CARP CAUGHT IN PERKIOMEN CREEK

Photo by LaMar Mumbar
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JUST STILL-FISHING

In the past, I have commented frequently on the various forms of fishing indulged in by our Pennsylvania fishermen. While a constantly increasing number of anglers are turning to fly fishing for trout, and bait casting for bass and warm water game fish, artificial lure fishing, we still have a large group of anglers who derive great pleasure in still-fishing for popular pan fish such as the sunfish and catfish, and for suckers and carp. I am convinced that no finer cross-section of inland water fishing can be obtained than this balanced interest which exists for the various forms of angling. Still-fishing is, after all, the most elemental type of fishing, and it offers opportunity for restful recreation not excelled by any other method.

But we have neglected an angle to still-fishing that is perhaps most important. I refer to its appeal to the beginner in fishing, its appeal particularly to our sportsmen and sports-women of tomorrow, the boys and girls who today find healthful recreation along our inland waterways. For this group, with perhaps a few exceptions, the appeal of fishing with a can of worms, an old cane or cut pole and other equipment to match serves as an opening wedge to the splendid sport that they may find in later years on our streams and lakes. We must not lose sight of the fact that first of all, interest must be awakened in fishing for the boy or girl. Later in life, of course, that interest will probably expand to include fly fishing and other more intricate types of angling. Still-fishing, then, must be reckoned on this score alone a vital part of modern angling.

It must not be supposed, however, that this type of angling requires no skill. To the contrary, some of our most skillful anglers today are still-fishermen, that is if we take into consideration their knowledge of stream conditions and of the habits of the fish they angle for. Take, for instance, a veteran sucker fisherman. Nine times out of ten, if you talk to him, he can give you some angles on the fishing game that may never have occurred to you. He may tell you, for example, if it is in early spring, just how far upstream the sucker run has progressed; his observations on the condition of the water as it affects the feeding of the sucker, on the position of the baited hooks as they rest on the stream bed to be most effective and various other features of sucker fishing will indicate a striking knowledge of this phase of angling. He has amassed, during many quiet hours spent on the banks of a favorite sucker fishing hole, many practical facts relative to the fish life of the inland waters. In other words, he is a true exponent of greater knowledge of the Waltonian sport.

Tolerance is a fine virtue and I am convinced that our great fraternity of fishermen possess it to a marked degree. "Each man to his own way of fishing" seems to be an accepted creed with anglers, a creed that tends to develop fellowship of the highest character.

In the large group of still-fishermen are many fine sportsmen. It is my belief that each year there is a growing tendency to take, not all an antiquated law permitting the capture of, say, 25 suckers in a day's fishing, species, but only enough to provide a good meal for the family. With the cooperation of our still-fishermen and other groups indulging in the various forms of angling, we are certain to achieve in the years to come the better fishing which we desire.

Commissioner of Fisheries
MOST of us know that the majority of our trout flies have a prototype, and the question naturally arises whether bass flies, too, were not patterned after natural insects. From the year 1436, when Dame Juliana de Berners wrote her "Treatise of Fys shyng wyth an Angle," great strides have been made in the determination, imitation, and utilization of insects on which fish feed. Trout stream insects naturally received the greatest amount of attention, for the trout is an inherent surface feeder; always has been the most popular fish, and the majority of aquatic insects fall within the range of its diet. Bass on the other hand were more or less neglected. We have no close imitations of natural insects; the flies we use are merely large trout flies or the gaudy creations which arouse the curiosity of the fish or appeal to its hunger. Bass like trout have a group of insects on which they prey—insects, dull of coloration, larger than the usual run of trout flies and considerably more difficult to imitate. With them we shall deal.

Dragon Flies and Damsel Flies

Among the most ubiquitous of the larger insects are the dragon and damsel flies. In our childhood days they were known under the dreaded names of "snake feeders" and "snake doctors," and we had no Bảo and mistyw the tales woven around these swift flying creatures. As we grew older, and never having witnessed aid being given to moribund reptiles, we came to ridicule these stories and accepted the insect for the harmless creature that it is.

Both the dragon and damsel flies belong to the order of Odonata and their life histories in general are very similar. The nymph is an aquatic insect and is commonly found under stones, among dead leaves and other debris on the stream bottom. Preying on small fish, nymphs and the larvae of other insects, it is a voracious creature, occasionally turning cannibal and eating its own kind. How voracious they are may best be illustrated by an experience that occurred a few years ago.

On the Patapsco River in Maryland, while searching for dragon fly nymphs which I intended placing in my aquarium, I observed a curious phenomenon. This was a multitude of small transparent eels known as elvers, which were making their wiggling way in broad daylight, upstream to the fresh water. Never before nor since have I witnessed anything like it! Scooping up some twenty, all of which were the same size—about two and a half inches long—I placed them in the same container with two large dragon fly nymphs I had previously caught. The following morning only two of the eela remaining—-the rest had all been killed by the voracious insects. The two survivors were later presented to the Philadelphia Aquarium, and to the best of my knowledge are still there.

The above incident fittingly typifies the killing lust with which these insects are afflicted. Living thus, and killing whatever it can, the time rapidly approaches when it transforms into the winged fly.

At this period, the insect crawls up the stems of convoluted plants and just above the water its metamorphosis is effected. Often times we can see these cast skins sticking fast to some support, usually in a sprawling attitude close to the water. How the perfect stage it becomes an animated creature, darting here and there on swift sure wings in search of its principal food, mosquitoes, gnats and midges. Like an avenging demon bent on swift destruction, it hovers down on these luckless pests—so swiftly that the eye can scarcely follow it, probably later reappearance and resting unobtrusively on the tip of our fish rod. It is no uncommon sight to see them flying around ovolooping in pairs; and the male clasping her prothorax with his forelegs, his body sticking straight up in the air, is oft times carried beneath surface of the water as the female descends to insert her eggs thickly in the green stems of aquatic plants.

Some of the largest species of dragon flies have a wing spread in the neighborhood of five feet. The belated fly seldom attain the size of the one I pictured. This sketch was purposely enlarged almost one and a half times in order that it would fit the sheet.

By remembering the following simple facts, the two insects may be readily separated and identified. The wings of dragon flies are noticeably different in shape and venation and are always extended horizontally from the body when the insect is at rest. Damselfly flies on the other hand are much the opposite; the wings are essentially alike and are usually closed above the body during repose. The damselfly nymph may be recognized by slender body and by the presence of three leaf like tracheal gills attached to the tip of the abdomen. These are not present in the nymph of the dragon fly.

From autopsies made on various bass I killed, I am led to believe that the nymph is much preferred as an article of food. Seldom have I found evidence of a winged fly being eaten, nor from a lifetime's experience on our streams, can I recall many instances where bass rose naturally to the fly. It has frequently been brought to my attention that our Pennsylvania bass are not as active in surface feeding, as are some of other states—a fact which no doubt accounts for the presence of a majority of nymphs in the stomachs of fish that were examined.

The Helgramite

The helgramite belongs to the order of Ephemeroptera and is known among entomologists as Corydalis cornuta. Found under the stones in the swift shallow ripples, this carnivorous insect is so common that a description appears unnecessary.

It is black in color, visous in appearance and equipped with strong, predatory jaws or mandibles. During the winter they can be found buried some distance below the stream bed. In various localities they are known under different names such as Clippers, Dobsons, Hell Devills, Hell Divers. Common bugs and others, but regardless of what they are called, this insect is an universal favorite with the live bait fisherman.

The mature larvae (about three inches in length) leaves the water in late May or June and pupates in cavities under flat stones near the stream. The pupae at this time especially after the shedding of the last larval skin, is almost white in color. About a month after the period of emergence the metamorphosis is complete and the adult insect is commonly observed flying over the water after sundown. They are more or less crepuscular and are often attracted to lights at night.

The male in the adult stage is conspicuous with his extra long mandibles (over an inch in length), which are used in clasping the female while mating. The length of life in the winged insect varies from one to two weeks, a period strikingly in contrast to the three years spent in the sub-aqueous larva stage. Eggs are laid on the rocks under which the larvae live. These egg masses average seven-eights of an inch in length and are covered with a white or cream colored secretion. Sometimes they are so abundant as to make the rocks look as though some one had splashed whitewash upon them profusely with a brush.

For those desiring of securing more information on this insect, insofar as relating to bass fishing is concerned, may I refer them to a further article of mine in the November, 1934, issue of the ANGLER.

The Stone Fly

The stone fly (order Plecoptera) is generally regarded as a trout fly, yet it is quite commonly found on our bass streams, especially those that flow swiftly over a rocky bottom. The cast skins of the nymph—remarkably like the natural insect and with a gaping slit on the back where the fly emerges—-are often at the rocks bordering the stream. Although stone flies vary from a half inch and a half in length, I believe that only certain of the larger species of the genera Perlodes and Pteronarcys are favored as food.

Bass in general like a large meaty bait. Although we frequently hear of trout sixteen to eighteen inches long being taken on a number twenty fly, yet it is an extremely rare occurrence when a bass of the same size would pay any attention to such a small offering. The remedy then would be to construct our imitations of the same size as the natural insect. But it is not so simple as all that; the difficulty lies in the size—many of our insects vary from two to three inches in length, and regardless of how closely we imitate them, the deception is still too apparent. The smaller the fly, the more natural it appears to the fish—a theory borne out by the continual use of small flies for trout when the streams are low and clear. And bass are much like trout insofar as detecting anything unnatural in appear-
ance. All of which, while still not offering any solution to the problem, nevertheless explains the principal reason why bass stream insects are not more closely approximated.

The Crane Fly

Crane flies belong to the order of Diptera, family Tipulidae, and are readily distinguishable by their long fragile legs. The larvae of most species live in the earth, but some exist in the water logged stems of dead twigs and others in the muck and dead leaves of the stream bottom. Although the adult fly is most abundant in the fall, yet certain species can be seen flying over the water throughout the summer.

The Fish Fly

The larva of Chauliodes lamasi, the fish fly, resembles the hermitante very much in its general appearance. In fact, it is another of the Corydalidae and like the Dolson makes its home under the stones in the stream bed. This insect seems to prefer waters of low temperature, especially those that are capable of supporting both trout and bass. I have found it on Pine Creek, Kettle Creek and the upper Penns Creek—all fairly cold streams.

The adult fly, conspicuous by its light brown and black barred wings, appears over the water in May and early June. On streams where this insect thrives, the larva appears to be quite plentiful, but I have never found the winged fly in great abundance.

Probably the greatest number I have seen in the air at one time was a few years ago on Weiker Run, when I counted fourteen that were within the range of my vision. At that time, I procured a number of specimens which I later used in fashioning the fish fly—a trout fly that has since proved to rank among the highest. Naturally, the fly is considerably smaller than its prototype—a fact that does not appear to lessen its fish taking propensities in the least. On the other hand, I have tried this fly almost to the exact size of the natural insect, but it appears to be no more attractive than any other creation.

In general, with the exception of the shad and some large caddis flies, insects indigenous to certain streams—the flies treated above represent the principal natural insect food of the bass. We have in addition the grasshoppers, locust, etc.—land flies that appear on the water only as casualties, and in an article of this kind, it is impossible to treat them all in detail.

JULY STOCKING

During July, hatcheries of the Fish Commission distributed a total of 51,442 fish of the various species in Pennsylvania waters. Included in the distribution were 16,000 brook trout averaging 8 inches in length, 6,000 brown trout fingerlings, 24,326 brown trout from 8 to 14 inches, 3,764 rainbow trout, 9 to 14 inches, 30 adult bass averaging 12 inches, 40 catfish averaging 7 inches, 30 adult suckers averaging 10 inches, 53 adult sunfish averaging 5 inches, 320 adult perch averaging 8 inches and 505 muskellunge from 6 to 12 inches.

The following waters in the different counties were stocked:

BEDFORD—brook trout, Cove Creek, tributary Raystown Branch Juniata River, Sherman's Valley Run, tributary Raystown Branch Juniata River.

BLAIR—brown trout, Clover Creek, tributary Frankstown Branch Juniata River; brook trout, Pine Run, tributary Frankstown Branch Juniata River, Frankstown Branch of Juniata River.

BUCKS—brown trout, Pine Creek, tributary North Branch Neshehiny Creek, Mill Creek, tributary Neshehiny Creek; brook trout, Cooke Creek and Durham Creek, tributary Delaware River.

CAMBRIA—brook trout, Beaverdam Run or Big Killbuck Creek, tributary Clearfield Creek.

CARBON—brown trout, Hayes Creek, tributary Lehigh River, Pohopoco Creek, tributary Lehigh River; brook trout, Drakes Creek, tributary Lehigh River; rainbow trout, Big Bear Creek, tributary Lehigh River.

CENTRE—brown trout, Spring Creek, tributary Bald Eagle Creek, Bald Eagle Creek, tributary West Branch Susquehanna River, Logan Branch, tributary Spring Creek, Elk Creek, tributary Pine Creek, Little Moshannon or Black Moshannon Creek, tributary Moshannon Creek, Marsh Creek, tributary Bald Eagle Creek; brook trout, Six Mile Run, tributary Moshannon Creek; rainbow trout, Spring Creek, tributary Bald Eagle Creek, Penns Creek, tributary Susquehanna River; catfish, Little Moshannon Creek or Black Moshannon Creek, tributary Moshannon Creek; suckers, Little Moshannon Creek or Black Moshannon Creek, tributary Moshannon Creek; sunfish, Little Moshannon Creek or Black Moshannon Creek, tributary Moshannon Creek; yellow perch, Little Moshannon Creek or Black Moshannon Creek, tributary Moshannon Creek.

CHESTER—brown trout, White Clay Creek, tributary Christians Creek, rainbow trout, White Clay Creek, tributary Christians Creek.

CLEARFIELD—brown trout, Mosquito Creek, tributary West Branch Susquehanna River; brook trout, Montgomery Creek, tributary West Branch Susquehanna River.

CLINTON—brown trout, Left Branch Young Woman's Creek, Young Woman's Creek, tributary West Branch Susquehanna River, Lick Run, tributary West Branch Susquehanna River; brown trout, Right Branch Young Woman's Creek, tributary Young Woman's Creek; brook trout, Cedar Run, tributary Big Fishing Creek, Big Fishing Creek, tributary Bald Eagle Creek; rainbow trout, Big Fishing Creek, tributary Bald Eagle Creek.

COLUMBIA—brown trout, Fishing Creek, tributary West Branch Susquehanna River.

CRAWFORD—brook trout, Little Sugar Creek, tributary French Creek, muskellunge, Connecut Lake, Drakes Pond.

DAUPHIN—brook trout, Stoney Creek, tributary Susquehanna River.

DELAWARE—brown trout, Ridley Creek, tributary Delaware River.

ELK—brown trout, West Clarion Creek, tributary West Branch Clarion River; fingerling brook trout, Little Wild Creek, Medix Run, tributary Bennett's Branch, Moshannock State Forest.

ERIE—muskellunge, Edinboro Lake, Lake LeBoluf.

FAYETTE—brook trout, Mill Run, tributary Indian Creek; rainbow trout, Dunbar Creek, tributary Youghiogheny River.

FRANKLIN—brook trout, Conococheague Creek, tributary Conococheague Creek; brook trout, tributary Potomac River.

FULTON—brook trout, South Branch Creek, tributary Brush Creek, Roaring Run or Meadow Ground Run, tributary Cove Creek, Oregon Creek, tributary Sideling Hill Creek.

HUNTINGDON—brook trout, Laurel Run, tributary Standing Stone Creek.

INDIANA—brook trout, Little Mahoning Creek, tributary Mahoning Creek.

JUNIATA—brown trout, Licking Creek or East Licking Creek, tributary Tuscarora Creek; brook trout, Licking Creek, tributary Tuscarora Creek.

LACKAWANNA—brown trout, Lehigh River, tributary Delaware River.

LEHIGH—brown trout, Cedar Creek, tributary Little Lehigh River; rainbow trout, Mountin Creek, tributary Swabia Creek, Cedar Creek, tributary Little Lehigh River.

LUZERNE—brown trout, Lehigh River, tributary Delaware River; brook trout, Wapwallopen Creek, tributary North Branch Susquehanna River.

LYCOMING—brown trout, Lycoming Creek, tributary West Branch Susquehanna River.

McKEAN—brown trout, South Branch Kinzua Creek or Watermill Creek, tributary Allegheny River; brown trout, Kinzua Creek, tributary Allegheny River.

MIFFLIN—brook trout, Treater Valley Run, tributary East Branch Kittacoquill Creek.

MONROE—brook trout, Brodheads Creek, tributary Delaware River, Middle Branch Brodhead Creek, tributary Brodheads Creek; brook trout, Pohopoco Creek, tributary Lehigh River; black bass, Penns Creek, tributary McMichaels Creek.

NORTHAMPTON—brook trout, Bushkill Creek, tributary Delaware River.

PIKE—brown trout, Raymonsdale Creek, tributary Delaware River.

POTTER—brook trout, West Branch Pine Creek, tributary Pine Creek.

SCHUYLKILL—brown trout, Lost Creek, tributary Little Schuylkill Creek.

SOMERSSET—rainbow trout, Laurel Hill Creek, tributary Casmelina Creek.

TIOGA—brown trout, Pine Creek, tributary West Branch Susquehanna River.

WARREN—brown trout, Pine Creek, tributary Caldwell Creek, Triestea Creek, tributary Allegheny River.

WAYNE—brown trout, Dyberry Creek, tributary Lackawaren River, West Branch Lackawaren River, tributary Lackawaren River.
DURING the past several years Bucktail fishing has come to the front to such a degree that one can scarcely spend a day on any of our prominent trout streams without encountering some fishermen with a bucktail dangling at the end of a split-shot laden leader.

In 1934, Mr. Knight wrote an article for "Outdoor Life" entitled, "The Secret of Catching Large Browns." This article was so interesting and sounded so logical that I decided to spend a good part of my time a-stream experimenting with these new devisers of the piscatorial tribe. Many types and sizes of Bucktail lures can be purchased at the sporting goods stores, but for best results, I believe most anyone can tie an assortment that will answer better for various stream conditions. Several sizes and patterns should be carried and for myself I prefer to carry five patterns tied on hooks sizes 6 to 10, although three patterns will suffice.

The type of Bucktail to be fished depends largely on the kind of trout for which you are fishing, and the type of water.

I have proven to my satisfaction that Rainbow trout are partial to a combination of gray and silver, while Brown trout are more easily deceived with brown, red and blue.

I always carry these patterns tied with Jungle Cock shoulders, and without, and have repeatedly cast over a trout with a plain bucktail, and after substituting it with the same pattern tied with Jungle Cock shoulders have had the trout strike on the very first cast.

It is not to be construed that Bucktail lures are only intended for trout, for large bass are as readily tempted with them. Following are descriptions of my three most dependable patterns.

The pattern used in Figure 1, is as follows: tail a part of red body material; body red silk floss banded with wide gold tinsel, bucktail on top of hook brown, and on under side white. Figure 2, tail several fibers from a gray Mallard drake feather; body silver tinsel, with a barred rock hackle tied Palmer along the body, a pair of rock streamer hackles on top of hook and on under side a few strands of white bucktail. Figure 3, tail is a part of golden brown floss used for body which has a gold or silver stripe, top of hook has pair of brown saddle hackles tied over brown bucktail and under side of hook has white deer hair tied sparingly.

Although the illustrations show the use of Jungle Cock sides, they can be dispensed with as they are not as easily secured as the remainder of the material, although I am very partial to their use.

For the head I use either black, red or blue enamel as my fancy strikes me, and on the larger sizes an eye may be added by first placing a round spot of ivory enamel on each side of the head and when this has dried, paint a smaller spot of black in the center of each eye.

For the best results Bucktails should be fished well below the surface of the water and for this reason it may be necessary to use as many as six or eight split shot placed twelve or sixteen inches up the leader.

Leaders should be moderately heavy for good casting as the weight of the large lure with the additional lead have a tendency to cast in a jerky uncertain manner on a very light tapered leader.

There is no necessity for using a tapered leader in this type of fishing and if the water is slightly discolored, almost any heavy weight leader can be used successfully.

It would be quite a difficult task to even try to give definite directions as to how to fish bucktails most successfully, as geographical conditions govern this to a great extent, but where it is possible, a good bet is to cast to the far shore of the creek and by quick spasmodic jerks have the current carry it down stream and when the line used in the cast is expended, retrieve it up stream as far as possible before lifting it out of the water.

Very often a fish will strike at the point where the line area for the retrieve.

It is not unusual for a trout to repeatedly follow the Bucktail the entire course of the case and finally, after having scrutinized it to his satisfaction, striking after as many as two dozen casts.

With the larger sizes a spinner can be attached and, skillfully handled under proper conditions, is an effective lure for bass or pickerel.

PROMPT ACTION SAVES BASS AT CORRY

Heavy loss in a pond of largemouth bass, ranging in size from 4 to 7 inches, was averted recently at the Corry hatchery in Erie County only by the prompt and efficient work of attendants. Spawned in early June, the young fish had developed rapidly in length and girth and apparently every condition was favorable. However, owing to heavy feeding, it is believed that some particles of food not eaten had accumulated on the pond bottom and this factor plus lack of wind and rain evidently resulted in an insufficient amount of oxygen in the water.

One morning an attendant noticed the bass, snouts extended above the surface, sucking air. The pumps were immediately started and the water aerated, with the result that only 50 of the 4,000 fish in the pond were killed.

HUNTINGDON OUTING ATTRACTS HUNDREDS

Hundreds of sportsmen from central Pennsylvania attended the annual field day of the Huntingdon County Fish, Game and Forestry Association, held at the fair grounds near Huntingdon on Saturday, September 19. Perfect weather prevailed. Trap shooting, shooting for turkeys, bait casting and plug casting attracted much attention and many entries registered for the various events.

Anglers present had a gala affair in every respect. Marshalled by Herb Watts, one of central Pennsylvania's most ardent devotees of Izaak Walton, they saw Kenneth A. Reid, Board Member, give a fine exhibition of the proper technique to be employed in fly casting and bait casting. Mr. Reid later judged the fly casting and bait casting contests for distance and accuracy.

Maurice Banker, Howd Shilling and the other lifewires members and officials of this rapidly-growing sportmen's group are to be congratulated on one of the most successful central Pennsylvania sportmen's outings ever to be staged.
FACING the facts in the present trout situation, we are convinced that the year 1936 will go down in conservation annals as the most destructive to our trout waters in the history of the Fish Commission. A summer of drought conditions, reducing the flow of many small mountain and meadow streams to pitiful trickles, was preceded by the March flood, one of the most destructive floods in history. From the angle of trout conservation, it was, in every sense of the term a freak year. After heavy snowfall had blanketed the watersheds of the trout streams during the winter, there was reason to hope that gradual melting of the snow in the spring would serve to restore the vital underground water table. But a quick thaw upset this hope and the snow, melting rapidly, pushed stream levels to flood stages in March. This rapid run-off, it is believed, precluded to large extent the benefit of the snowfall to underground streams and springs.

The drought which followed struck an even more disastrous blow to trout waters. It is a recognized fact in fish culture that the capacity of a stream to maintain aquatic life is to be determined only when that stream is at its lowest level. Since many of the streams affected were so-called nursery waters, tributary to larger trout streams, their capacity as spawning areas and stream sections in which the young trout can pass through the early stages of growth before dropping into heavier water, has been seriously impaired. The capacity for forage production of hundreds of small streams has been drastically curtailed by the drought. Food producing riffles on these waters during August were observed to be reduced in water area from one-half to three-quarters of their normal width. Exposed to the air and sun as the stream flow dwindled, the dried-out portions of stream beds sustained heavy loss of aquatic organisms vital to the welfare of young trout.

Trout Forage Check-Up

Just how much damage was caused to our trout waters by the March flood? This puzzler confronted the Fish Commission during the spring, and it was decided to institute a food checkup on freestone and limestone trout waters. Two typical streams, Spring Creek in Centre county, representative of the limestone group, and Starrucca Creek in Wayne county, typical freestone trout stream, were selected for the work. While results from the trout forage checkup on the Starrucca are not yet available, Spring Creek, generally regarded as an outstanding forage producer, has already yielded highly informative data.

It was found that this Centre County stream produced 48 pounds of trout food per acre, or 12 pounds of dehydrated trout food. Any trout fisherman familiar with the stream in the past has probably been impressed with the abundance of aquatic life present. Fed by giant limestone springs, Spring Creek varies but slightly in water flow during drought periods, and at all times retains levels high enough to insure the safety of the trout present. During the flood, it became extremely high, however, and it is believed that the surge of flood water may have severely injured the food supply present. Unfortunately, no data was available as to forage production, prior to the flood, with which the forage yield this year may be compared. Owing to the fact that the drought had comparatively little effect on this particular stream, there is reason to believe that the available supply of forage will come back fast. In this respect, Spring Creek must be ranked one of a few exceptions in Pennsylvania trout waters.

There are so many angles to the trout stocking problem, that the need for more knowledge concerning its various phases is increasingly apparent. For instance, in England, where perhaps a more intensive study of trout streams has been made than in any other section of the world, it has been found that the best stream available cannot support more than 12 pounds of trout per acre. If we consider many of our smaller trout waters, radically affected this year by drought as to forage production, and use the English figures for comparison, is it not possible that these streams might be overstocked with trout over legal size? This is just one of the questions that comes to mind relative to the present trout situation. That drought ano flood this year have intensified the problem, there is little reason to doubt.

Stocking

At the present time, the trout situation in Pennsylvania shapes up something like this. Flood in at least 75 per cent of our streams, has damaged the stream beds and curtailed the amount of natural forage available. Drought has injured in particular the smaller feeder streams generally used by trout as spawning and nursery areas. We must not discount the fact that, even though autumn rains and snowfall during the coming winter restore water levels in drought-affected waters, the damage to the food supply through exposure of large sections of the stream beds to sun and air will require at least a period of from five to ten years, with normal water flow in these streams, to restore them to their former status as forage producers.

Nature's mending process is slow. While many of our larger trout streams were also injured by the drought, sufficient water remained in most of them to insure fairly successful stocking this fall and next

One of the Brood Rainbow Trout at Bellefonte Hatchery

by ALEX P. SWEIGART
spring. Which brings us to the topic of this article, the necessity of planting larger trout if we are to hope for good fishing during the next few years.

It is generally conceded by the sportsmen that only through the planting of fish from legal six-inch size to 14 inches has the Fish Commission been able to furnish fair trout fishing during the past six years of drought conditions. In our heavily fished streams, handicapped as they have been by unfavorable natural factors, it would be assuming a great deal to expect stocking with two and three inch fingerling trout to yield impressive results. Under regular feeding at the hatcheries, it is possible to produce trout of legal size and over in from 12 to 18 months. At the Huntsdale hatchery in Cumberland County, high temperature of the water during the winter months permits feeding virtually throughout the entire year, with resultant rapid growth in the fish. To compare this systematic feeding of the hatchery fish with the forage possibilities afforded trout in even our better trout waters at the present time would be ridiculous. Ultimately, we must realize that the future of our trout fishing rests in large part with the hatcheries that produce the trout for stocking.

Under normal natural conditions prevailing on our trout waters, it is fair to say that natural reproduction may be counted upon to furnish annually from five to 10 per cent of the total trout population. But, as we said before, 1936 cannot, in any sense of the word, be termed a normal year in its effects on trout environment. That heavy loss of young trout in drought-stricken streams this year occurred, there is little reason to doubt. Coupled with depletion of natural forage have been heavy inroads on the trout population by natural predators such as the watersnake. Definitely, the chances of wild fish to survive under conditions prevailing this summer were mighty slim in many of our streams.

The Year Ahead

While the trout fishing picture as presented is a gloomy one, there is a brighter side. Recent rainfall has improved stream conditions for stocking. If, as was the case last year, we have heavy autumn rains, the stocking of hundreds of thousands of trout, ranging in size from six to 12 inches and now available at the hatcheries, should be successful. These larger trout, having a surplus of flesh attained while in the hatchery ponds, should soon become accustomed to stream conditions and pull through the winter in good shape, particularly if stocked in larger waters.

Most vital of all, however, from the angle of next year's trout fishing, is the contemplated spring stocking program. We believe that spring stocking in effectiveness (if we consider the resultant catches made by the fishermen, and after all, this is what counts), is in a class by itself. There always will be, probably, a group of fishermen who deplore the catching of "hatchery fish." The fact remains that without these "hatchery fish" mighty few waters in Pennsylvania would yield sport worthy of the name.

Pennsylvania fishermen at their trout hatcheries now have available a magnificent supply of brook, brown and rainbow trout with which to restock the streams. In coloration, girth and activity, these trout leave little to be desired. When released in wild waters, they give promise of providing fine sport for the anglers who invade our streams next year.

It is becoming increasingly apparent here in Pennsylvania that the sport of trout fishing is a "dollars-and-cents" proposition of raising more trout with which to restock our heavily fished streams. Pennsylvania anglers, through their license fund, have insured a continuance of their sport through the maintenance of a chain of splendid hatcheries. This is "fishing insurance" of the best kind and in spite of natural handicaps, drought or flood, there will still be trout fishing.

Possibly, in say ten years, when environmental conditions on our trout streams have improved, the planting of fingerling trout may again prove a vital asset to the stocking program. Even today, some small, low temperature tributaries to larger waters are holding up well in spite of the drought, and are suitable for stocking with smaller trout, but generally speaking these waters are the exception rather than the rule. In the meantime, continued stocking with bigger trout must be the answer to continued good fishing.

Since the fisherman, through his license fee, pays for the maintenance of his sport, a practical, hard-headed way of summarizing the trout fishing situation would be: "Plant a thousand trout, legal size and over, big trout. If the fishermen succeed in catching 900 of them or more, so much the better. They're put out to be caught, and it's better to have them nesting in an angler's creel than providing food for the watersnake."

Maybe we're all wet on this creed, but that's how we look at it.
A FISH SURVEY OF PENN'S CREEK

by CHARLES T. LONTZ

Editor's Note: In preparing this treatise on the range of species of fishes in Penn's Creek, Mr. Lontz has made a definite contribution to the study of fish life in Pennsylvania. We believe that it will prove most interesting to the readers of the ANGLER.

The purpose of this survey is to determine the range and distribution of species of fish common to the Penn's Creek region and to establish the fact that this stream is capable of supporting far more large game fish than it now contains.

In obtaining the necessary data, testing was done at representative places. The seine used was a 16 by 4, and a 35 by 5 foot drag net, and a three foot scoop net. Specimen fish were retained, examined and identified in the Bucknell laboratory. Information concerning fish life was accepted from reliable sources.

The splendid cooperation of the Pennsylvania Fish Commission, the people owning the land along Penn's Creek, the competent guidance and direction of Dr. N. H. Stewart, and the laboratory facilities of Bucknell University have made this work possible. In preparing the list of fishes, reference has been made to the works of:

Eggeling and Ehrenberg
1912. Freshwater Aquarium
 forets and Dictionery
1920. Fishes of Illinois
Hubbs, Carl L.
1926. A Check List of the Fishes of New York
Jordan, David Starr
1929. Manual of the Vertebrate Animals of North Eastern United States
New Hampshire and Lloyd
1930. Life of Inland Waters
New York: Biological Survey of the Oswego River System
1927.

Description of the Stream
Penn's Creek has its source in Penn's Cave in Centre County, flows in an easterly direction through Centre, Mifflin, Union, and Snyder Counties, a distance of about fifty miles to Selinsgrove, where it empties into the Susquehanna River. The upper part of its course is through an open valley region to Coburn, Centre County, where it enters the mountains. In this upper part the stream is exposed to the sun, flows rather slowly, and contains numerous deep pools. The mountain region from Coburn to Glenn-Iron has few deep pools. The current of the stream is rapid and the banks of the stream are lined with trees which afford considerable shade. The lower part of the stream, from Glenn-Iron to the Susquehanna River, flow through an open valley similar to the upper part except that it contains more deep pools, is less shaded, and consequently has a higher temperature.

The larger tributaries of Penn's Creek are Sinking, Pine, and Elk Creeks in Centre County; Doe Creek in Mifflin County; and Lick, Panther, and Henstep Runs and Middle Creek in Snyder County; and Laurel, Sweeney and Cherry Runs in Union County.

For the most part, Penn's Creek flows through rocks of the Devonian, Silurian, and Ordovician periods. In many places through the mountain region the bed rock is exposed forming natural dams. The large boulders in the stream bed, as well as the roots of trees which lie on the banks, form small pools or pockets in which fish may hide. In the upper part and the lower part the stream is less filled with rocks, is somewhat sluggish, and contains much grass. The summer temperature in the upper part is from 70 degrees to 78 degrees Fahrenheit; the mountain region is from four to six degrees lower. This difference in temperature is accounted for by the spring-fed runs. In the lower part the temperature again rises to as high as 82 degrees.

There are several grist mills and three electric power plants which use the waters of Penn's Creek. In all cases the water is returned to the stream a few hundred feet below the mill. Over one hundred summer camps are located on the banks of the stream. Many of these camps are owned by clubs or groups of persons, so that during the summer several thousand people enjoy the fishing, swimming, and boating this stream provides. One point on Sampell's Dam has fifteen camps in less than three-fourths of a mile along the stream.

Five other streams in the state have more camps per mile; nor are there many other streams on which more fishing is done.

As a result of this concentration of fishing, the large fish are becoming rather scarce.

One unfortunate factor mars the perfection of this picture. At several points along the headwaters of the stream, pollution occurs. Another condition which may have some detrimental effect on fish life is the eroded soil which is carried from the fields by heavy rainfall. If heavy rainfall occurs when fish are spawning, it is quite probable that many eggs are smothered by deposits of mud and silt.

On the banks of the stream are found such plants as the jewel weed, and meadow rue, aster, Joe Pie weed, pickerel weed, and perhaps others not noticed. Some of the more common trees are the black willow, American elm, basswood, and black birch.

In the bed of the stream, islands of water willow are quite common. At one point in the lower stream nine-tenths of the creek is covered with water willow. Poto- megon, elodea, and myriophyllum sometimes fill in the creek from bank to bank. At only a few places are there cattail marshes and pond-lily beds.

Insect life, an important source of food, is plentiful. At many places thirty to forty damsel flies may be counted on plots of water willow two rods square. One or two Dobson fly larvae may be found on every imbedded stone the size of a man's head. Egg clusters of Dobson fly are abundant on overhanging trees and rocks. One oak tree above Glenn-Iron has several hundred white patches on it where it overhangs the stream. From three to five May, Stone, and Caddis fly larvae are found on every rock the size of a man's hand.

Animal life along the stream is almost as abundant as in the stream. Bull frogs, green-nosed frogs, pickerel frogs, leopard,

The Golden Shiner was not caught in Penn's Creek.
frogs, spring peepers, and wood frogs are found, green-nosed and bull frogs being most numerous. Several species of salamanders, the newt, common caive, piscid, red, and spotted occur under rocks and in rotten driftwood.

Watersnakes abound in some of the old stone and log dams, as many as sixty-seven having been killed by one person in the course of a week's camping at Sampsel's Dam, July, 1934. Garter snakes, copperheads, rattlers, and black snakes are killed rather commonly in the mountain region. It is quite possible that the number of water snakes is decreasing due to the activities of fishermen who feel that "the less snakes there are, the more fish there will be."

Kingfishers, white, green, blue, and black-crowned herons, ospreys, spotted and solitary sandpipers are common near the water. Other common birds of field and woods are plentiful.

Muskrats, mink, racoon, opossum, and skunks live in holes in the banks or the hollow logs near the stream. Squirrels, deer, rabbits, and birds, such as the yellowed black, live in the woods near the edge of the stream.

**List and Description of Fishes**

In presenting this list of fishes information is used from data gathered principally during the summer of 1935. Information, however, has been accepted from individuals who have lived along Penn's Creek for periods of forty years or more. This information is reliable. Some thirty-two species of fish have been taken, carefully examined, and identified.

1. **Brown trout**—Salmo fario (Linnaeus) Large black and red spots, pectoral fin larger and heavier than brook trout, fins not barred. Common from Wolfkert to source.

2. **Rainbow trout**—Salmo irideus irideus (Mitchell) Colors usually duller, more silvery, head shorter and more pointed than brook trout. Stocked in stream above, rarely taken, no indication that it reproduces in Penn's Creek.

3. **Brook trout**—Salvelinus fontinalis (Mitchell) Yellowed black, head shorter and more pointed than brook trout. Taken below Sampsel's Dam.

4. **Common sucker**—Catastomus omus (Mitchell) Body robust, ducky, little silver, black spot at base of dorsal fin in front. Taken at Coburn.

5. **Mullet or Black sucker**—Hypentelium nigromaculatum atre,maculatum (Cope) Body larger and heavier than brook trout, fins not barred. Common in deep holes in stream.

6. **Spawn eater or spot tailed minnow**—Fundulus diaphemus (Jordan and Copeland) Body smaller, less decurved, body stouter than ushines. Taken below Sampsel's Dam.

7. **Smaller silver fin**—Notropus analomus (Mitchell) Larger body, length 3 1/2 to 3 2-3 times depth, lateral line less than 37 scales, 9 rays in anal fin, scales more rounded. Taken one mile above Sampsel's dam.

8. **Rosy faced shiner**—Notropus rubellus (Mitchell) Body larger, slightly more decurved, head rather long, common near coburn.

9. **Black nosed dace or red fin**—Rhinichthys stronasus (Cope) Small fish, blackish on back, black or brown lateral band, greenish on sides, upper fins bright edging. Common in riffles from Spring Mills to mouth.

10. **Cut lips chub or black chub**—Esox mandarinus (Le Suer) Belly reddened in spring males. Taken in Sweitzer Run.

11. **Horned dace or common chub**—Somatices margarita (Mitchell) No scales, large flat body, dorsal fin with dark, mouth small, somewhat curved, snout becoming blunt with age. Common in Elk Creek but not taken in Penn's to date, August, 1935. (Species found in drainage)

12. **Smaller silver fin**—Notropus analomus (Mitchell) Body larger, less decurved, body stouter than ushines. Taken below Sampsel's Dam.

13. **Penny's Creek shiner**—Notropus cernutus (Mitchell) Body more slender. Taken at Coburn.

14. **Parkinson's minnow**—Huberhynchus notatus (Rafinesque) Body long, snout projecting beyond the horizontal mouth, black on back, dorsal fin amber, common on riffles and swift rocky places Coburn to New Berlin.

15. **Black and red spots**—Psectrodon nigromaculatus a tronimus (Mitchell) Body robust, ducky, little silver, black spot at base of dorsal fin in front. Taken in upper part of stream, less common in lower, common in mountain region.

16. **Pearl dace**—Margariscus margarita (Cope) Belly reddened in breeding males, sides mottled or speckled with dark, mouth small, slightly curved, snout becoming blunt with age. Common in Elk Creek but not taken in Penn's to date, August, 1935. (Species found in drainage)

17. **Black nosed dace or red fin**—Rhinichthys stronasus (Cope) Small fish, blackish on back, black or brown lateral band, greenish on sides, upper fins bright edging. Common in riffles from Spring Mills to mouth.

18. **Yellowed black**—Fundulus diaphemus (Jordan and Copeland) Body larger, less decurved, body stouter than ushines. Taken below Sampsel's Dam.

19. **Black nosed dace or red fin**—Rhinichthys stronasus (Cope) Small fish, blackish on back, black or brown lateral band, greenish on sides, upper fins bright edging. Common in riffles from Spring Mills to mouth.

20. **Golden shiner**—Notemigenus crysoleucus (Mitchell) Body compressed, lateral much decurved, sides silvery with golden reflection. (Species not taken but should exist in slow, grassy eddies.) Note: The fact that no golden shiners were taken in Penn's Creek serves to substantiate data gathered to this time indicating that the species is primarily a pond and lake fish.

21. **Black nosed dace or red fin**—Rhinichthys stronasus (Cope) Small fish, blackish on back, black or brown lateral band, greenish on sides, upper fins bright edging. Common in riffles from Spring Mills to mouth.

22. **Stone roller minnow**—Campsotena anomalum (Rafinesque) Brownish with a brassy luster above, scale mottled, males in spring with many rounded tubercles on head. Nest of Stone roller or Horny head plentiful in lower part of stream.

23. **Stone cat**—Schilbeodes insignis (Richards) Small eel, head broad, body not so deep as in Ameirus. Extremely abundant from Coburn to mouth.

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(Please turn to page 13)
SMOULD'RN' SMOKE
By KENNETH H. SMITH

I F YOU love the lonely lakeland, son, and yearn for the timber tall: if you thrill when a bass goes leaping, son, and when the wild geese call—then you're sure to get my meanin' when I try to make my point, and you'll not be judgin' harshly if my reasonin's out of joint.

I'm just a-goin' to jump in, son, and tell what I got to say, unless you've got some work to do—so, I'll go my way. No? Then I'll set a-say my piece. It don't amount to much. Just an old outdoorsman's musin's on some smells and smoke an' such.

There's a skad o' smoke a-smould'rin' underneath this old felt hat, just a-bubblin' and a-boilin' 'til we start to chase the hat. And, son, the mem'ries those smells bring would well-nigh fill a book. For they span a lifetime's lovin' of the bullet and the hook.

I'll just pack my briar full, son, of the necessary weed, an' take a coal to light her up—now there's a smoke indeed. A good old briar, son, with me it tops 'em all—it's a magic smoke that somehow seems to bind us, brothers all.

Now, I'll ask you, son, to go with me, to a time of long ago—when I was just a wobbly cub of six or seven or so. I 'member my old Daddy, how he'd take his old cane pole, and with a pail o' shiners, he would head for the old bass hole.

An' I'd sit there a-snifflin' and a-tryin' to hide my tears, 'cause Ma, she said "No fishin', son, until you add some years." Well, there wasn't much of smell right then, if it came to smellin' me, 'cause my smeller, it was all choked up—an' my throat was too. Aw, gee!

But then, when Daddy'd get back home my tears was all forgot, 'cause I'd sniff the smell of his fish, his pipe—the whole delightful lot; an' son, I'd swear to myself that when I ceased to be a lad, I was goin' to go a-fishin' an' a-huntin', just like Dad!

When I'd ceased to be a lad, I was goin' to lightful lot; an' son, I'd swear to myself that my tears was all forgot, 'cause I'd sniff the back, those good old lakeland days—I don't what I got to say, unless you've got some work to do—so, I'll go my way. No? Then I'll set a-say my piece. It don't amount to much. Just an old outdoorsman's musin's on some smells and smoke an' such.

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REPORT OF POLLUTION STUDY
COMMITTEE OF THE AMERICAN FISHERIES SOCIETY

By TALBOTT DENMEAD, Secretary

Since our last meeting in Tulsa, Oklahoma, a year ago, much polluted water has passed under many bridges, resulting in the death of many fishes; there has been much talk about doing something about it, but like all fish, this author has a remark about the weather, nobody has done anything. Little progress has been made in actually and permanently removing pollution; true, some abandoned mines have been sealed in Pennsylvania and nearby states, a few city disposal plants have been planned, and in some instances completed. Lots of talk about more investigations has been heard—a favorite method of the polluters for delaying action—but as a whole, we are just about where we were a year ago; while we have cleaned up one spot, additional water contamination has occurred in others, while we talk, instead of playing a fiddle, like Nero, the fish die.

Pollution may be stopped in a way that is perfectly satisfactory to health officials, or to a point where it don't destroy cattle; but from the fish viewpoint, it is not so good; an industry with every good intention tries to prevent pollution by depositing its poisonous refuse in vats or other receptacles on the land, but an accident, an unusual storm, or some such of man, suddenly releases a large quantity of poison into the stream; it is in concentrated form, and in bulk—the fish are killed for miles down stream. Reports of dead fish reach the ears of state authorities, investigation is made, the parties responsible are very sorry, and promise not to let it happen again, but the fish are all dead, and it will take two or three years to replace them; and the angler can wait; by the time his interest and work and that of the State authorities at considerable expense have brought back the fish supply to almost normal, another "accident" occurs, and the angler and the state conservation authorities can begin all over again. How long, Oh, Lord, how long? Is it not time some one decides, big enough to control an offending corporation with pull, and covering all the polluted water, whether in one or more states—something with a punch in it to be used if and when necessary that can actually make a polluter stop polluting, when reason fails.

The answer.

Your committee members have various views on the subject; certainly a majority favor Federal control of some kind; many favor the Lonergan Bill, as is, or with slight amendments. Your secretary does not mind who knows it, he is in favor of the LONERGAN BILL, which was favorably reported by the Senate Committee with slight amendments at the last session. Let me quote you a few extracts from letters recently received from members of one committee.

"No legislation will be of any value in the move to suppress stream pollution unless it incorporates the following three principles: First, that it provide a clearing house for information, and an opportunity of cooperation between the Pollution Board and the polluters; Second, that it provide means of financing municipal sewage and trade waste, disposal plants by loans of Federal funds, and so far as municipalities are concerned, by a grant of part of the cost, on the theory that it is as much the concern of the Federal government, to safeguard the quality of the water, as it is to dredge our channels; Third, that it gives power to the pollution abatement agency to compel polluters, who will not cooperate voluntarily, to do so." I might say that the only one of the bills pending in Congress incorporating these three things is the Lonergan Bill. I might also add, this bill does not conflict with the doctrine of State's rights, for the Federal control only extends to navigable waters, and such tributaries as affect navigable waters. Beyond that, a Federal board cannot and should not go.

I quote from another reply: "It seems to me that the most important matter in the pollution situation is the proposed national legislation . . . I am thoroughly convinced that any legislation which does not give authority to initiate action in some Federal agency will not accomplish the purpose desired . . . There are certain fundamental features in the Lonergan Bill, back of which I believe we must stand if real accomplishment is to result. There are other features in which modifications might well be made to meet objections."

Another: "May I frankly say, that in my opinion the committee has not discharged its full duty to the American Fisheries Society, and to the country in the reports which have been made. Through outside pressure it has shown too much of the weak and foolish policy of pitying the evil doers and neglecting the public rights which have been violated and public values which have been destroyed . . . I would suggest that arrangements be made to have the committee embark at once on an actual study and discussion of the situation. The work should begin in September in order that proper progress may be made before the matter is taken up in the coming session of Congress."

In considering this suggestion your secretary advises a reorganization of the committee, members to be selected by the incoming officers of the association.

Several members have written in that they have no suggestions to make in regard to a report.
State officials joined with members of United Sportmen of Pennsylvania in their annual convention at Harrison’s Park, Blakeslee.

First row, left to right: Joseph Marvins, Hazleton; F. E. Haegele, Hazleton; H. S. Smith, Wilkes-Barre; O. M. Deibler, Commissioner of Fisheries, Harrisburg; J. Q. Creveling, Wilkes-Barre; S. J. Truscott, Board of Fish Commissioners, Dalton; Dr. J. F. Bogardus, Secretary of Forests and Waters, Harrisburg; Seth Gordon, Executive Secretary, Board of Game Commissioners, Harrisburg; E. F. Smith, Wilkes-Barre; Ray Woodten, Sugar Notch; Steve Emanuel, president of Wilkes-Barre Branch.


Third row: Paul Milbrodt, Floyd Ramage, West Pittston; Thomas Hewitt, Wilkes-Barre; P. J. Connor, Swoyerville; Joseph Foley, Georgetown; Allen Bacon, Jr., Thomas Bradshaw, Sugar Notch; Joseph Sokolewski, Henry Fassett, Meshoppen, Floyd T. Schindler, White Haven; Michael Rips, Kingston; Clinton Ide, Dallas; John Chechourak, Duryea; M. F. Terisinski, C. R. Kelchner, Forty Fort.

NURSERY WATERS CLOSED TO FISHING

Following is a list of nursery trout waters closed by the Board at its last meeting, August 10th, 1936:

**Somerset County**
- Blue Hole Run, tributary to Laurel Hill Creek.
- Three miles of Brush Creek, tributary to Wills Creek.

**Butler County**
- Municipal Reservoirs of the Borough of Zelienople.

**Luzerne County**
- About one-third Sugar Notch Dam.
- Portion of Promised Land Pond.

KILLS 61 WATERSNAKES

Thomas Baker, 14 years old, of Crooked Creek, Tioga County, has established a commendable record in watersnake killing this season, according to Warden Leland Cloos. Tom has killed 61 snakes so far, most of them along Crooked Creek. A great deal of interest has been aroused in Tioga County sportsmen circles by the vermin contest of the Tioga Rod and Gun Club this year.

WISSAHICKON PROJECT POPULAR THIS YEAR

The picturesque Wissahickon Creek, flowing through Fairmount Park, Philadelphia, proved exceedingly popular with trout fishermen in the Quaker City during the past trout season, according to a report received by the ANGLER. Park guards reported counting 9663 anglers during the days specified for fishing in the stream, and reported inspecting a total of 951 trout which had been taken. On the first day, 437 fishermen tried the improved sections of the stream.

Anglers and guards reported the killing of 114 watersnakes in that section. The project was stocked prior to and during the season with brown and rainbow trout well over six-inch legal size. An interesting angle to the checkup on catches indicates that many anglers fished for the sport alone, returning all fish landed to the stream.

The Wissahickon is a splendid example of the kind of fishing that can be afforded, even in densely populated sections of the state, through proper stream management. Board Member Edgar W. Nicholson, who was directly responsible for the improvement of the Wissahickon as a Public Works Project, is to be highly commended for the fine showing the project made this year.

Hungry Diner: “Waiter, will the griddle cakes be long?”

Waiter: “No, sir, round.”
A FISH SURVEY OF PENN'S CREEK
(Continued from page 9)

15 to 25 narrow dark vertical bars, fins plain. Taken at Bishop's and Cider mill below New Berlin. Rare (see Map).

28. Yellow perch — Perca flavescens

30. Johnny darter — Boieosoma nigrum

31. Small mouth bass — Micropterus dolomieu (Lacepede) Upper jaw extending beyond middle of pupil but to high margin of eye. Common Coburn to mouth.


33. Common sunfish or pumpkin seed — Eupomotis gibbosus (Linnaeus) No extension but tip of opeculum with conspicuous red spot. Forehead steeper than blue gill or long eared, body stouter than long eared. Common Coburn to mouth.

35. Gruntling or miller's thumb — Cottus gobio (Mitchell) Body slender, snout somewhat decurved, mouth small sub-inferior, light sandy brown color, back speckled with brown. Abundant entire length of stream.

A FISH SURVEY OF PENN'S CREEK
(Continued from page 9)

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TULPEHOCKEN CATCHES

Harry Peifer of Reading has been having great sport with the bass on Tulpehocken Creek, Berks County, this season. Using fly and spinner, he recently caught the 18-inch smallmouth bass which he is shown holding in the accompanying picture. He informs us that on another trip he scored with two smallmouths, 14 and 11 inches in length respectively. Another catch comprised two largemouth bass, one 10 inches and the other 16 inches. The 18-inch bass landed recently weighed 2 1/2 pounds.

**SUCKERS**


"In November, 1922, twenty 6 to 8-inch suckers were collected directly over the newly made nests of brook trout, where eggs were doubtless abundant in the gravel. As not a single fish egg was found in these or in over 200 other sucker stomachs examined it seems safe to assume that fish eggs are rarely taken by this species."

PENNNSYLVANIA ANGLER

George Zimmerman, genial secretary of the Lehigh County Fish and Game Protective Association, offers the following proof that anglers are among the most ingenious of people. Writes George:

"Necessity has always been and will continue to be the mother of invention. If you don't believe it, ask Fred Bittner, assistant chief of the Bureau of Sanitary Sewers of Allentown, and get the story first hand. Bittner was fishing in Georgian Bay, Canada, with me early in July, and the favorite lure for great northern pike was a shiny nickel spoon popularly known as the daredevil and purchasable at any good sporting goods house. But the pike bit so savagely and frequently that the losses of daredevils were extraordinarily heavy, with the result that toward the latter end of the trip, the supply was exhausted. The situation called for some ingenuity, in fact, a lot of it, but Bittner was not to be so easily thwarted in his quest for "Northern," so what did he do but grab a silver shoe horn that Friend Wife had thrown in his grip just before Friend Husband started on his trip, bore a hole in each end, attach three hooks and resume his fishing. Do pike take to silver shoe horns? Well, the fact that Bittner caught his largest fish, a twelve-pounder, is the answer."

TWO NICE BASS

Anglers Gough and Gardner of Washington, D.C., with their catches of Trout taken this year at the Spring Creek project.
FRENCH BEAGLES WIN AT THE MONTGOMERY MEET

With 130 members in attendance, the Montgomery County Fish, Game and Forestry Association enjoyed an unusually successful annual summer outing on the farm of J. Wayne Heebner last month. Featuring the annual event was a program of sports events which included: a dog show, plug casting, tug-of-war, softball, quoits and trapshooting.

J. Hansell French, of Collegeville, Secretary of Agriculture, was the heaviest scorer in the dog show, making a clean sweep in the beagle hound class. C. Washington’s “Nip” and “Tuck” swept the Gordon setter class. Twenty dogs were bunched in the canine show, judged by Harry Steinbach.

In trapshooting, Charles Todd, of Conshohocken, captured the 50-target trophy event, by breaking 49 targets, one better than the 48 cracked by Eugene Muller. Muller who has been scoring well in recent shoots, won the honors in 100-target competition with a 95 tally.

Frank Bertolette scored 24 in the 25-target event in which Judge Harold G. Knight outscored his son, Harold, Jr., 22 to 19.

Leon Nester won the plug-casting contest for accuracy while Harry Fratt won the laurels for distance.

J. Warren Ziegler and C. H. Alderfer won the quoit tournament; the hunters’ team, led by Lloyd Heebner, won the softball game by a one-side margin.

Judge Knight made the presentation of prizes.

A feature was the playing of Noah’s Jolly Germans, a band from Quakertown.

The sport summaries:

**DOG SHOW**

<table>
<thead>
<tr>
<th>English Setters</th>
<th>Irish Setters</th>
<th>Fox Terrier</th>
<th>Martin L. Horn’s entry.</th>
<th>Gordon Setter</th>
<th>Cocker Spaniel</th>
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<td><strong>Beagle Hounds</strong></td>
<td><strong>Irish Setters</strong></td>
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**PLUG CASTING**

For accuracy—Leon Nester.
For distance—Harry Fratt.

**TUG-OF-WAR**

Hunter’s team captured by Jim Mullen.

PENNSYLVANIA ANGLER

WESTMORELAND SPORTSMEN STAGE ANNUAL OUTING

A varied program of events, including:

**SOFTBALL**

Hunter’s team captured by Lloyd Heebner.

**QUOITS**


**TRAPSHOOTING**

50-Target Trophy Event

<table>
<thead>
<tr>
<th>Charles Todd</th>
<th>Eugene Muller</th>
<th>Carroll</th>
<th>Ringer</th>
<th>Gordon</th>
<th>Pursell</th>
<th>Leon Kohl</th>
<th>Ulmer</th>
<th>E. Smith</th>
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<td>17</td>
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100-Target Event

Gene Muller 95, Tom Carroll 92, Leon Kohl 90, R. Gill 89.

**25-Target Event**


16-INCH SNAKE KILLS 8-INCH TROUT

The following incident which occurred above Cross Forks, Potter County, serves as a good illustration of the destructive tendencies of watersnakes in our trout waters.

Warden Wright Rumsey of Roulette writes:

“I am enclosing a picture of a watersnake, and a brown trout that it killed. The background of the picture was too light and the subjects do not show up like I was in hopes they would. But maybe you can get an idea of it.

“The snake was sixteen and one-quarter inches long, and the trout was eight and one-eighth inches long. The trout was not dead when I killed the snake but too far gone to revive.

“When I first saw the trout it had its head under a stone and was turned on its side. I first thought that the trout was dead, but when I got closer to it I found that it was still alive and trying to get away. When I raised the stone which the snake was under, it released the trout and swam off. I followed the snake and shot it. I then returned to the trout and here is the picture.

“This instance may not be of as much interest to you as it was me, as you hear so much about watersnakes. But the thing that impressed me so much was the comparison in size of the two.”
Chester Sportsmen Plan Two-Day Rally

Fourteen conservation associations of Chester County are combining to stage a two days' sportsmen's rally, Friday and Saturday, October 16 and 17, on the site of the Philadelphia Y.M.C.A. Outing Camp, a mile south of Downingtown. The swimming pools, three of them, will be used for fly and plug casting. The revenue derived from the meet will be used to purchase food for fish and game, to buy direct from the farmers, to purchase game and fish and reforestation in Chester County.

Some of the activities comprise band concerts afternoon and night; pony show, bird dog, beagle and coon trials, archery, quoits, tennis and volleyball matches, rifle, trap and revolver shooting, exhibits from the Fish, Game and Forest and Waters Department, speaking, old-fashioned square dances, etc. Governor George H. Earle and other eminent speakers will attend.

Four years ago the plan suggested itself to Norman M. Wood, who was chosen as president of the Countywide Association. The first meet proved a huge success. This year sportsmen requested that the rally be repeated. Meetings have been held in various sections of the county and much interest is being manifested. John Evans, Avondale, president of the Southern Chester County Izaak Walton League, and Dr. Frank C. Haina, Oxford, well-known bird dog lover and trap shooter, are the vice-presidents; E. G. Henderson, Downingtown, secretary, and John Baldwin, secretary of the gun club at Aiglon.

Fly and plug casting on a swimming pool, 40x70 feet, with Hon. Kenneth Reid, member of the Pennsylvania Fish Commission, as judge of the contests, and who will give an exhibition of the art of handling rod and line, will be one of the big features of the great sportsmen's rally and farmers' picnic, Friday and Saturday, October 16 and 17, on the 300-acre farm of the Philadelphia Y.M.C.A., a half mile south of Downingtown.

BERKS WALTONIANS STAGE BIG OUTING

One of southeastern Pennsylvania's feature sports events, the annual field day and sportmen's picnic of the Berks County Chapter of the Izaak Walton League of America, was held on Sunday, September 20, at the Cedar Top Gun Club grounds near Shillington, Berks County.

Of particular interest to fishermen present was an exhibition of fly and bait casting by Board Member Kenneth A. Reid. Keen competition marked the fly and bait casting events for accuracy and distance. John D. Rothermel scored a clean sweep in winning these events. In spite of cloudy weather and a drizzle of rain, a large turnout of Berks County sportsmen enjoyed the program.

Other featured activities for the day included trap shooting, running bear shoot with high power rifles, pistol shoot, archery, bingo and other games.

SMALL-MOUTH BASS PUT IN SKIPPACK CREEK

Eighty Quails Released in Different Townships of Montgomery County.

Reports of the game released during the past month were announced at the regular meeting of the Perkiomen Valley Sportsmen's Association, held in the Borough Hall, here, last Thursday evening.

According to Ambrose Gerhart, game warden of this section, he released eighty quail in this county. These quail were ten weeks old and were placed in the following townships: 20 in Linneker; 20 in Worcester; 20 in Upper Providence, and 20 in Perkiomen.

Mr. Gerhart also reported that he trapped numerous pheasants and released them in other sections where this bird is not so plentiful.

He also helped to transfer at least a thousand fish, taken from a stone quarry at Telford, to the Branch Creek. The species included catfish, sunfish and rainbows.

Russell Krupp, chairman of Fish Committee of this Association, reported that six hundred small-mouth bass averaging between 6 and 7 inches, were placed in the Skippack Creek. There were also sixty-five cans of bass placed in the Perkiomen, averaging about 4 inches, during the past month.

The members of this Association enjoyed four reels of motion pictures after the business meeting, entitled 'Fishing Across Canada,' through the courtesy of the Canadian National Railways.
I Mark Micdella of Carlisle caught a brookie inches. Speaking of brook trout, it's hard 'ning, taking a brook trout measuring 15%.

D. B. Fretz of Chambersburg, according to Kirchner, has an excellent claim to the trout fishing championship of Franklin county. Fishing in the Paling Spring, Angler Fretz landed a brown trout measuring 24 inches in length and weighing 4 pounds 3 ounces. A nightcrawler was the bait used.

Cumberland county fishermen scored heavily on big brook trout during the past season, writes Warden Frank Kirchner of McConnellsville. Following are some of the catches: F. Herman, Carlisle, 4 brookies, each 14 inches in length; Harry Young, Newville, 13 inch brook trout; Wilbur Getter, Newville, 5 brookies, 14, 15, 15, 12 and 12½ inches; Wilbur Getter, Sr., Newville, 2 brookies, each 15 inches; John Neff, Newville, brook trout, 17 inches; A. F. Frankhouser, Newville, two brookies 15 and 16 inches; Paul Motter, Newville, 16-inch brookie; Paul Thompson, Newville, 15 inch brook trout; Paul Prosser, Newville, two brook trout, 12½ and 13½ inches; Doyle Reed, Newville, 15½ inch brook trout; Ben Weidler, Carlisle, 14 inch brookie; Leslie Over, Newville, 13 inch brookie; Charles Eby, two, 14 inches; S. Johnson, one 13½ inch; Isaac Johnson, one 19½ inch; William Wagner, two, one 16 and one 15 inches; Rev. P. Curtffman, two brookies 16½ and 14½ inches; Harold Patterson, two 18 inch brookies, and William Cronister, one 14 inches and another 13½ inch. All of the last named anglers are from Newville.

Four Clarion anglers made a fine catch of smallmouth bass one evening this season from waters in the McKean section this year. Fishing in Watermill Run, James Burdett of Dayton, scored with 15 on April 27. Watermill is a tributary to the Kinzua Creek. Fred Pietruzz of East Smethport caught 15 on opening day in Cooks Run. Two hours fishing in Fuller Brook, a stream reserved for women anglers, yielded a creel of 15 brook trout to Mrs. John Repine of Bradford. The same stream yielded a catch of 13 on the opening day to Mary Orzechowski of Bradford.

A sucker fisherman, John Weiss of Alfred, caught one of the largest brown trout taken in the Little Lehigh this year. Werst was still-fishing, his favorite sport, with nothing but suckers anticipated, when a violent strike just about ripped his rod into the creek. After a hefty tussle he landed a brown trout weighing 5 pounds 2 ounces. The fish was 26 inches long and had a girth of 11 inches.

Cincinnati, Fishing near Duncannon, Perry county, on the Susquehanna River on August 22, William Dean of Harrisburg caught 10 bass, the largest measuring 18½ inches in length and weighing 3½ pounds. His fishing trip came to an end, when he hooked into a giant bass that smashed his rod. Returning to the same place next day, he caught 7 more bass.

LaMar Mumbar of Pennsburg, Montgomery county, reports some splendid catches of bass from the Perkiomen Creek this season. He informs us that Charles Nase of Perkiomenville has landed 21 bass so far this season, all from Kratz's Dam at Kratz's Station on the Perkiomen. The fish, ranging in length to 21½ inches, were taken on artificial lures.

LaMar Mumbar of Pennsburg, according to Kirchner, has an excellent claim to the trout fishing championship of Franklin county. Fishing in the Paling Spring, Angler Fretz landed a brown trout measuring 24 inches in length and weighing 4 pounds 3 ounces. A nightcrawler was the bait used.

A 23-inch pickerel, taken by Frank Stutsman, was found when opened to contain an 8-inch bass.

Fishing on the Upper Delaware has also been good for bass. Ten smallmouths, three of them 15 inches, comprised a day's catch for John Supplee of Milford. The catch was made in two hours.

Ira Mellinger, president of the Lancaster County Fish and Game Association, and M. I. Lane, member, are enthusiastic water-snake hunters. One day they tied up traffic on the Eden-Landis Valley road while they killed a nest of water snakes. Ira tossed them to the road and Lane finished them.

SNAKE KILLERS
View of Safe Harbor Dam on the Lower Susquehanna River. Excellent Bass and Wall-Eyed Pike water.
Brother Angler—

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