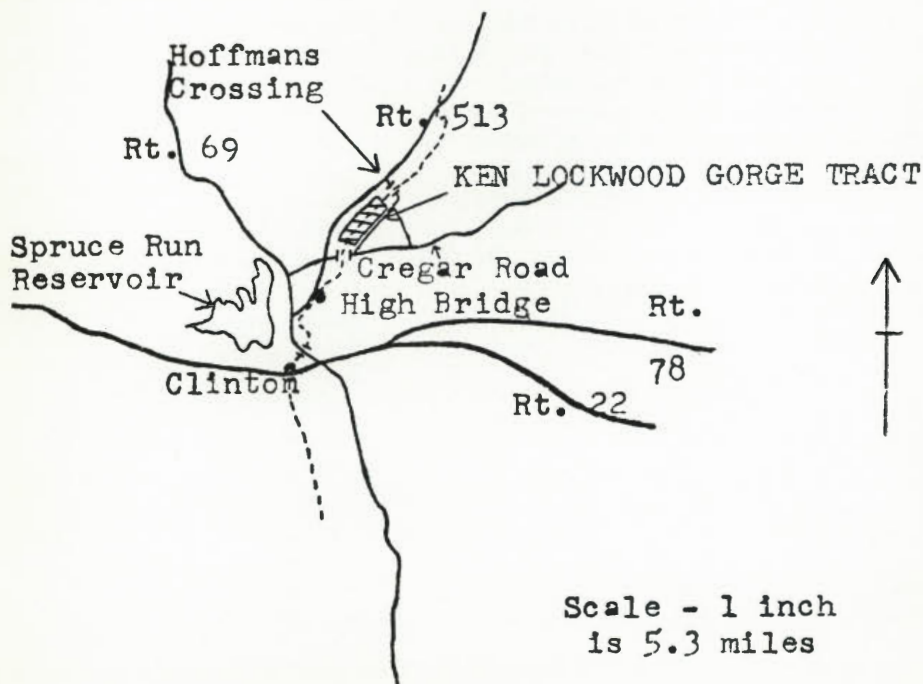
Guide to the

Ken Lockwood Gorge Tract

The Ken Lockwood Gorge Fish and Wildlife Management Area, which consists of 213 acres, is located in Lebanon Township, Hunterdon County, approximately 2 miles north of the town of High Bridge.

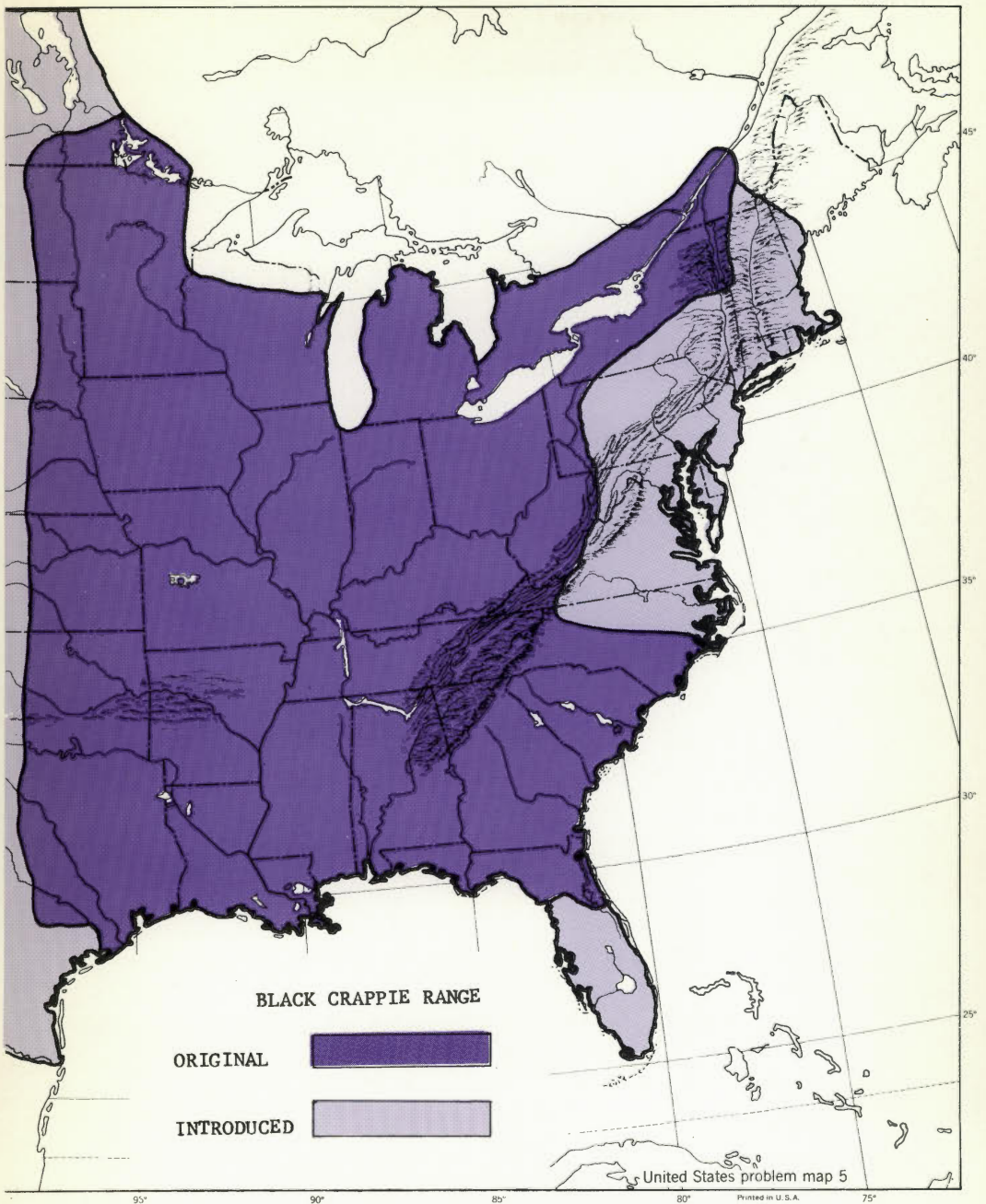
The area, through which flows the South Branch of the Raritan River, is well known for its excellent fly fishing waters. In addition to fine trout fishing, the area offers limited opportunities for squirrel, grouse, and deer hunting.

To reach the Ken Lockwood Gorge Tract from the town of High Bridge, take Route 513 north out of High Bridge for approximately 2 miles and turn right at Cregar Road. Turn left after crossing the bridge and follow the river north. To reach the northern end of the tract, proceed approximately 4 miles further north on Route 513 and turn right at Hoffmans Crossing. Turn right at the first crossroad and follow the river south.



Violators Roundup

<i>Defendant</i>	<i>Offense</i>	<i>Penalty</i>
James Amore, 142 Dearborne Ave., Blackwood	Fish no license	20.
Roberto T. Luciano, Box 64, Kings Hwy., Mickelton	Fish no license	20.
Victor Totoris, 641 Olympia St., Mantua	Fish no license	20.
Robert Woznarski, 1167 Mechanic St., Camden	Fish no license	20.
Joseph Cossaboon, Jr., 215 E. Commerce St., Bridgeton	Fish no license	20.
Harry Newman, S. Main St., Shiloh	Fish no license	20.
Henry Wiggins, 128 S. East Ave., Bridgeton	Poss. undersize striped bass	10.
Edward Maddock, 1131 S. Clinton Ave., Trenton	Fish no license	20.
Louis Gehringer, 9833 Wistaria St., Philadelphia, Pa.	Procured license wrongfully	100.
Allen L. Cabrera, 121 N. Centre St., Merchantville	Fish no license	20.
Lius Gonzalez, 517 South 6th St., Vineland	Fish no license	20.
William Borer, 23 Valley Vale Dr., Old Bridge	Fish no license	20.
Earl Peterson, 719 No. 2nd St., Millville	Fish no license	20.
John Kulyik, 213 Tilford Road, Somerdale	Fish no license	20.
Herbert Bonchi, 117 Haines Rd., Moorestown	Fish no license	20.
Leon Mienstein, 253 Ramblewood Pl., Moorestown	Fish no license	20.
John Malenich, 402 Lafayette Ave., Passaic	Fish no license	20.
Willie Smith, 799 So. Clinton Ave., S. Plainfield	Hunt no tag displayed	5.
Given Johnson, 6147 Catherine St., Philadelphia, Pa.	Fish no license	20.
Charles Wright, 7 Hollow Road, Levittown, Pa.	Gun on Sunday	20.
Gary Weatherby, 3025 Magee Ave., Philadelphia, Pa.	Gun on Sunday	20.
Joseph Mesner, 70 Twin Oaks Dr., Levittown, Pa.	Gun on Sunday	20.
Steven A. Nemeth, 333 Kirk Land St., Perth Amboy	Fish no license	20.
John J. Pirchio, 97 Turret St., Park Ridge	Fish no license	20.
Jerome J. Petria, 125 W. Skyline Lakes, Wanaque	Fish no license	20.
John Montana, 92 Long Pond Rd., W. Milford	Fish no license	20.
Frank W. Peer, 16 Washington Rd., Ogdensburg	Loaded gun in auto	20.
Frank W. Peer, 16 Washington Rd., Ogdensburg	Uncased weapon	100.
Irving L. Biggs, Box 127, R.D. #1, Woodbine	Uncased weapon	100.
Frank Harris, Jr., 1243 Mt. Vernon Ave., Gibbstown	Fish no license	20.
Robert Elker, 6 Berg Ave., Elberon	Fish no license	20.
Donald Coleman, 715 Dock Street, Millville	Fish no license	20.
Rigoberto Marreso, 521 North 2nd St., Vineland	Fish no license	20.
Harry Bowker, Main St., Fairton	Poss. for sale undersize striped bass	20.
Harry Bowker, Main St., Fairton	Poss. for sale undersize striped bass	20.
Gary Pelton, 1450 Begonia St., Browns Mills	Fish no license	20.
Charles Hollinsworth, 6419 Union Ave., Cleveland, Ohio	False info. in procuring license License revoked by court	20.
Daniel J. Sullivan, 122 Oakridge Ave., Nutley	Fish no license	20.
John Wilson, 10 Washington Ave., Paulsboro	Poss. undersize large-mouth bass	20.
Christopher Riggins, Box 92, R.D. #4, Farmingdale	Loaded gun in auto	20.



Present approximate range of the black crappie
in the eastern portion of North America

New Jersey Outdoors
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