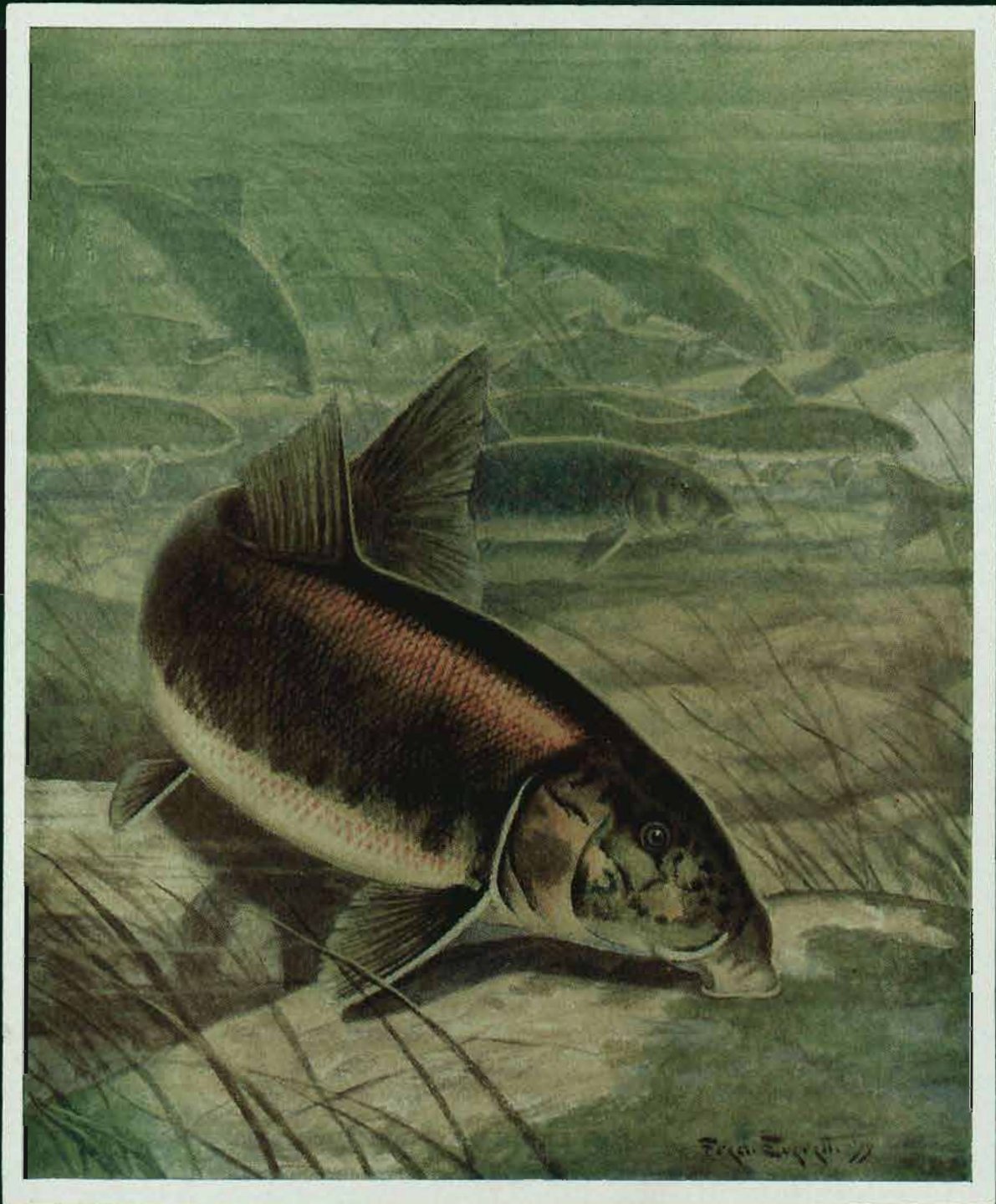


PENNSYLVANIA ANGLER



COMMON SUCKER

APRIL 1939

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EDITORIAL

STOCKING COSTS CUT WITH NEW TANK TRUCKS

THIS spring will find the streams of Pennsylvania stocked to capacity with as fine brook, brown and rainbow trout as they have ever held. We are sure of a banner trout season as the fish stocked by our new tank-car system were in perfect condition when they arrived at the streams.

We have had hundreds of letters from associations telling of the wonderful condition of the fish when they arrived. We have had the new tank truck distribution in operation long enough to know that it will revolutionize our distribution program.

A comparative schedule for the last three years will prove what it has saved in the number of miles traveled by our fleet of 52 trucks.

1936—number of miles traveled—456,000 in distributing 129 tons of fish.

1937—number of miles traveled—525,000 in distributing 202 tons of fish.

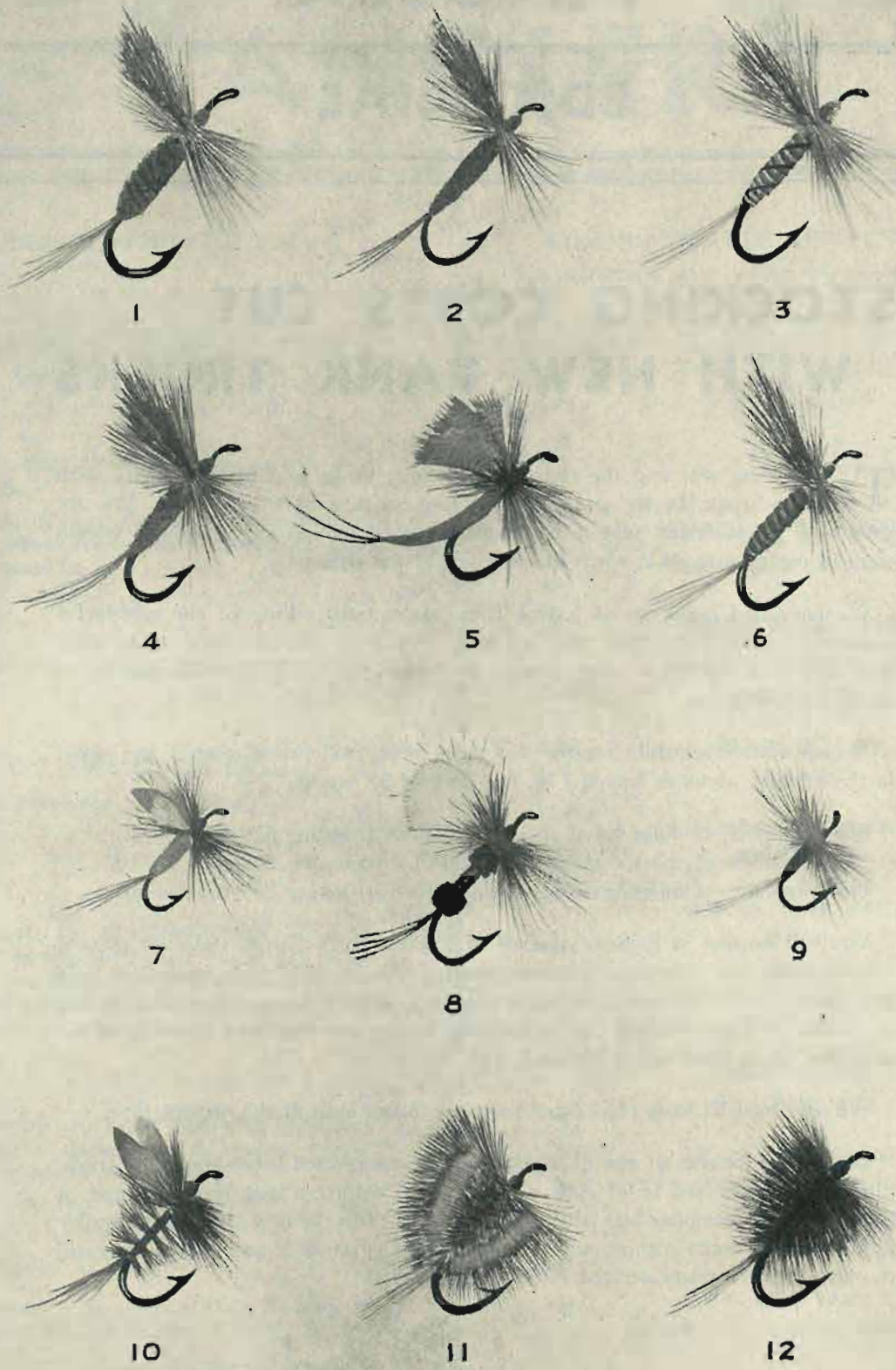
1938—number of miles traveled—434,000 in distributing 255 tons of fish.

You will see that in 1938 we covered 91,000 less miles than in 1937 and planted 53 tons more fish. Of course all the streams stocked in 1937 were stocked in 1938 and many more as we are continually adding to our list of streams. This saving in mileage is made possible due to the fact that we can haul as many fish in one tank load as in three truck loads of cans.

We now have 21 tank trucks and more are being built at the present time.

One of the hazards of can distribution is the unexpected breakdown of a truck. Should this occur and be of such a nature as to require a long time to repair, it could mean the complete loss of the load of fish. With the new tanks it is possible to hold fish 24 hours without any serious damage as the little auxiliary pumps will run and keep the water aerated.


Commissioner of Fisheries



L. L. PETERS
1928

TWELVE DRY FLY ACES

By CLAYTON L. PETERS

KNOWING that the study of trout stream insects dates back to the year 1496, when Madam Julia DeBerners compiled the first known treatise on the flies of that date and age, and directions for the tying of artificials, it is amazing to note the comparatively small number of fishermen who have actually taken an interest in this favorite food of trout, until recently.

James Ogden's book called, *Ogden On Fly-tying* and published in 1879, gives a very fine treatise on tying the various types of stream insects, and among them stands out very conspicuously the Green Drake, a predecessor of our Pennsylvania shad fly. James Ogden has been credited with introducing and tying the first floating flies about the year 1839.

Such men as Ogden, and followed by Major Hills, Pulman, Halford, Skues, Mary Orvis Marbury, LaBranche, Gordon, and all the others who have been pioneers in the study of the natural insects and their imitations, deserve a great deal of credit, because their efforts give the novice an opportunity to quickly learn the identity of the insects they encounter along our streams.

Today we have two schools of fly fishermen as far as fly construction is concerned. There are those who feel that an artificial must be as near a counterpart of the original insect as is humanly possible to produce. Then too, there are those who lean toward the impressionistic. The flies identified in this class are such successful patterns as the bivisibles, hackles, spiders,

and variants. If I were to classify myself, I am sure I should belong to the latter class, because I am prejudiced toward the bivisible and spider types of flies. Why? Simply because on repeated occasions I have had blank days turned into very successful ones by simply switching the various types of winged flies to bivisible or Palmer tied patterns.

When trout are feeding on the surface of a pond or placid pool and they refuse your winged offerings, try the short stubby type of spider or variant flies and note the results.

While there are many patterns of trout flies that will consistently catch fish, the above mentioned flies are very essential during the particular season when they appear on the stream, and with them in your fly box, few if any other patterns are necessary, unless the addition of a few fancy patterns such as the Royal Coachman and Wickhams Fancy.

All of the above patterns can be tied in Palmer or Bivisible patterns and although I am partial to this form of fly, I must confess I do not like several of these patterns, such as the Quill Gordon, Hendrickson and Green Drake tied in the conventional winged style.

A great many unsuspecting fishermen have been misled about the quality of dry flies. It should be known that the price and quality of a dry fly depends largely upon the quality of the material used in the manufacture of any article. For instance, let us look at the first fly in the accompanying illustration, the March Brown. This fly can be purchased in so many

different colors and makeups that it keeps one busy wondering whether the progenitors of this specie didn't have some strange alliance with its cousins of another description. Silk or wool is used for the formation of the body of the less expensive fly, but as these materials soak up water like a sponge they soon sink and require too much dressing.

Fur from aquatic animals or even land animals is far superior to either silk or wool for body material, and as the fur taken from the belly region of most animals is lighter in color due to the indirect reflected light on the lower parts of their bodies as compared to the parts over the back which receive the direct light rays, it is especially adapted to this purpose. The fur from Red Fox, Seal, Opossum and Muskrat are very essential. These fur bodies are spun onto a piece of tying silk and in this way tied to the hook. More time is necessary to construct a body of this kind, but due to its translucency and wearing qualities it is far superior to the silk or wool variety. Quill is used for the darker bodied flies and properly manipulated will stand a lot of hard usage.

Hackles with a lot of web are quite useless for a well balanced, neatly dressed fly, and will not bear the weight of the fly in order to carry it in an upright position. Choose flies with stiff glossy hackles and you will find that very little dressing is necessary.

Wings are sometimes made of duck wing quills, starling quills, or the wing quills of other birds. Mandarin flank feather and gray barred Mallard drake feathers are used for wings on most of the better grade flies and seem to be suggestive of the wings of the natural insect in motion. This type of wing will stand more switching than any other type and although a trifle more expensive they are cheaper in the long run.

The following is the dressing for the plate of flies in the illustration.

No. 1. March Brown

Body, Fawn colored fox fur; Hackle, brown with gray tied in at front; Tail, brown hackle tips; wings, gray Mallard breast feathers.

No. 2. Hendrickson

Body, Fur from the belly of a red fox; hackle, rusty dun; tail, Mandarin; wings, Mandarin.

No. 3. Quill Gordon

Body, Quill stripped from a peacock eye feather and ribbed with gold wire; hackle, blue dun; tail, blue dun; wings, Mandarin.

No. 4. Light Cahill

Body, red fox belly fur; hackle, ginger; tail, ginger; wings, Mandarin.

No. 5. Green Drake

Body, cream; hackle, barred rock dyed a pale yellow; tail, two or three strands from a

(Turn to Page 23)

MAY FLIES

I have been asked repeatedly to name a list of flies that I consider best for our local Pennsylvania streams and with the fellows in mind who made the requests, I have prepared the following list of flies and dates of their emergence from the water. These dates however, will vary, depending on weather and stream conditions.

Name	Stream	Town	County	Date
March Brown	Clarks Creek	Tower City	Schuylkill	Apr. 30
Hendrickson	Rattling Creek	Lykens	Dauphin	May 3
Quill Gordon	White Deer Creek	Mifflinburg	Union	May 15
Light Cahill	White Deer Creek	Mifflinburg	Union	May 18
Green Drake	Penn's Creek	Coburn	Center	May 30
Red Quill (Male Hendrickson)	Gold Mine Creek	Suedsburg	Schuylkill	May 4
Little Marryat (Pale Eve, Dun)	Rapid Run	Mifflinburg	Union	June 10

STONE FLIES

Early Brown Stone	Rattling Creek	Lykens	Dauphin	Apr. 15
Large Brown Stone	Penn's Creek	Coburn	Center	June 3
Yellow Stone (Sallies)	Penn's Creek	Coburn	Center	June 15

CADDIS FLIES

Dk. Blue Sedge	Kettle Creek	Crossfork	Potter	May 30
Brown Sedge	Stoney Creek	Dauphin	Dauphin	July 15
Black Flies Ants				

TODAY'S FLY LINES

By R. W. McCafferty

SEVERAL seasons ago I watched an elderly gentleman casting as gracefully as it has ever been my pleasure to witness. "Most likely expensive equipment," I mused. A little later I had a chance to inspect and cast with it, and it was not at all what I had expected. The rod was very old and whippy. The line was a braided silk casting line about 18 pound test.

I had heard of men casting with outfits of this type, but this was the first time I had actually seen and handled one. In the absence of something better I could have fished with this paraphernalia, but under all but the most perfect conditions it would not have been very enjoyable. In a wind I imagine it would have been nearly impossible. There seemed to be no shoot whatever and the line submerged the moment it touched the surface of the water, eliminating all except very short pickups. For average stream wet fly fishing it would suffice but for the average angler of today, that is a different story.

It really has not been many years since good lines and rods have been manufactured in America. Men used outfits such as I have just described not so much as a matter of choice as from one of necessity. Even a good level enameled or oil finish fly line was not available at a price to fit the average man's pocket book. However, the last few years we have taken great strides in line developments here in the United States. Line manufacturers have been giving the fishermen a highly satisfactory product but, there still remains a fly in the ointment. Many of the manufacturers have their own ideas as to the letter applying to a certain thickness. Some of the lines vary as much as .005 of an inch. When the manufacturers combine and standardize the letters with the thicknesses, we'll go places. Most of the better American lines I have "miked" have been fairly uniform in thickness and yearly they are getting better.

The primary idea is to get a line which, when you have 25 to 35 feet of line beyond the rod tip, will be heavy enough to bring out the action of the rod. If the line is too light it is just about impossible to bring out that action, therefore you cannot transmit any energy from the rod to the line. On the other hand, a line that is too heavy just eats up that energy instead of carrying it through to the tip of the line and into the leader. Because one manufacturer's line of say, size E may be the same weight of another's size C, it is unsafe to state definitely what size line will fit a rod of a certain action. Nevertheless, I recently saw several rods on which were marked the approximate sizes of line to be used on said rods. At least the rod companies are realizing how necessary a good fitting line is to perfect casting.

The angler is doing both the rod and himself a favor by making it his business to ascertain which is the proper line for his rod. He

has the choice of three line styles: first, a level line; second, a double tapered one; and third, the three diameter or triple taper. This latter line is more often referred to as a "Torpedo Head," a name derived from its torpedo like action in shooting through the air while casting.

Level Lines

The level line is just what the name implies—of an even thickness its entire length. My favorite line for early spring fishing is a level one. At that time of the season I use Buck-tails and Marabou streamers and for these types it has always worked to perfection. Usually though, as one becomes more proficient at fly fishing he desires more and more the delicacy delivered by the double tapered lines. Do not understand from this statement that the level line is not a delicate implement. On the contrary, many men have developed their skill to

is necessary on our streams. The English chalk streams demanded long casts. The majority of our streams made these casts unnecessary and in many cases impossible. Because the lines were developed primarily for long casts, the manufacturers found the long tapers to be perfect for their conditions in England. As these imported lines were for years the only ones available to the anglers on this side of the Atlantic, these men labored long to make the lines fit our conditions. Many seasons passed before some enterprising persons discovered the value of a shorter taper. Subsequently the tapers of 18 feet were reduced to 9 feet. Today, for general fishing conditions, the short taper is the better choice in the double taper lines.

Three Diameter Lines

Since I first mentioned these lines in a former article, I have received many inquiries regard-

LEVEL LINE



DOUBLE TAPER

the point where they can handle their level lines better than some others will ever handle the best of double tapers. That is one reason I have suggested to many beginners that they purchase level lines first and master casting fundamentals with that outfit. Later they will be in a better position to choose the proper tapered line.

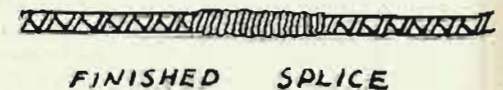
The level line is also the very essence of economy. It is the cheapest of the three lines and a very satisfactory one for those who do not wish to invest too much money in a line. The original cost is very reasonable, a good grade costing in the neighborhood of \$2.00 for 25 or 30 yards. Both ends can be used alternately and if changed end for end every few fishing trips, it will last many seasons. In addition to that, as there is no taper in this line, the cutting off of a few feet from the ends periodically will greatly increase the line's life of satisfactory service.

Double Taper Lines

The accompanying drawings of lines illustrate the principles of tapered lines. The small diameter ends of the double tapered lines for years delivered the acme of delicacy for the fly fisherman while the heavier line in the center brought out the action of the rods, making casting easier. In England, where these lines were developed, much longer casts were made than



INTERLACE SPLICE



FINISHED SPLICE



OVER-LAPPING SPLICE

ing them. Anyone who has not yet tried one has a genuine revelation in store.

In certain types of angling they help much in preventing fatigue. The weight in the head helps reduce materially the effort one must expend while fishing the large wind resisting flies and bugs which are coming into more use every season. Particularly on windy days, I would not want to fish with any other type of line. When first originated, many of these lines were made with a very heavy weight portion, which resulted in causing a slight splash until one learned the proper casting technique necessary to overcome that fault. Later lines, however, have changed that. Instead of the short, very heavy heads, manufacturers are now building that portion longer, but with a smaller diameter to make up the necessary weight. Consequently, these new lines possess the delicacy which made the double taper so popular. Draw-

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TIP

FRONT TAPER

WEIGHT PORTION

BACK TAPER

RUNNING LINE

TRIPLE TAPER

THE GREEN DRAGON

By CARSTEN AHRENS

THERE'S a green dragon in my garden! One day last summer a friend, returning from a trip to Lake Erie, brought a dozen, little, black bullheads for my garden lily pool. None of them could have been more than an inch or two in length. They were ugly looking imps; made so, perhaps, by the long black feelers which streamed from the margins of their wide mouths. They made a striking contrast with the goldfish in the pool.

But the following morning, I could count but eleven black swimmers wriggling through the water. Before the day was over, another had disappeared. This continued; by the end of the week the school had been reduced to one perplexed bullhead. Then I happened upon the cause of the strange disappearances.

I was lying by the pool looking wonderingly at the water plants that undulated pennant-fashion in the slow current, when I saw the green dragon! It was clinging head downward to a water weed. So green it was that it seemed a part of the plant to which it had attached itself. Then as I watched, the last, lonely bullhead came swimming by. Swifter than sight, it shot the monster's lower jaw, which seems to work like a sliding pair of sharp pincers. It seized the fish from above, on either side of the back, and instantly started to chew toward the backbone. Now this may sound impossible, but, never-the-less, true: this dragon does not use the lower jaw for chewing, but for holding. It is equipped with chewing teeth which are not attached to this jaw. Nor do these teeth work up and down, as we're accustomed to having teeth work, but they work back and forth, crosswise!

Before I could interfere, it had slashed open and had killed my last bullhead, so I decided I might as well make a study of its table manners. The monster started where it had first gripped the victim, on the back near the tail, and chewed steadily toward the head. At intervals it would let the meal rest on a broad leaf just below, while with its forelegs and pincers-like lower jaw, it would "pick its teeth." Perhaps the skin of the bullhead would cover the points of the sharp chewing apparatus and force it to suspend operations until the mill was cleaned. At one time I thought it was too far away to be viewed clearly, so with a stick I forced the weed upon which it clung closer to the edge of the pool. But it was so absorbed in dinner that it apparently did not know any change had occurred. For almost an hour, fifty-five minutes to be exact, the meal lasted. Then it gave its chewing apparatus a thorough cleaning, using again the lower jaw and forelegs for the purpose. When it was through with its meal, it abandoned the victim, and well it might, for there was little left besides the skeleton, a few fins, and the long feelers of what had been a fine bullhead.

I decided to study this monster at a closer range. I found it to be almost three inches in length, with six long legs, huge compound eyes, and short pad-like structures for wings. Its lower jaw which could be moved with such lightning-like speed was three-fourths of an inch in length. The large abdominal cavity was lined with gills that took oxygen from the

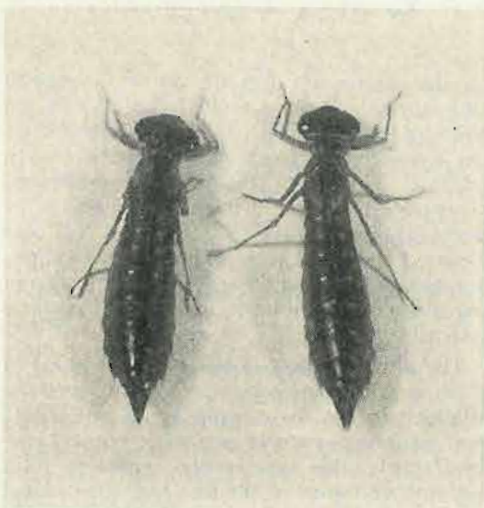


Photo by Byron Chaplin.
Water Babies.

The curious creatures above are the aquatic forms (called naiads) of the dragonfly. This species spends about a year in the water before it crawls out for its transformation. While in the water, the naiads live on any water animal that isn't too large or too hard-shelled. To become the piece de resistance of a dragonfly's meal demands activity alone on the part of the victim. One day I forgot to feed the two pictured above, so one ate the other!

water drawn into this chamber. The ability to expel water rapidly through the large opening at the posterior of the abdomen aided the creature in locomotion.

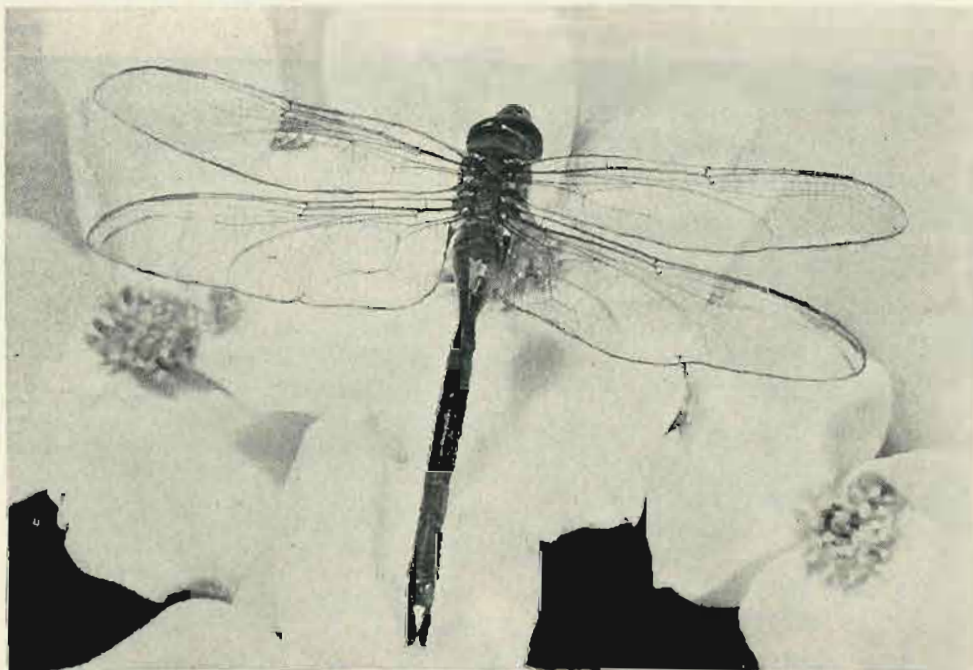
I placed it in a small bowl of water, and found that it would eat almost anything . . . that is, anything that moved. It refused to touch anything already dead. It seemed to be

governed more by sight than smell, and apparently anything that moved was made only for the purpose of supplying it with food. Never would it pursue its prey, but it would lie motionless until the unwary victim would swim by; then a vicious snap of the lower jaw . . . and it never missed! Although I kept it in captivity for over a month, it never contemplated a hunger strike. Insects, polliwogs, worms, a small crawfish, and minnows were devoured. One day I found two other dragons of the same species to which my bullhead-killer belonged, but the newcomers were smaller in size. Alas! the very next day I had to pronounce cannibalism against my charge, for the dragon had eaten one of his guests!

Tragedy in another form overtook the other dragon. Early one morning I found that it had climbed up a stick which extended from the bowl . . . Never before had such an effort been made. For an hour it hung motionless. Then gradually a new creature, wet and bedraggled in appearance, worked its way through a rent in the old skin. But for some reason or other, the dragonfly, though ridding itself of its old suit, could not free itself from the mask that covered its head. The outcome was obvious. Exposed to the air, the unremoved part grew grimly hard, imprisoned and starved the insect, and death was the result.

All this while, the first dragon I had taken continued to eat and grow. I secured another school of bullheads, and it ate every one. And then one evening, several weeks later, it decided to change its ways. When I looked in the bowl the next morning, I saw its empty skin clinging stiffly to a reed which extended from the water,

(Turn to Page 14)



Snake-feeder

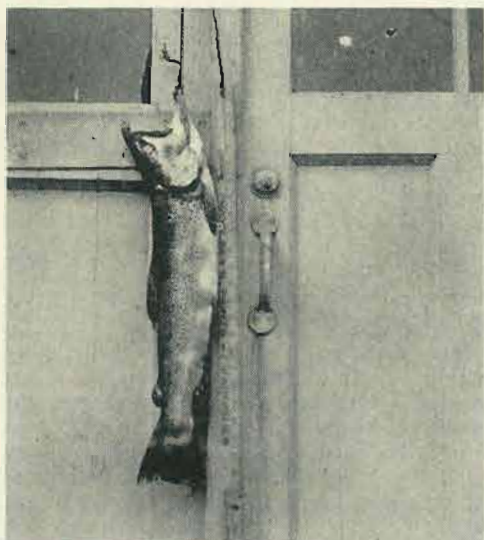
Photo by Byron Chaplin.

Although called by dozens of common names such as devil's-darning needle, mosquito-hawk, spittle, snake-doctor, etc., and frequently believed to be harmful, the intricately-veined creature pictured above (*Anax junius* Drury) like all dragonflies is not harmful in any way but extremely beneficial.

TROUT CONDITION TELLS THE STORY

Drought and Flood have Reduced Trout Forage in Many Waters

By ALEX P. SWEIGART



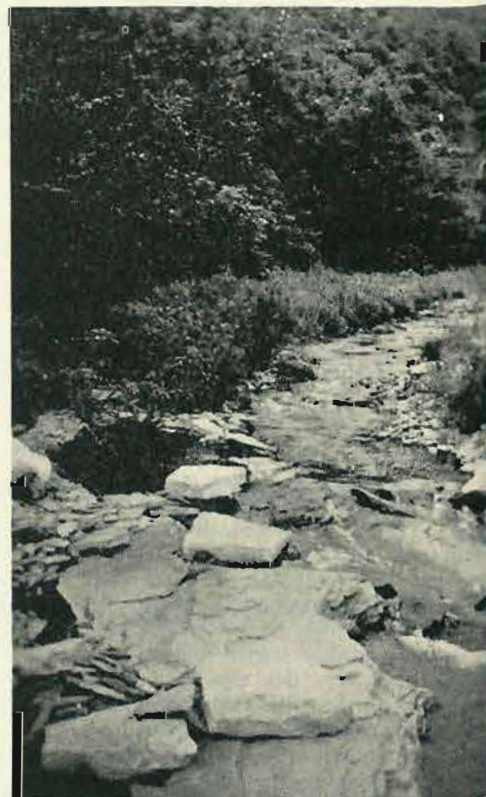
A Carbon county stream yielded this poorly conditioned brown trout. In length 22½ inches, it weighed only 2½ pounds.

TO THE early season trout fisherman, the angler who does most of his fishing during April, and may not visit the water again until next year, it would be difficult to visualize the condition of certain streams in one of the so-called dry months, August or September. Riffles that during early spring carried a surging current often appear half exposed to the rays of the sun. And, since it is a recognized fact in fish conservation that the ability of a stream to support trout or,

for that matter, any fish life, can be determined only when that stream is at its lowest ebb, the effect of eight successive years of drought on our Pennsylvania trout waters can be readily realized. There are streams in Pennsylvania, of course, that have withstood the effects of these dry years fairly well, Spring Creek and Penn's Creek in Centre county, for example, but generally throughout the state, the carrying capacity of waters for trout has been seriously impaired.

The ultimate effect of the disastrous flood of 1936 on our trout waters is open to question. While, it is true, the scouring action of the current in many streams seriously crippled the food supply, this same action served to flush out vast quantities of silt that had accumulated on the stream beds. Removal of this silt, which has long been regarded as seriously detrimental to trout streams, and formation of many pools suitable for trout through the action of the flood water may definitely be placed on the credit side of the trout stream ledger.

While extremely low water in a trout stream, coincident with sultry air temperature and strong sunlight may cause a drastic rise in water temperature, in many instances well over the 74 degrees Fahrenheit usually believed necessary to carry trout, this condition also serves in many instances to curtail seriously the supply of natural forage available for the fish. We may list essential trout food under four heads: (1) Minute crustaceans, such as the scud or freshwater shrimp, available to trout during the entire year; (2) Aquatic insects, nymphal and adult; (3) Larger crustaceans, such as the crayfish, and cold water minnows such as the blacknosed

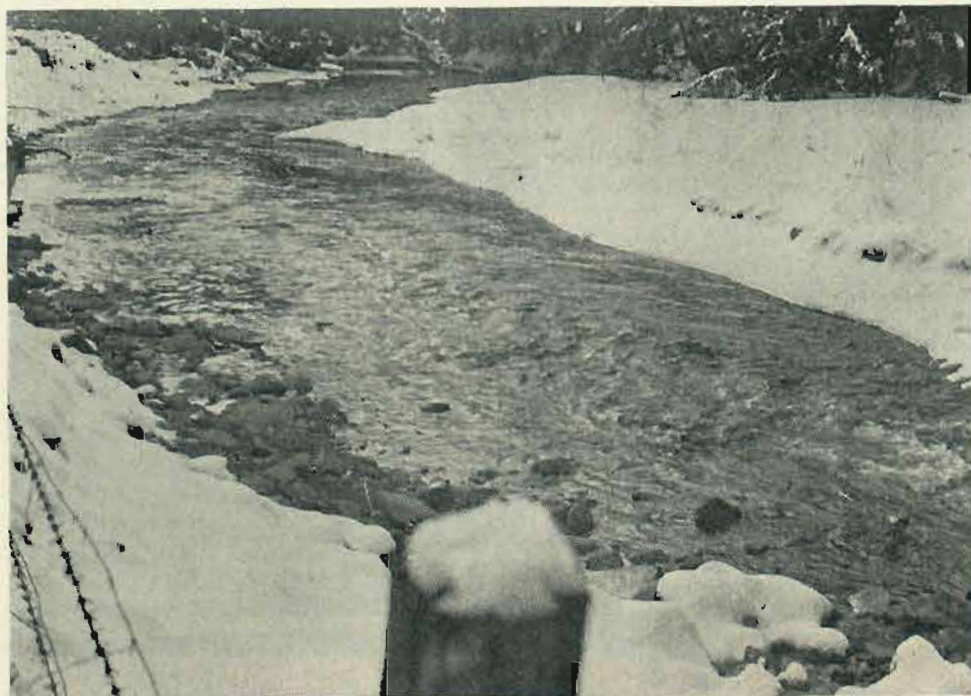


Drought had its effect on mountain as well as meadow streams.

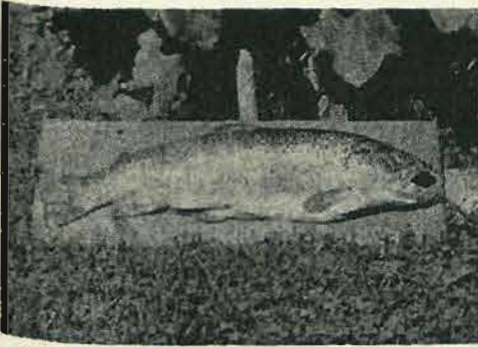
dace, and (4) Terrestrial types such as the earthworm, grasshopper and cricket, which may be washed into or fall into the stream from the shoreline. The first three groups, to be found constantly in the same element with the trout, are of basic importance. The fourth group, at certain times of the year, also furnishes excellent forage.

In discussing trout forage, we have at times heard fishermen remark that such-and-such a stream should be ideal for trout because minnows of various species were so plentiful. The reverse, particularly in smaller waters, may often be the case. Minnows such as the horned dace or rus chub, the silver shiner and even the blacknosed dace compete directly with trout, particularly in taking such forms of food as insects in the nymphal and adult stages and small crustaceans such as the scud or freshwater shrimp. Some minnows in a trout stream are desirable for without doubt they serve as good forage for adult trout, but when too numerous they may be classed as definitely undesirable.

During the past year, the ANGLER has called attention repeatedly to the serious lack of forage in bass waters. This same condition exists to a startling extent in many of our trout streams, particularly those smaller streams subject to drastic fluctuation in flow. Following the flood of '36, sparse hatches of insects were observed in numerous streams. During the 1937 season, hatches of aquatic insects were somewhat better, and from observations last season



The flow in most trout waters is heavy during winters of normal rain and snow.



A Bald Eagle brown trout that exemplified good condition. It was 22 inches in length and tipped the scales at five pounds.

this type of forage is making a fairly good comeback, particularly in major trout waters. In streams seriously affected by drought, however, extremely light hatches were noted.

There is real hope, it appears, in bolstering the forage supply in trout streams through introduction of more crayfish. As in the instance of bass, this crustacean constitutes a vital source of trout food. In a surprising number of instances, when trout have been opened during the past several years, crayfish of varying sizes have been found in their stomachs. The crayfish cannot be ranked as a serious competitor of the trout for food, since it feeds readily on decaying vegetable and animal matter. It will, of course, take floating food washed into a stream, such as the earthworm, and small fish such as the minnow when occasion offers. Generally, however, we believe it to constitute one of the most beneficial types of trout food to be found in our waters. The Fish Commission's fish forage raising program, now in an experimental stage at the Pleasant Gap hatchery near Bellefonte, may prove a definite boon to trout waters as well as bass waters.

In the past, we have referred frequently to the splendid methods being followed in trout stream management in Great Britain. The following words of Wilson H. Armistead, noted British trout culturist, in his treatise, "Trout Waters," stress the importance of this vital factor, trout forage.

"Those who have studied a trout stream closely are aware that, as a rule, the growing fish and the mature fish are not on the feed at the same time. It sometimes happens that the result of a day's fishing is a basket of undersized trout, whereas at another time only the mature fish are caught. It would seem that this was a provision of Nature for the protection of the young fish; at any rate, it is a happy coincidence which tends towards their safety.

"A plentiful food supply means not only that the young trout keep to their own quarters, but also that the larger fish keep to theirs. The old stagers love to have a corner to themselves, in which they can find both bottom and surface feeding in abundance.

"If the supply in the stream is scanty, the older the fish get (up to a certain point) and the larger they grow, the more widely they must forage for their food, for each season they require more nourishment. The question of supply and demand in a trout water is one which requires the utmost care. Too much feeding is bad from an angler's point of view, for the trout get lazy and will not rise to the fly. Too little feeding means that they will be

keen risers, but not large, and when they get old and cease to rise they must become cannibals or starve. It is frequently thought that only large trout become cannibals in their old age, but this is far from being the case. Our mountain streams, which contain small, poorly-nourished fish, produce as many cannibals as, and probably more than those where the feeding is better, and, as almost the only food they can procure is small fish, they are more destructive.

"To strike and maintain an exact balance between the food supply and the stock of fish is difficult, and the difficulty is increased when the fishing is haphazard, and no record is kept of the season's catch each year or the numbers of spawners on the redds in the autumn. Even if this is only done approximately it is a valuable guide. Possibly it may be thought too much trouble to keep in touch with the important facts bearing on the welfare of a trout water, and if this is so it only remains to be said that he who neglects his stock will lose it.

"Of the two evils an excessive food supply is less to be dreaded than a scanty one, because, unless there is some serious obstacle in the way, this will right itself in time, as the number of young fish which survive will be large enough to stock the water fully.

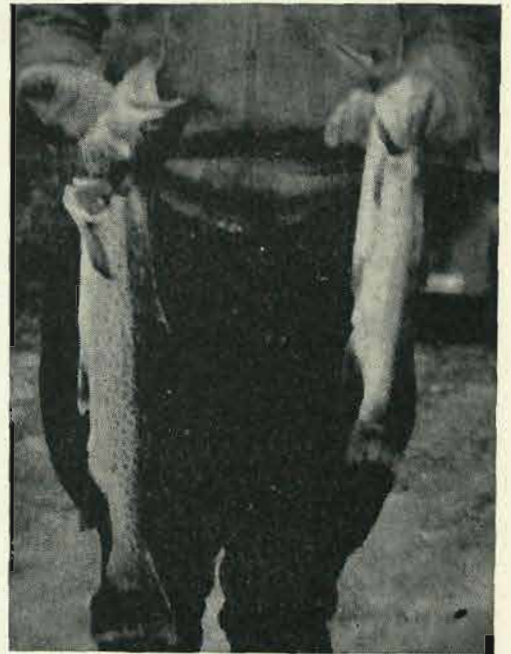
"When the supply is scanty there are two ways of dealing with the water—either by reducing the number of trout or turning special attention to the propagation of those creatures which the fish feed on. The latter way is much the more satisfactory, though perhaps the former is easier."

Obviously, it would be verging on the impossible to keep an accurate creel census of catches on Pennsylvania's hundreds of miles of public trout waters, a factor that should be taken into consideration when discussing the management program on Britain's streams, which are, in most part, privately owned. On the other hand, definite improvement in the forage conditions prevailing on many of our waters at the present time may conceivably be brought about through raising of and stocking from the hatcheries suitable organisms upon which trout may feed.

The condition of trout which the average fisherman may take during a day astream tells a mute story much more forcibly than any words. While it is true that occasionally a racy specimen may be taken from water noted for the heavy girth and fine condition of the trout it produces, generally streams with an abundant supply of forage produce heavy, well-conditioned fish, and streams lacking sufficient food yield racy specimens often with abnormally long jaws. This, of course, applies to fish that have been present in the stream over a period of years.



A tiny mountain brook in flood.



Note the condition of these Wallenpaupack brown trout.

Because of the length which they commonly attain in our waters, brown trout in particular seem prone very often to acquire length and pickerel-like girth in streams offering an insufficient food supply. Spring Creek and Bald Eagle Creek in Centre county, two of the ace trout waters in Pennsylvania from the angle of food supply, last year produced, in addition to the record brown trout, a number of exceptionally fine specimens, girth to length considered. Brown trout taken in Lake Wallenpaupack in recent years on the other hand have been usually long racy fish.

At the present time, there is little reason to doubt that trout fishing in Pennsylvania is based primarily on hatchery production of trout, legal size and over. With the possible exception of streams such as Penn's Creek, Bald Eagle, Spring Creek, Big Pine and other larger trout waters which carry over from year to year a stock of stream-acclimated trout, good fishing for the rank and file of our fishermen may be said frankly to depend upon production of catchable fish at the hatcheries maintained through the fund of the licensed fishermen. It is probable that several good winters of snowfall to restore streams to their normal flow throughout the year and gradual replenishment of natural forage may alter this situation in the future, but until that time the trout fisherman should rest content that his hatcheries are producing brook, brown and rainbow trout that any angler should be proud to take.

The army of licensed anglers has been increasing by leaps and bounds during the past four years, and heavy stocking with hatchery fish is essential to provide sport. It is probable, however, that in the heart of every trout fisherman rests the hope that the day will come when streams restored to their former carrying capacity will be capable of harboring a good population of trout from year to year. At least, that's an ideal to build to, and bringing back the food supply in many of our drought-affected waters would seem to be a step toward the ideal.

Brook trout waters, particularly in mountain areas, that in years gone by rarely if ever pro-

(Turn to Page 14)

BROWN VERSUS BROOK AND RAINBOW TROUT

By C. JOEL YOUNG

THE brook trout, a native of Pennsylvania, is fast losing ground in the open country streams in southeastern Pennsylvania. Proof of this statement is given in this article. As the brook goes out the brown trout firmly establishes itself, it seems.

Prior to December, 1920, very few or no brown trout were in the Little Lehigh Creek. This stream is a typical limestone stream located in the agricultural region of Lehigh county. It is 25 miles in length, with an average width of 60 feet and has a depth of 5 feet average. Fed by consistent flowing springs through its entire length its tributaries are well located and supply a nice volume of clear spring water. This stream is rated as one of the best trout streams in Pennsylvania and accommodates as many fishermen as any stream in the state. It is a common sight to see 1,000 fishermen in the 10 mile stretch where the fishing is best on the opening of the trout season.

If brown trout were stocked in any part of the Little Lehigh Creek prior to 1928 the writer has no knowledge of it. The writer does, however, have the information that no brown trout were stocked in this stream between 1920 and 1928. In December of 1920, the Alburdis Furnace blew out several cubloas and in order to speed the cooling of the cubloas a fire hose was used to flush out the inside. This water carried cyanic poisons into the Swopian Creek, a tributary to the Little Lehigh Creek, located about 15 miles above the mouth of the stream. This pollution killed all life in the stream including fish and fish food. Thousands of trout and other fish were killed and for several days Mr. Acker (fish warden now deceased) removed these dead fish and buried them. Among the fish removed were brown trout, ranging in size up to 30 inches and even at this time the brown trout outnumbered the brook trout.

After the stream was again cleared up and recovered from this pollution, the Board of Fish Commissioners again stocked the stream with trout and I want to impress on the reader that from this period until 1928 *only brook trout were stocked*; but, the predominating catch each year was brown trout and this held true throughout the entire area where the pollution killed all the fish.

The Trexler Trout Hatchery, a private hatchery, is located about 5 miles from the mouth of the Little Lehigh and at the time of this pollution, the loss at this hatchery was about 25,000, 15-inch trout. They were very fortunate that the only ponds affected by the pollution were those ponds that were fed by the water from the Little Lehigh Creek. All the other ponds were fed from springs originating on the property.

Since trout of all species were killed throughout this 15 mile area and *only brook trout* were stocked (the Board stocked many trout to compensate for the loss) yet the predominating catch of trout each year was of the brown species, there can be but one answer and that is, these few remaining brown trout after the pollution killing did reestablish themselves even in the face of food shortage without any help from artificial sources. During the rehabilitation period from 1920 to 1928, the brown trout came

back apparently on their own, while the brook trout and rainbow trout failed to stage a come back even after the Board of Fish Commissioners restocked them. The Lehigh County Fish and Game Protective Association also stocked each year 10,000 rainbow trout which were received from the United States Bureau of Fisheries as fingerlings and raised at the Trexler Hatchery until they attained sizes from 6 to 8 inches. They were stocked in the Little Lehigh Creek each year during this period. I do not hesitate in saying that if it were possible to carry on an experimental test, one would get better facts than those stated above.

The next and most convincing proof in this article came about during 1935. On July 9,

1935, we experienced one of the most destructive floods in the history of Lehigh Valley. It was the only flood in the history of the Trexler Hatchery that flooded out the hatchery ponds. Approximately 100,000 legal size brook trout were a loss for the hatchery and all of these were swept into the Little Lehigh Creek. There were also approximately 10,000 legal sized brown trout and about 150,000 rainbow, brook and brown trout fingerlings. Of the 100,000 legal brown, brook and rainbow trout, about 40,000 of these were recovered by the hatchery company, then they returned into the tailraces coming from the ponds on their property. I made a close survey of the catches of trout from July 9 to the end of trout season and

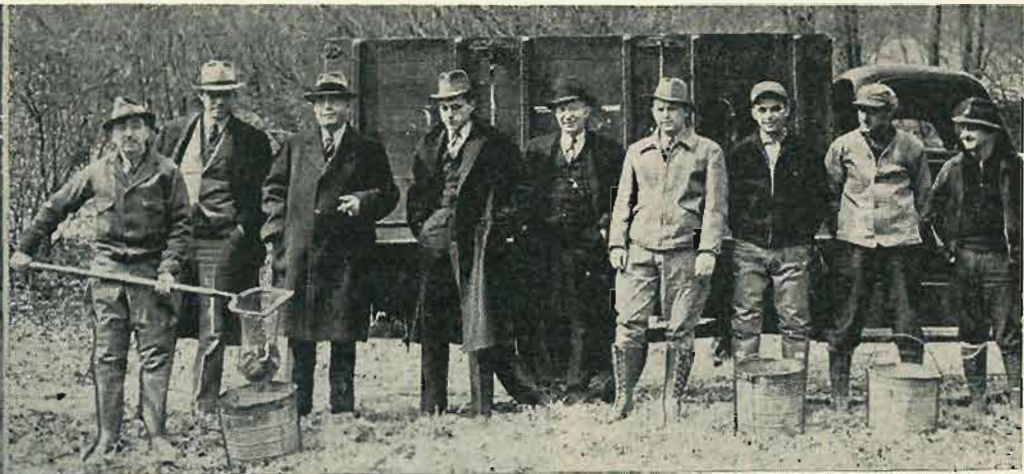


An exceptionally heavy, well conditioned brown trout taken last season in the Little Lehigh Creek by Bill Sorger of Allentown. It measured 21½ inches in length, had a girth of 18½ inches and weighed five pounds.



Allentown Call Photo.

Bart Snyder, chairman of the Fish Committee of the Lehigh County Fish and Game Protective Association (left) stocking legal size brown trout in the Little Lehigh. Right, Association members who assisted in the planting. The writer, extreme left, and George Zimmerman, honorary life member, third from left.



in these waters but for their own satisfaction and information.

Robert Kleckner, 27 W. Church Street, Bethlehem, kept records of all of his trout catches and he says that during the period from 1920 to 1935, all his catches of trout in the Little Lehigh Creek were predominantly brown trout and that the brown trout catches were 93% over the catches of brook trout and rainbow trout.

George W. Dimmick, 524 W. Union Blvd., Bethlehem, says that all his records cover the same period and he claims that the brown trout catches predominated in the Little Lehigh Creek over this period.

Morris D. Salisbury, 537 N. Circle, Bethlehem, has kept records and found that brown trout catches exceeded catches of brook trout and rainbow trout in the Little Lehigh Creek from 1920 to 1935.

We do not go beyond 1935 for the reason that brown trout are now stocked in the lower reaches of the Little Lehigh Creek. This information can be verified by writing to any of the three fishermen just mentioned.

CLEARFIELD CLUBS ENDORSE BRETH PLAN

A new plan for the improvement of fishing streams was endorsed by the Clearfield County Federation of Sportsmen's Clubs at their meeting in West Decatur.

The plan, proposed by Harris Breth, of Clearfield, asks the Fish Commission to select 50 headwater streams in various parts of the State and put two men at work on each for a period of two months.

They would devote their time to placing trees and boulders in the streams and otherwise developing pools for game fish, which will replace those that were wiped out by the floods of 1936.

The terrific pressure of the flood water washed out streams so thoroughly that no pools were left and the waterways were so "clean and glistening" that they lost their attractions for fish, declares Breth.

Reports of the delegates to the recent State Federation of Sportsmen's Clubs convention were received at the meeting.

OVERSTOCKED PONDS PRODUCE SMALL FISH

By H. S. Swingle and E. V. Smith

Alabama Agricultural Experiment Station
(Reprinted by courtesy Alabama Game and Fish News.)

Experiments on fish production in ponds have been carried on for the last four years by the Agricultural Experiment Station at Auburn. Some of the most interesting results have been those upon the effect of the number of fish in a pond upon the pounds of fish produced per acre, and upon the size of the fish.

Two ponds were stocked in June with bluegill bream at the rate of 6,500 newly hatched fry per acre of water. The following November the ponds were drained and the fish were counted and weighed. It was found that they had reached an average size of slightly less than one ounce at an age of 6 months, and that the total production was approximately 300 pounds of fish per acre.

These fish were carried on for two more years with the same number of fish per acre and the ponds again drained when the fish were 2½ years old. It was found that these fish still weighed only about one ounce each and that the total weight in the pond was still only about 300 pounds of fish per acre. Apparently these ponds produced only enough food to support 300 pounds of fish and the fish were unable to grow further after their combined weight had reached this figure.

Two-year-old bream averaging an ounce each were used in another series of experiments to see if fish production could be increased by increasing the number of fish in a pond. Three ponds were stocked in the spring with 1,300, 3,200 and with 6,500 bream per acre. In November the ponds were drained, the fish removed and weighed.

Where stocked with 1,300 per acre, the bream had reached an average size of 4 ounces; where stocked with 3,200 per acre, they had reached an average size of slightly less than two ounces, and where stocked with 6,500 per acre they had reached an average size of approximately one ounce.

The total weight of fish produced was approximately 300 pounds per acre in each of the ponds. Increasing the number of fish in the pond did not increase the number of pounds of fish produced—it merely resulted in smaller fish.

Where the food supply is unchanged, more fish in a pond mean smaller fish; fewer fish mean larger fish.

according to my closest estimate there were about 10,000 legal sized brook and brown trout caught by fishermen during the remaining days of the open trout season in 1935. That left about 40,000 legal brook trout for the season of 1936 and I also am of the opinion that these were all the trout among the 150,000 fingerling fish still in the stream that the stream could support. I therefore wrote to the Board and asked that no trout of any kind be stocked during 1936.

During the 1936 season, a very careful survey was made by me to ascertain whether the catch would be better than in other years. I found to my disappointment that the season was the poorest we had had in ten years and again the predominating catch was of brown trout. What then does this prove? In my opinion it proves that brown trout will and can establish themselves in streams where brook and rainbow trout cannot or will not. The results of stocking brook trout and rainbow trout in similar proportions with brown trout in this and other streams of the same characteristics are apparently the same; that is, the catches are from 60 to 90% better with brown trout stocked than with brook trout and rainbow trout stocked.

The proof already given should be convincing to anyone. However, I have still more proof and this is from unsolicited sources. Below I will give the names of three anglers who have kept records of catches of trout in several streams in this vicinity. These records were not made with the idea of starting any arguments as to what species of trout were suitable

CONCERNING SNAKES

By FELIX J. BARCHOCK

(Part 1)

THE characteristic contour of a snake's body is too familiar to need elaborate description. Its leading features are, in fact, so nearly approximated by certain of the legless lizards previously described that the distinctions between the two can with difficulty be defined. The snakes agree essentially with the lizards in the character of their scaly covering, the scales, however, being larger on their under surface and especially adapted (as in the legless lizards) for creeping locomotion.

The essential distinctions between the two groups have to be sought in the structure of the head. The most notable of these, as it obtains in the snakes, is the very loose manner in which all the bones connected with the jaws are held together, thus providing for the greatest possible distension in the act of their swallowing their prey whole as is the custom of all ordinary snakes.

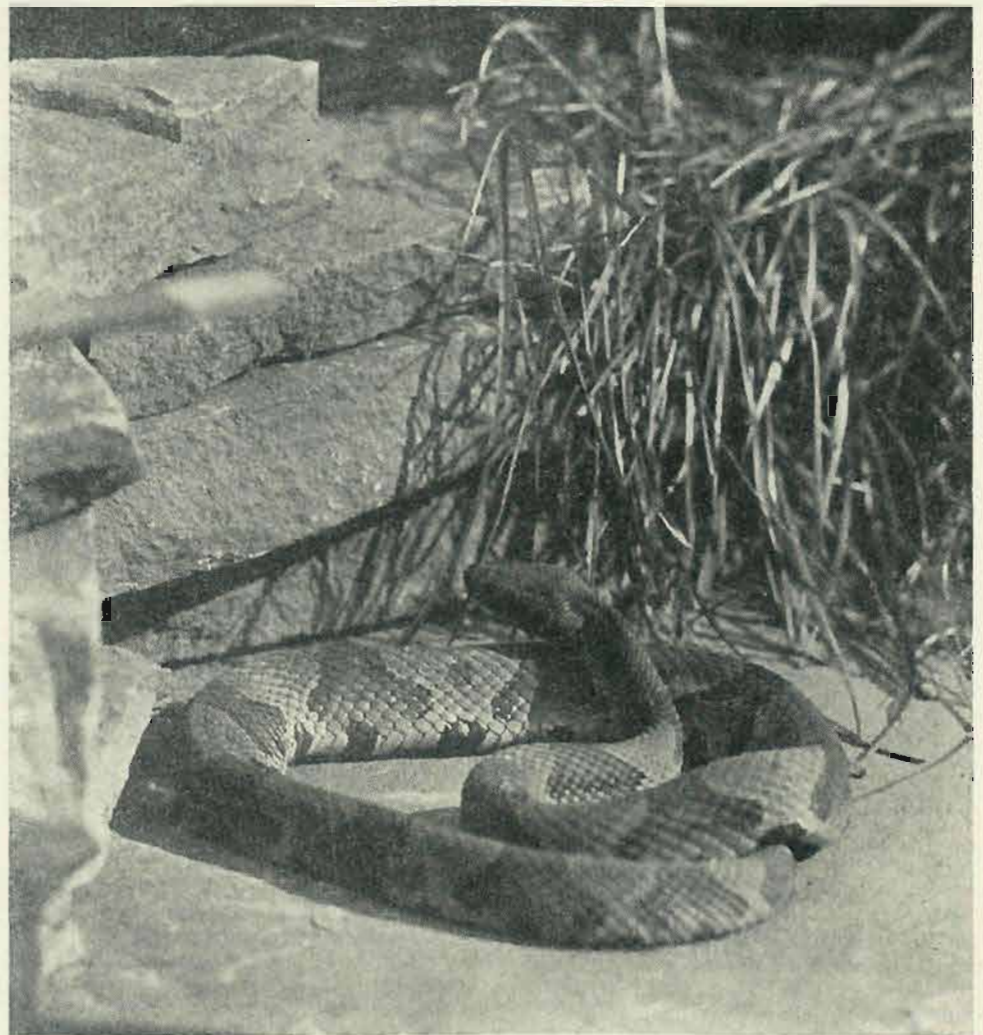
To achieve this end the two halves of the lower jaw are not united together at their extremity or chin as in lizards but are merely connected with one another by an elastic ligament. In most snakes the bones of the upper jaw and palate are also attached to one another in a similar way.

The eyes of a snake differ in a very marked manner from those of ordinary lizards. No snake possesses movable eyelids. The eye, in compensation, is protected by a transparent horny disk continuous with the general epidermis and is shed with it when the snake casts its skin.

This feature imparts to snakes that fixed, stony expression of the eyes with which snakes are commonly regarded as possessing. A few exceptional lizards, such as the Geckos, have a similar eye construction but it is not met with in any of the limbless or snake-like forms.

No snake, again, shows any trace of external ear openings; such structures on the other hand being distinctly developed in almost all lizards. The head, itself, of the snake is never compressed or elevated as in most lizards but flattened down and usually wider than the body to which, however, it is united without a distinct neck. The tongue of the snake is slender and terminates in two long thread-like points. Basally it is inserted into a hollow sheath into or out of which the entire organ can be retracted or inserted at will. The somewhat uncanny flickering action with which a snake while moving displays and, as it were, feels its way with its long, forked tongue, represents the element which adds to the disfavour with which these reptiles are commonly regarded. Among the uneducated, even in the present day, it is not unusual to hear that the tongue, with reference to its peculiar shape and the vibrating action, pronounced to be the seat and instrument of the reptile's poisonous properties.

The swift, silent, stealthy, gliding motions with which, apart from any visible organs of locomotion, a snake glides, as it were, along the ground and over all obstacles, fills to the brink the measure for its condemnation in the estimation of all but the snake devotee or the naturalist.



Copperhead.

Game Commission Photo.

Their Locomotion

The locomotion of the snake is, as a matter of fact, one of the most remarkable and beautifully-contrived phenomena in animal mechanics. The peculiarly jointed and abnormally mobile ribs constitute the mystic *deus ex machina* by which the reptile accomplishes its migration. These ribs articulate in pairs by a single mobile head with their respective segments of the vertebral column. At their opposite extremity they impinge on and are in muscular connections with the broad, slightly overlapping shield-like scales which clothe the under surface of the body. The rib muscles contracting in rhythmical successions, raise the free overlapping edges of the shield-like scales which, striking against the ground in the same regular order, push the body forward.

Adopting an easily comprehensible simile, the snake's body is carried along the ground on the same principle as a paddlewheel steamer is pushed along the surface of the water. The paddle boards in the case of the snake being affixed to a long, narrow plane instead of a circular wheel.

Poison Fangs

The poison-fangs of snakes are highly specialized structures and their presence or otherwise was formerly considered sufficiently distinctive for the separation of these reptiles into two sharply-defined natural series. More recent investigations, however, have shown that such a system of classification is entirely artificial, both venomous and harmless species occurring among groups which are related to one another by essential structural characters.

The teeth in the ordinary or harmless snakes are usually represented by two rows of slender, recurved, sharply-pointed teeth in the upper jaw and a single row of a similar character in the lower one.

This recurved character of the dentition effectively assists the snake in gorging its quarry whole. Nothing once seized by the hook teeth has a chance of retreating, the snake, itself, being unable to eject the prey upon which the teeth have fastened. In the most poisonous species, such as the rattlesnake, there is but a single row of recurved teeth in the upper jaw and these are equivalents to the inner set of the harmless species. Among the most venomous

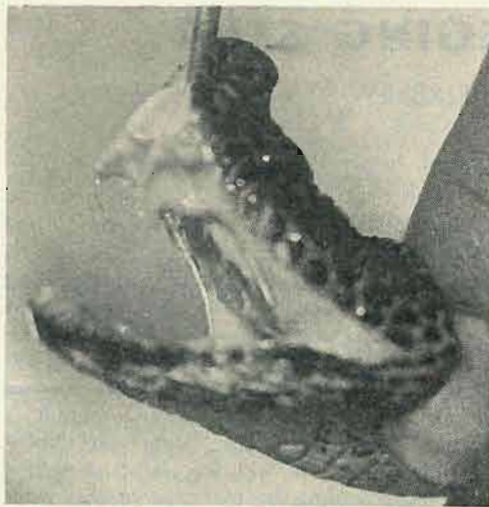
snakes, the poison fangs are tubular in character, the poison being received from the venom glands at their open base and discharged at the apex. In other forms the fangs have grooved channels only for the passage of the virus, while in the other species, there may be an intermediate condition.

In all cases, the poison-secreting glands are a modification of the ordinary salivary glands of vertebrate animals. They are situated one on each side immediately below and behind the eyes and are in some instances so abnormally developed as to extend backwards along the sides of the body. Special muscles envelop these glands and force the poison into the hollow base of the fangs when the mouth is opened to strike.

EDITOR'S NOTE: The trout fisherman, trying his luck on a mountain stream, may happen upon a rattlesnake; copperheads are occasionally encountered on bass waters. In presenting this article on snakes by Mr. Barchock we feel that our readers will gain a better understanding of reptiles.

SPANGLER SPORTSMEN PLAN TO REORGANIZE

The Spangler Sportsmen's Association held a special meeting in the Legion Hall, Tuesday, February 28th, for the purpose of reorganizing, with Martin Kirsch presiding. Temporary officers were elected as follows, Martin Kirsch, President; Paul M. Lantzy, Secretary; and Gust Kurg, Treasurer. These officers were to

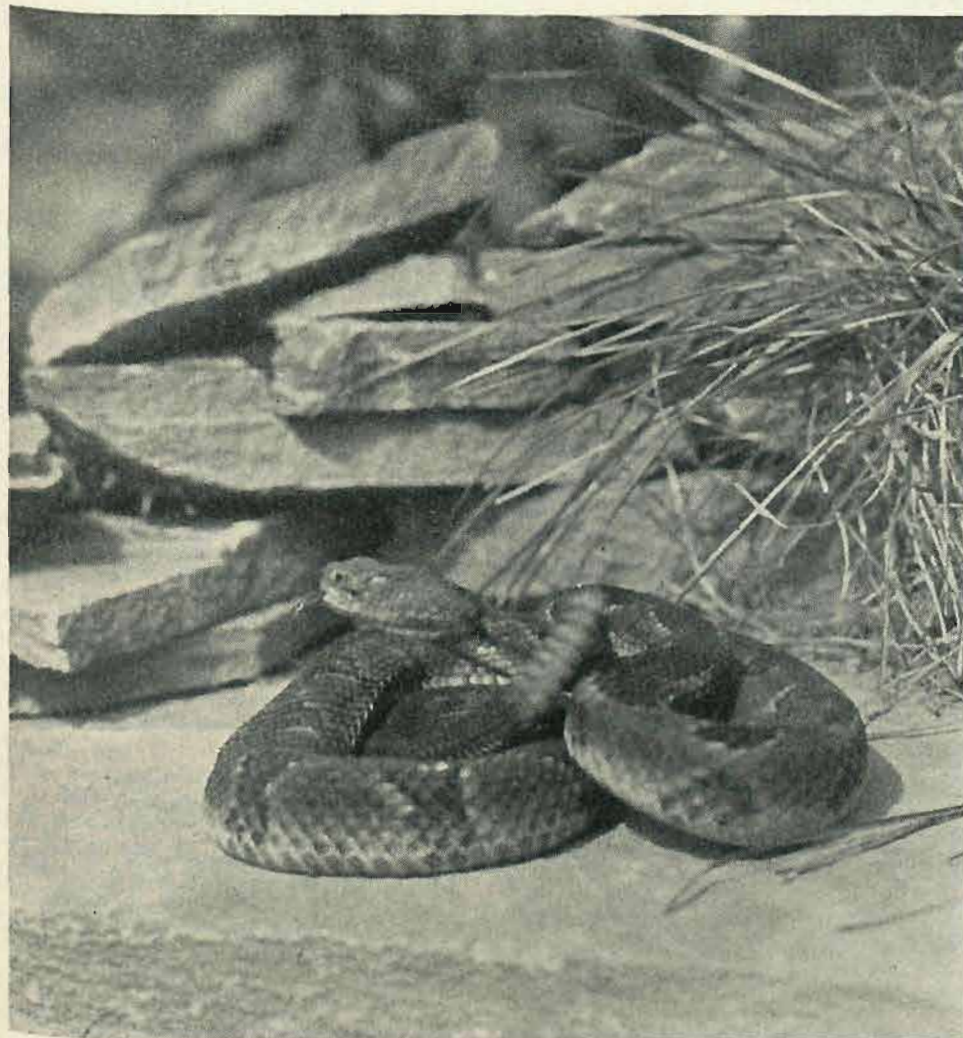


Game Commission Photo. Showing the fangs of a black timber rattler. Nearest fang has sheath still covering it. Other fang has sheath retracted by elevator.

act until the next meeting, which was held on Sunday, March 12th at 2 P. M., in the Legion Rooms.

A membership committee composed of Walter Weaver, Chairman, William Reed, Clayton Reffner, William Whalen and Robert Evans were appointed.

E. J. Lehmier and Clayton Reffner were appointed to make an inspection of the Duman Dam and report back at the next meeting.



Timber Rattlesnake.

Game Commission Photo.

LUNCHEON CLUB HONORS HUNT

Pennsylvania Sportsmen's Luncheon Club members and friends, at Pittsburg, turned hillbillies, donned whiskers, beards and mustachios of various hues and styles and lit corncob pipes to honor Col. Paul C. Hunt, president of the organization who, shortly, will leave for the Missouri Ozarks to make his home.

Chet Smith, sports editor of *The Pittsburgh Press*, presented Col. Hunt with a certificate, autographed by all present, making him honorary president of the club for life. George Ewing presented a fly rod and reel with the compliments of his fellow members.

The Colonel was well fortified with necessities. Among the other mementos presented were a pair of stilts to keep his feet dry when traversing the Missouri swamps; a pair of waterwings, in the event he fell out of the boat; a contraption which appeared to be something in which to keep ice cubes . . . for what, no one mentioned, but which in reality was a fly book; a miniature donkey, to carry him over the hills; a night-cap, which wasn't in glass; directions how to raise a houn' dawg; a replica of his favorite game animal, the Missouri cottontail, and numerous others.

TOWANDA CLUB HEARS SHOEMAKER

Election of three new directors and an inspiring talk by Fish Protector Myron E. Shoemaker, of Laceyville were the highlights of the annual meeting of the Towanda Rod and Gun Club held at the Ward Hotel. A delicious turkey dinner was served, covers being laid for approximately 125. During the dinner, chorus singing was led by Romeyn Culver and Vincent Connor with Mrs. Culver at the piano. After the dinner, a short business session was held, followed by brief remarks on the part of veteran sportsmen and club leaders. Mr. Shoemaker's talk was the only one of a formal nature and brought the evening to a close.

The three new directors elected are Gerald Moore, of North Orwell, William K. Breen and Lewis Barnes, of Towanda. They were nominated by Merle Apgar and the nomination was seconded by Leo Scholl. There were no other nominations so election was unanimous.

President Russell White presided at the banquet.

"Oatmeal, oatmeal—every day oatmeal!" lamented Willie.

"Yes," said Fred, "no wonder they call it a serial."

Sailor: "We just dropped our anchor, lady."

Lady: "I'd been expecting that. It's been dangling outside for some time."

Traveler: "When I was in England I saw a bed twenty feet long by ten feet wide."

Man: "Sounds like a lot of bunk to me."

Teacher: "What insect requires the least nourishment?"

Jack: "The moth, he eats holes."

A TROUT TAGGING STUDY

By G. L. TREMBLEY

WHAT happens to the trout planted in our Pennsylvania streams? Do they move upstream, downstream, or stay about where planted? What influence has the season of the year upon their movements? How does their growth compare with that of their brothers and sisters which are retained in the hatchery? For what length of time can a planting of a thousand legal trout be expected to provide good fishing in a stream? Which season of the year is best for planting?

Recently The Pennsylvania State College and The Pennsylvania Board of Fish Commissioners have entered upon a cooperative project which will throw some light on these questions. There is a further partner in this work—the fisherman who visits the stream where these studies are being conducted—for, as will be shown later, much of the success of the experiment depends on him. It is believed that these studies will yield information of value to a trout management program.

In order to obtain the data desired in this study, it is necessary to mark the trout, before releasing in the stream, in such a manner that they may be identified when caught. The Institute for Fisheries research in Michigan has developed the jaw-tag method of marking trout and has used it successfully for several years. The method consists essentially of encircling the lower jaw bone of the trout with a metal tag which carries a serial number. Experiments have shown that these tags do not rust in water and have little, if any, effect upon the trout. This method has been adopted for use in the present study.

The accompanying photograph shows a rainbow trout with a tag in place around the lower jaw bone. It also shows the various sizes of tags used—the size of tag being dependent on the size of the trout. The largest tag has been

opened to show the serial number and the letters PENN.

For the initial experiment, 1,500 legal sized trout have been measured, tagged and planted back of the Rockview Penitentiary in Spring Creek, Centre County. The place and date of planting have been recorded. Before the opening of the trout season, a similar number will be planted there followed by a further planting during the summer. A similar program is planned for Kettle Creek, Potter and Clinton Counties. Posters will be placed along the streams to inform the fisherman of this work and to ask his help in returning the tags with certain information. Helpers will be stationed along the stream to further explain the program and to receive tags and record the necessary data on each fish. As it is not possible to keep helpers on the stream at all times, fishermen are urgently requested to record the following information on each tagged trout taken:

1. Number on tag.
2. Length of trout from tip of snout to crotch of tail.
3. Date when taken.
4. Locality where taken (this should be as definite as possible). This information may be sent or given to C. R. Buller, State Fish Hatchery, Pleasant Gap, Pa., or to G. L. Trembley, Dept. of Zoology, Penna. State College, State College, Pa.

The leaders in this work wish to impress upon the fisherman that this program is *not* designed as a restriction on fishing. On the contrary, when sufficient tags and data are returned, it means that valuable information will be at hand which may eventually lead to more enjoyment of this beloved sport.

FISHING BILL IN ASSEMBLY

The only bill introduced at the present session of the Legislature effecting the Fish Commission is what is known as Senate Bill No. 160, introduced by Senator Crowe on March 7, 1939. This is a bill covering general amendments to the Fish Code and was drawn at the request of the Fish Commission.

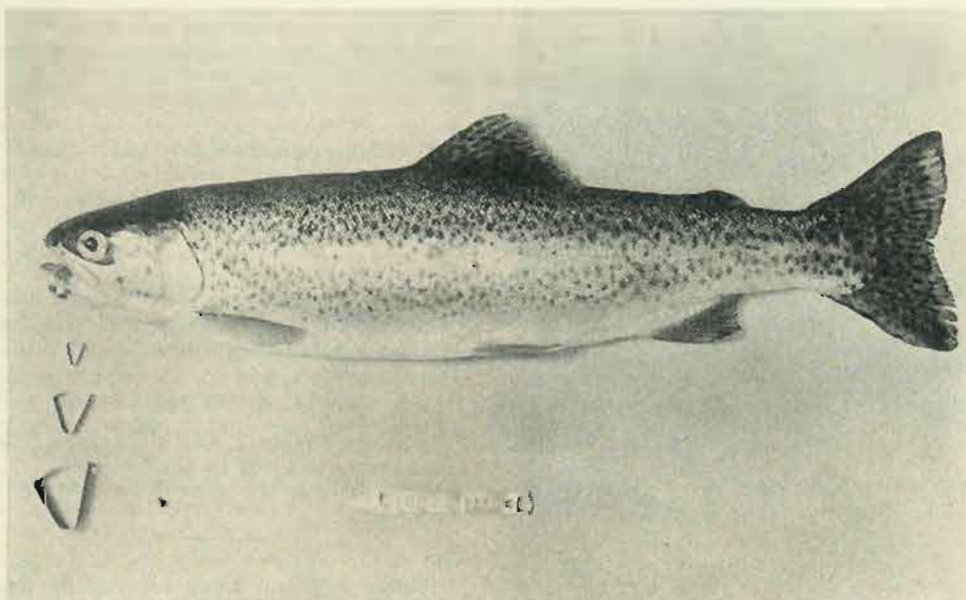
The most important amendment provides for the purchase of lands and waters by the Fish Commission in its own name. This has never been possible in the past and the amendment gives the same authority as granted to the Game and the Department of Forests and Waters.

Sections on size, season and number were amended so they would conform to the rules and regulations as set up by the Board for 1939. Amendments have also been made so Baitfish and Fishbait can be taken on Sunday. Penalty of One Hundred Dollars (\$100.) is also provided for the taking of fish with a seine or net—under the present law, it is only Twenty Dollars (\$20.).

Briefly, the amendments are as follows:

- Section 20—Taking rock bass from protected class.
- Section 30—Removing size limit on rock bass.
- Section 40—Creel limits have been made to agree with rules and regulations as set up by the Board.
- Section 50—Provides for a penalty of \$100. for the taking of fish with a seine. Under the old law the penalty was only \$20.
- Section 220—Allows residents and non-residents to secure a new license for fifty cents upon affidavit when both the license and button are lost.
- Section 251—Provides a penalty of \$10. for each fish in possession contrary to rules and regulations as set up by the Board.
- Section 255—Clarifies closed streams section so that Board may prescribe method of advertising.
- Section 265—Provides for the taking of baitfish and fishbait on Sunday. There have been requests from all sections of the Commonwealth asking that this amendment be made.
- Section 286—Provides for the purchase of land and waters by the Fish Commission in its own name which could never be done in the past. The section as amended is similar to the law under the Game Code and the Department of Forests and Waters.

In our opinion, this bill should have the endorsement of all the fishermen as we believe there is nothing in it which should not meet with their approval.



A tagged rainbow trout and the type of tags being used.



Sandbars



Question: Am interested in winter sucker fishing. Could you mention some good sucker streams within a radius of thirty miles from Sunbury? We have good fishing right where the North Branch of the Susquehanna and the West Branch come together at Northumberland, but am interested in smaller streams.—A.K.M.

Answer: You're in good sucker territory with some mighty fine creeks to give a try. For example, there's the Chillisquaque Creek from its point of juncture with the West Branch below Milton to Washingtonville, Montour county. On the other side of the river from Sunbury, there's Penns Creek in Union county. Another good Union county stream is White Deer Creek, near the river. Snyder county has Middle Creek and Mahantango Creek. All of these streams annually produce good catches of suckers.

Question: What is the difference between a catfish and a bullhead?—H.A.A.

Answer: The bullhead is a native member of the catfish family.

Question: Does Pennsylvania artificially propagate pickerel?—E.H.J.

Answer: While the pickerel is not propagated artificially at the hatcheries, from 1000 to 2000 fish of this species ranging in size from 12 to 15 inches, are taken annually at Pleasant Mount hatchery in Wayne county when the ponds are drained down in the fall of the year. These pickerel are then planted in suitable waters. Of the fresh water game fishes, the pickerel is one of our most voracious, and producing a good number of young in the limited confines of nursery ponds would, in addition to requiring a vast amount of live forage such as minnows, be attended by probable heavy loss through cannibalism. Young pickerel, too, are very delicate, among the most delicate of our game fishes. This applies to the adult fish as well and it is possible that, although stripping the adults of eggs and milt may be accomplished, mortality among the brood fish at this time might be high.

SLOW BUT SURE

Some men apparently rush through life and crowd into the space of a few, hectic years their earthly experience, thereby realizing but little of the real beauties of life. It may be that they are actuated by a desire to accumulate a fortune quickly. It may be that business or competition makes it imperative for them to strain every faculty in seeking to reach the goal. Whatever the cause of their mad haste, they are assuming a grave risk.

Question: Following information would be appreciated. Of the three species of trout in Pennsylvania, what waters or streams are most suitable for each species? In other words, do rainboxes take to cold streams better than brook or brown trout and vice versa?—C.A.Z.

Answer: Apparently, the temperature requirements of trout of the three species mentioned are approximately the same. Brook trout, brown trout and rainbow trout produced at Pennsylvania hatcheries are believed to be able to withstand temperatures in streams up to about 74 degrees Fahrenheit. So much for temperature requirements. From the angle of hardiness and having the ability to withstand adverse stream conditions, the brown trout seems to have the edge. The rainbow trout appears to require water highly charged with oxygen to a notable degree as witness the tendency of these fish to frequent turbulent stream sections. Pure water with an abundance of cover seems requisite for best results in stocking our native charr or brook trout.

Question: Does the state issue maps of counties or otherwise, showing streams and ponds and the species most fished for in same.—G.A.McA.

Answer: No. However, a very good state stream map is available at the Division of Documents, 10th and Market Streets, Harrisburg, at a charge of twenty-five cents (\$.25), cash, check or money order.

Question: What is a good bait for the yellow perch, and where are some good waters for this fish?—R. L. N.

Answer: Recognized as perhaps the best bait for the yellow perch are small minnows. Perch travel in schools, and after a school is located, by using live minnows for bait, a good catch may often be made in a short time. The glacial lakes and ponds of Wayne, Pike and Monroe counties rank as the best yellow perch waters in Pennsylvania. And incidentally, when it comes to eating, you'll go a long way to find a better fish than the yellow perch. Its flesh is sweet and firm.

Rest is necessary—relaxation is imperative—and he who refuses or fails to take these precautions sooner or later leaves this sphere long before the expiration of his allotted time. The sensible man is temperate in all things. He realizes the value of a sound constitution, a clear mind. He knows that his success does not depend so much upon sudden spurts of almost superhuman energy, with its inevitable reaction of exhaustion, but upon a steady, normal performance, carefully organized, which produces best results.—The Gideon.



What with the trout seezun jest ahead, that's all a feller kin hear down ter the corner store. We wuz atalkin' it over t'other nite an' I figgered it ud be a good idear, now that the boys is so het up ter talk a leetle erbout betterin' our fishin' in this neck o' the woods. Fer sum yeres back, the boys wuz rite interested in killin' them watersnakes, but last yere they sorter slacked up on it an' rite now we got too menny snaiks in our mountin an' medder runs ter make it helthy fer the trout. Per-tickler last fall, when the runs got so all-fired low, them snaiks played merry ned with the fish. Killed 1 watersnaik, 30 inches long, thet hed 3 trout, all erbout 5 inches long an' a leetle sucker in it lait last September. Reckin we'd better bear down on the critters cum this seezun.

Eeziest time, I figger, ter kill watersnaks is in late August, rite afore they hev their yung. The mother snaiks seme ter git rite logey an' it ain't no trick ter kill a scad o' them with a club. Mitey gude practice fer the shootin' eye with a 22, too. A cupple snaiks I killed last fall hed ez high ez 30 yunguns in 'em. Shure is surprizin' how quick them leetle codgers is rite atter they're born.

We'd better figger too on mebbe doin' a bit o' improvin' on our spring runs this yere. Keepin' them ez cold ez possible is shure ter help the trout in the main crick they feed inter when the weather gits hot an' the water low. A good way ter improve these leetle feeder runs is ter put in these here deflectors so ez ter keep the water movin' at a lively clip. The more shade the better an' I wated sum brush with stones so ez ter maik it hang over the water much ez possibel.

We got a mountin run up in pine gap thet never hez hed speckeled trout in it much over 7 inches. Well, sir, I did a leetle work up there an' you'd be surprized how it helped the feed in the run. Water's so fast thet it don't pervide much chance fer plants ter grow. Made a cupple winter holes level with the streme bed an' runnin back inter the bank erbout 15 feet. Filled them dead water holes with brush an' when it started ter rot, durned ef they wasn't a fair lot o' feed ter be washed inter the crick cum high water.

Us fellers that like our trout fishin' shure kin do a lot now an' then ter make the fishin' better an' rite now is a good time ter be plannin' on the work, semes like.

I'll be sinin' off now an' here's hopin' the boys hev grate sport on openin' day.

TROUT CONDITION TELLS THE STORY

(Continued from Page 7)

duced charr much over the six or seven inch mark, may in some instances be on the stocking list today for brook trout ranging to 12 inches in length. It is a safe bet, however, in waters of this type, that the season catch of hatchery stocked trout will reduce the charr population drastically.

We must recognize the fact that the future condition of many of our trout waters is dependent, first of all, upon natural replenishment of the underground water table through normal years of snowfall and rainfall. Granting this, introduction of more cover for trout, increased development of second growth timber on trout stream watersheds to serve as additional guards against erosion and excessive runoff, and provision of more natural forage for trout will also be essential in providing better trout fishing.

THE GREEN DRAGON

(Continued from Page 5)

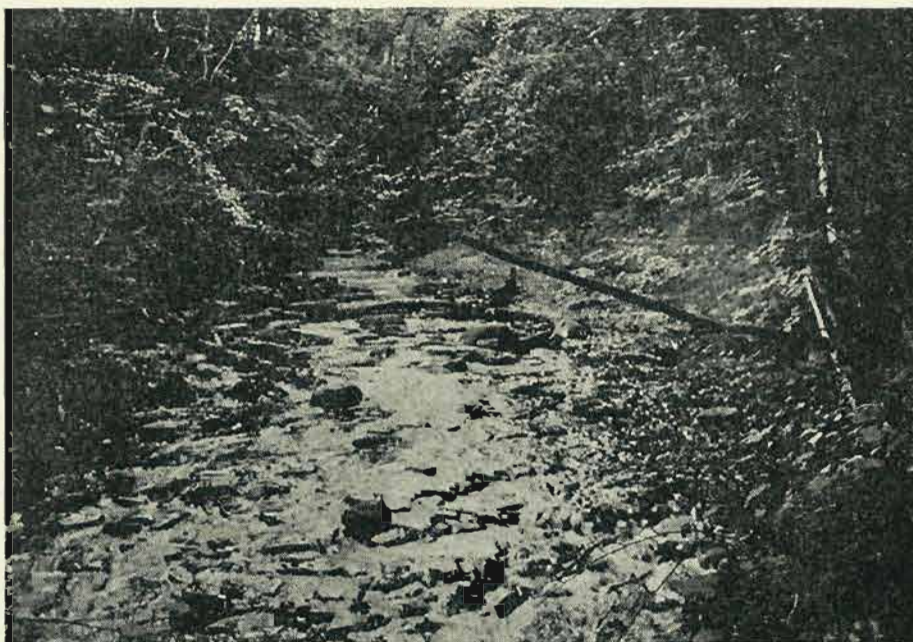
while from a window, I heard an impatient buzz of wings as the transformed creature demanded its freedom. Over night, from an ugly, scummy dragon, it had become a bright green and blue prince with gleaming wings . . . a full-grown dragonfly!

What a transformation! From a loathsome thing to the most graceful creature in the air. Dragonflies are found in their earlier or aquatic stages in one of three habitats: one group lives on the stems of water weeds as the ones I found; another sprawls in the ooze and silt at the bottom of a pond or stream; still another burrows several inches below the muddy bottom from whence it rises but once: to change its squat, prison-like existence for one of sunshine and freedom.

How much harm the dragonflies accomplish during the pre-adult stages is difficult to determine. The species I had in captivity seemed to prefer tiny fish to any other type of food offered. Frequently three tiny bullheads would be consumed in a day. I talked to a forest ranger in Pennsylvania about the seriousness of the ravages of these insects during the nymphal stage. He believed from his observations that along the ordinary stream, one stocked with fish of various sizes, the depredations made by these insects are rare, and would never con-



Spring Creek in Centre county, is a major trout water that has retained a consistent flow during drought years.



Barely enough water in this northeastern county stream to cover the rocks during a drought summer.

stitute a serious menace. In fact he insisted that dragonfly naiads make up an important source of the food of trout.

But they are and constantly will be a source of irritation in the small pool where there are no large fish to destroy them somewhere between the microscopic stage after incubation and the pre-adult stage when their appetites seem insatiable. If the pool is fed by a stream a fine mesh screen would keep out the larger naiads, but since the very young cannot be seen by the naked eye, many would still enter freely. Then too, the adult females of many species roam the countryside in search of quiet water in which to drop their eggs, and again the pool is infested. Cleaning the pool during the winter will help, for it will destroy those naiads with a life cycle of two or more years, but many, such as the green dragon, go through their entire life cycle, from egg to old age, in less than a year.

It is a comforting fact, however, that after the transformation into the adult insects, the dragonflies change their fish-eating ways and become entirely insectivorous, living largely on mosquitoes and gnats. In this stage their importance in ridding our surroundings of these dipterous pests cannot be over-estimated. They never cease to be cannibals, however, and when food is scarce, they will turn upon members of their own kind for existence.

INDIAN CREEK CLUB ELECTS DIRECTOR

Thomas Lowe was elected director of the Indian Creek Valley Chapter, Fayette County Fish and Game Protective Association, at a reorganization meeting held at the office of Squire W. S. Christner, at Davistown. Lloyd Edward was named secretary and James May treasurer. Sixteen new members were received, making the enrollment 28.



This 22 inch brown trout from Bald Eagle Creek weighed five pounds.

FLY ROD SUCKERS

By H. B. WAGNER, JR.

Who has ever heard of or has taken suckers on a fly rod? I have often hesitated to write an article of this type partly because of inadequate material and partly because of the scorn which I would be sure to invite. Overcoming one obstacle while ignoring the other, I will describe my experiences in this type of fishing.

In the first place, those who have never tried fishing for suckers with a fly rod are missing a rare treat. Personally, I believe that there is no finer sport than trout fishing. But in order to conserve our supply of trout and other fish, we must have specified seasons in which to take them, therefore, after the seasons on these fish are closed, there is no reason why you should store your tackle away when this sport is to be had.

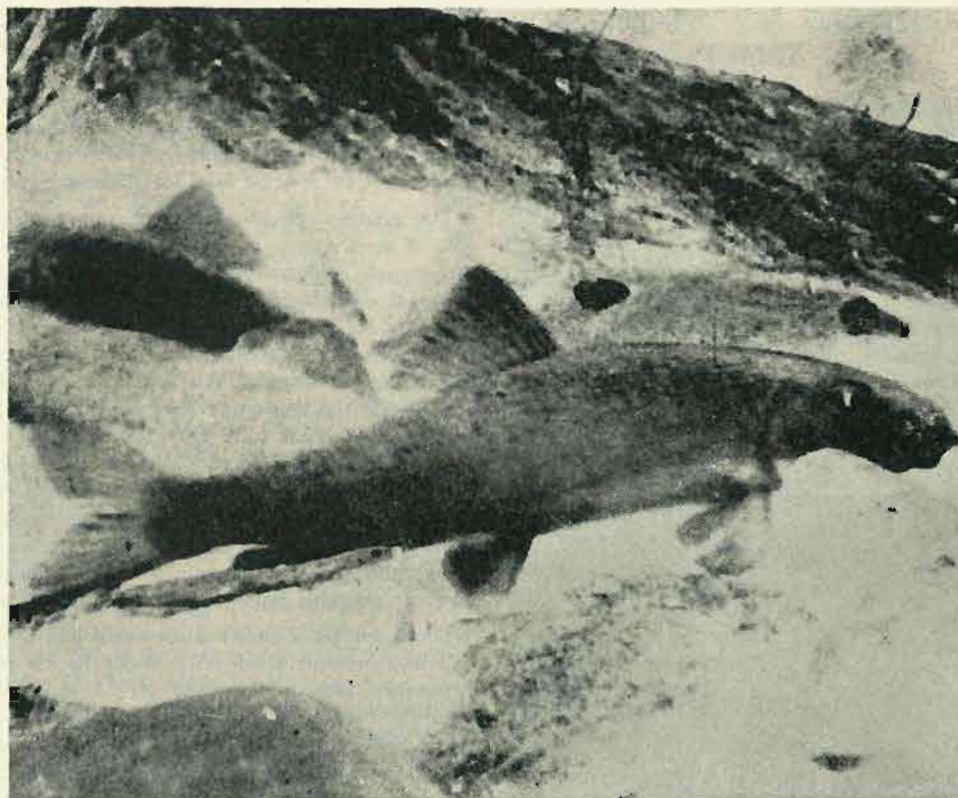
First, we shall take up the sucker himself. He is found in most of Pennsylvania's rivers, streams and dams. Although these fish are generally considered warm water fish, they are often found in many of our spring fed and mountain streams. They are exclusive bottom feeders, using the powerful sucking mouth, from which their name is derived, to secure food. The sucker feeds mainly on bits of food carried along by the current or washed into the stream. Earthworms make up a part of the sucker's diet. In the smaller meadow streams to which I confine my angling, the suckers are usually found in the deepest pools. A pool that has a current strong enough to form an eddy containing a sandbar, is usually inhabited by suckers. Old stumps, tree roots, creek banks and bridges, also afford refuge for suckers.

In fishing these spots, the worm should be allowed to float freely and naturally with the current until thrown into still water or an eddy. It is in such places that suckers gather while feeding. If this method does not bring success, different sections of the pool will have to be fished until the school is located. As a general rule, however, they will lie in an eddy or other comparatively still water. Large suckers often lie in a quite strong current, a distance away from the main school.

During the fall, winter and early spring the suckers are healthy and full of vigor. With the coming of warm weather they lose this, becoming sluggish and soft fleshed.

When the worm is picked up by a sucker, ample time must be allowed before setting the hook, as the sucker is slow in getting the bait into its mouth. The large sucker can be distinguished from the smaller one when biting, inasmuch as the small sucker bites in fast jerks and the large one in a slow steady pull. It is rather rare that a sucker will run with the bait although I have experienced such cases. If the suckers are not feeding they can often be induced to do so by going upstream a few yards and stirring up a bit of mud.

Early spring is the usual time for sucker fishing before they start upstream for the spawning beds. Strange to say, I have taken most of my fish during the fall of the year. This is probably due to the fact that the fish are preparing for the spawning season. I also fished a few days out of every month during the winters of 1936 and 1937. During cold



The sucker offers worthwhile sport with the light fly rod.

weather suckers usually feed on days when the sun is shining brightly. Most of my angling is done between the hours of 10 A. M. and 4 P. M. The temperature, which also influences the feeding of the suckers to a certain degree, should be at least 40° Fahrenheit. My reference to temperature also concerns the fishermen. I have found that in temperatures of 40° F., it is difficult to keep warm without the use of a fire.

On several occasions I have fished through the afternoon without catching a single fish until dusk. Between that time and dark meant the difference between success and failure.

When the question of tackle arises, I would suggest a rod weighing between five and six ounces. As in other fishing, a rod that is too heavy spoils the fun of catching the fish. The action of the rod should be stiff to insure proper setting of the hook. The reel and line, of course, will be chosen according to the requisitions of the rod. When fishing in water that is from three to five feet in depth, a four foot leader with a four or five pound test, will suffice. In clear water, the finer the leader used, the greater are the chances of taking fish.

My choice of hook size is number six. With this size hook I have taken suckers from ten to eighteen inches in length.

Enough weight to carry the worm to the bottom of the creek is obtained by wrapping strip lead around the leader about four inches above the hook.

In closing I am going to request that the readers of this article at the first opportunity try this sport. I am certain that the thrills and battle this plucky fighter will give you will reward you handsomely for cold hands, feet, or other discomforts.

BUTLER SPORTSMEN STAGE ANNUAL DINNER

Celebrating their third annual banquet, sportsmen from all sections of Butler county attended the third annual affair of the North Butler County Hunting and Fishing Club held in the fireman's hall in Petrolia.

Charles French, Pennsylvania Commissioner of Fisheries, told of the propagation and restocking program of the fish commission during the past year and commended the sportsmen of the county for the cooperation which they have given the commission in its efforts to secure better fishing in the county.

Leo A. Luttringer, Jr., chief of the Division of Education of the Pennsylvania Game Commission stressed the need for sportsmen's organizations and later in the program showed interesting motion pictures of the ill fated "Last Raft" on the Susquehanna River and one of the Fox Hunts sponsored by the Petrolia club. Luttringer was one of the survivors of the fatal crash of the last raft in which several persons lost their lives at Williamsport last year.

Frank G. Norris, former county delegate to the State Federation spoke briefly, pointing out the urgent need for predator control and congratulated the Petrolia club for the work they had done for the cause of conservation.

The preacher had just finished a sermon on the duties of wives to mother their husbands.

"I want every woman who will go home and mother her husband to stand up," he cried.

A little woman, who was known to be a trifle deaf, leaped to her feet.

"Ah," cried the preacher, "there is one woman who will mother her husband."

"Mother him?" cried the woman sitting down, "I thought you said to smother him."

CHAMPIONS FLY FISHING FOR TROUT

The writer being stationed on a building project at Washington, New Jersey, during the past six weeks, writes H. L. Fulkrod, of Gettysburg, had the pleasure of joining with local sportsmen in a special trout season during the month of September. Have you ever fly fished for trout during September? It's quite an experience and one that I will never forget. Late evening, between five and six-thirty, was of course by far the best, there being very few flies or other insects earlier in the day, which was no doubt due to the cold nights at this time of the year. A brown hackle tied on a No. 8 hook seemed to be the most wanted by



Photo No. 2.

these brownies, although I noticed quite a number being taken with live bait and that hard worked garden hackle.

The local streams seemed to be quite well stocked from the nearby hatchery at Hacketts-town and I also noted they were not so over-run with fishermen. This fact was no doubt due to it being a special season, also the fact that

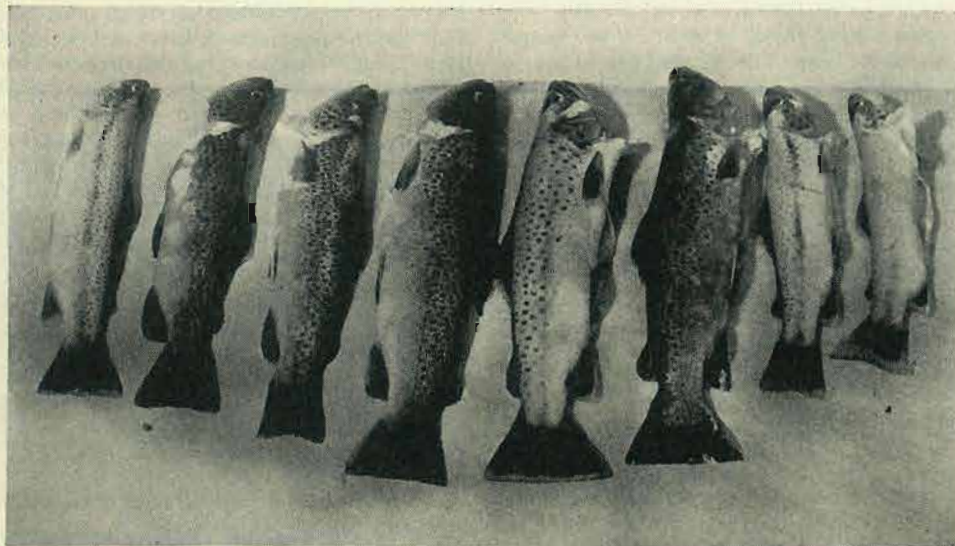


Photo No. 1.

most fishermen had turned to their bass fishing. I wonder how our sportsmen would take to such a proposition? Even perhaps to the extent of closing our season the last of June in order to have September fishing. Also, how it would affect our system of hatching and distribution? This might be at least food for thought.

The attached photos will give you a good idea as to the size of fish being stocked, together with evidence of some real sport. The group of eight were taken on a brown hackle, tied on a No. 8 hook, the evening of September 24th and ran from twelve to eighteen and one-half inches in length. All are brownies and believe you me there was some weight behind them. The writer kills very few fish, but a catch of this size is so rare that he just could not resist the urge to have a photo record of the occasion. Of all taken during this month of fishing, only thirteen were killed, the balance being returned to the stream where they have no doubt provided real sport for other fishermen.

Photo number 2 shows a seventeen and one-half inch brownie taken on a brown hackle on September 14th, while photo No. 3 shows a beautiful brookie and a whale of a brownie, taken September 17th. The brookie lost out on a Royal Coachman and the brownie securely anchored himself to a brown hackle, where he put up a battle that always makes ones heart go bump-bump all over the place. My only regret was that it was necessary to kill them in order to get the photograph.

Our Slogan, "If you would catch more fish-KILL LESS" should be given more thought and followed up by intense publicity in an effort to prove and verify the possibilities and sporting results of returning a legal size fish to the water. I've had a lot of downright fun from this practice. One instance which always stands out in a vivid manner, concerns bass returned during the 1937 season. I fished a certain stream in Adams county, Pennsylvania, most every Saturday evening. One particularly long smooth channel most always provided a couple of nice bass and as I had most always returned all to the water it struck me that perhaps I was catching the same ones at different times. On my next trip up this channel I had three nice rises and landed all of them. Before

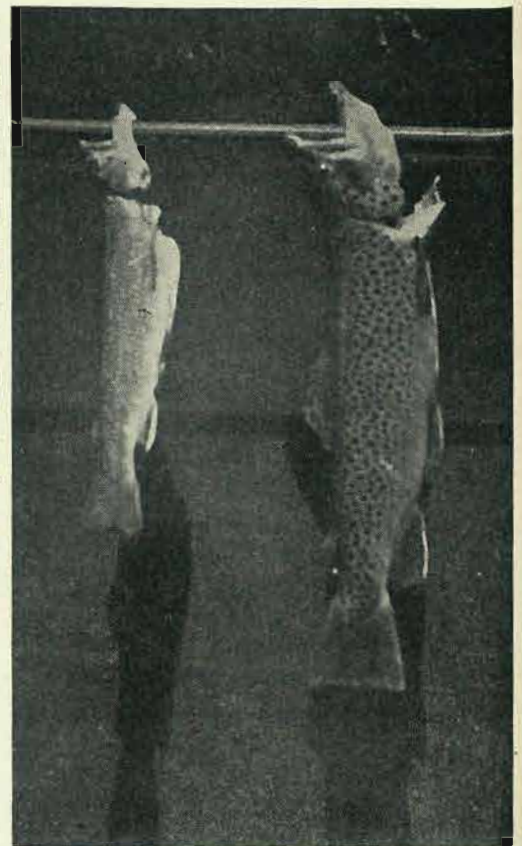


Photo No. 3.

returning them to the water, however, I fastened a small No. 12 Trout fly in the top fin of each bass. Went next Saturday to that particular spot, as I had a sneaking idea that my trout flies were going to show up again. Well, to make a long story short, the first rise produced a twelve inch beauty, but no trout fly. A few moments later smash goes another and lo and behold, there was a fifteen inch dandy still carrying my trout fly and seemingly proud of it. No, I have never seen or heard of the other two being taken, but am of the opinion some other lucky fisherman has scratched his head in amazement and wondered how a trout fly ever became mixed up with the top fin of a fifteen inch bass. If you don't think one can get a real kick out of catching the one you have previously caught and labeled as your own, just try it and I'll guarantee you will agree that it's more fun than putting them in a pan where they provide only ordinary eating at best. A fish killed is like time—once it's past it has gone forever. Also, I am of the opinion most of us would rather have a nice juicy piece of tender steak anyway.

This "new game" is also a first class reason why it's fun to fly fish. Also when one has a few flies, one can fish any time and most any place without trying to find worms in a dry season, or spend one's day off seining out a feeder stream for live bait, only to find that about half of all one seines dies before the day has passed anyway.

The ANGLER has stressed the fact that we do need more food for fish in our streams. You are dead right and flies along with other artificial lures most certainly would go a long way towards solving the matter.

Perhaps an intense publicity campaign, explaining the possibilities and demonstrating through pictures of catches made, showing the direct results obtained through the use of flies might liven up the issue. Along with each picture might be an interesting sketch of the catch, explaining the kind and type of fly used, weather conditions, where fish were taken, date catch was made and any other information available which might help to put the idea over in a manner which would tend to make more sportsmen "fly minded" and not "live bait-minded." Once a fly fisherman always a fly fisherman, as demonstrated by the great number of fly fishermen today when compared to a few years ago. Show me a man who has once caught a nice mess with a fly and I'll gamble that he has quit lugging a minnow bucket around forever.

"SUB-ZERO" SNAKE

Watersnakes are hardy critters and, if there is any doubt on the subject, the following report on the snake shown below with this article should definitely prove it.

This watersnake, reports Warden Leland Cloos, was caught by Glenn Bolt, of Crooked Creek, Tioga county, on January 16, this year. It was taken from a spring when the temperature was 10 degrees below zero. The reptile was taken to the garage of J. P. Borden, at Crooked Creek, where it was kept in a box for three or four days, during which time Mr. Borden found it very active. He would take the snake out of the box and place it out of doors where it would freeze hard as a rock. Then he would place it in the box and put the box on the stove until the snake again thawed out. This procedure was completed a number of times.

Finally, on the fourth day, he froze the snake very hard and when he put the box back on the stove to thaw it out, he forgot about it for a short time. He later found a cooked watersnake. This specimen was 30 inches in length.



GOOD TROUT WATERS IN THREE COUNTIES

Warden Lincoln Lender, of Bellwood, Blair county, lists the following excellent trout streams in Blair, Bedford and Huntingdon counties, with directions on how to reach them.

Excellent Blair county streams are Bald Eagle Creek, a meadow and woodland stream yielding brook and brown trout, Bigfell Run, brook trout, mountain stream, Frankstown Branch of the Juniata River, brown trout, Canoe Creek, brook trout and brown trout, mountain and meadow stream, and Clover Creek, brook trout and brown trout, a meadow stream. All of these streams are accessible over highway Route 322 from Tyrone.

Included in the fine trout waters of Bedford county are Potter Creek, Three Springs Run and Beaver Creek. These brook trout streams are accessible by taking Route 164 from Altoona, and following this route from Roaring Spring. Other streams are the Raystown Branch of the Juniata River, west of Bedford along the Lincoln Highway, brown trout, Shavers Run, on Route 220 from Bedford, and Wills Creek on Route 96, from Mann's Choice.

Huntingdon county trout waters include Black Log Creek, on Route 522 from Mount Union, Licking Creek, Laurel Run and Shaver Creek on Route 305 from McAlevy's Fort, and Standing Stone Creek, East Branch of Standing Stone Creek and Greenwood Furnace Dam on Route 545 from Huntingdon.

Lender ranks the following flies as top-notchers for these waters: Gray Hackle (red body), gray hackle (yellow body), Mallard quill, blue quill, blue dun, pale evening dun, clear water dun, ginger quill, brown gnat, hare's ear, black gnat, and silver doctor, these wet flies tied on nos. 12 and 14 hooks.

The Sunday drivers had picked the farmer's fruit and his flowers, and their car was full of plunder. Pointing to an unexplored highway they inquired of the farmer:

"Shall we take this road back to the city?"

"You might as well," replied the farmer, "you've got almost everything else!"

GOOD SUCKER CATCHES SCORED IN CLARION



Robert Axton and William Greg with their February sucker catch.

Two popular young anglers who work at the Eljer Pottery, in Ford City, Robert Axton, and William Grey, of Manorville, having a day off, decided to try their luck at sucker fishing on February 15, writes Fred Axton, of Manorville. These fishermen are members of a sportsmen's club having a hunting camp in the northern part of Clarion county and to this place they decided to go.

The day was not a very promising one for fishing, being cold and dreary. Nevertheless, they were spurred by memories of the outstanding success which had been theirs at a corresponding time in the same place last year. Not long after the first line was in the water, the suckers, ranging in size from 9 to 16 inches, started to bite. Lines and reels froze quickly and had to be thawed out at the fire.

Before it was time to start for home, Bob and Bill had each secured his limit of 15 suckers. This midwinter catch has encouraged their friends and started a veritable throng of fishermen to the banks of the Allegheny River near Manorville.

CLIMBS FOR FISH; ARM BROKEN

Merle Shindle, 30, of near Greencastle, Franklin county, figured in an unusual fishing incident last season. Shindle was fishing near the iron bridge over the Conococheague Creek at the Stenger farm, southwest of town, when he felt a tug on his line. He gave the line a pull with such force that the fish landed in the branches of a tree overhead, and there it dangled. Shindle climbed the tree and was reaching for his prize when the limb broke and he fell to the ground, breaking both bones in his left wrist.

TROUT WATERS STOCKED WITH LEGAL TROUT

In answer to numerous inquiries, the ANGLER presents the following list of streams in Pennsylvania stocked with legal size trout for the coming season. This lists only major waters in the various counties. Other smaller streams are also scheduled for stocking.

Adams County

Brook trout: Carbaugh Run, Toms Run, Little Marsh Creek; rainbow trout, Chambersburg Reservoir; brown trout, Conewago Creek, Middle Creek and Conococheague Creek.

Forest, Warren, Elk & McKean

(Allegheny National Forest)

Brook and Rainbow trout, Bear Creek and Big Mill Creek; brook trout, Beaver Run, Blue Jay Creek, Brown Run, Little Coon Creek, Farnsworth Creek, Four Mile Creek, Minister Creek, Ross Run, Six Mile Run, N. Br. Sugar Run, Two Mile Run and Wilson Run; brown trout, East Hickory Creek, E. Br. Tionesta Creek, S. Br. Tionesta Creek, W. Br. Tionesta Creek, W. Br. Tunenegwant Creek; brown and rainbow trout, Salmon Creek; rainbow trout, Chappell Fork, Millstone Creek, and Spring Creek.

Beaver County

Rainbow trout, Brady Run; and Brown and Rainbow Trout, Big Traverse Creek.

Bedford County

Brook trout, Beaver Creek, Deaner Gap Run, Flintstone Creek, Maple Run, Potter Creek, and Beaver Run; rainbow trout, Koon Lake; brown trout, Bobs Creek, Cove Creek, Cumberland Valley Run, Imlertown Run, Rays-tumber Br. of Juniata River, Shermans Valley Run, Yellow Creek and Wills Creek.



A series of stone dams and deflectors as they appear in the Bushkill Creek, Northampton county trout stream.

Berks County

Brook trout, Back Creek, Mill Creek, Moslem Creek, Mill Creek, Northkill Creek, W. Br. Pine Creek, Swamp Creek and Furnace Run; brook and rainbow trout, Furnace Creek; rainbow trout, Manatawny Creek; brown and rainbow trout, N. Br. Perkiomen Creek, and brown trout, Hay Creek.

Blair County

Brook trout, Bells Gap Run, Blair Gap Run, Bobs Creek, Sinking Creek and Van Scoyoc Run; brown trout, Bald Eagle Creek, Canoe Creek, Clover Creek, and Piney Creek.

Bradford County

Brook, brown and rainbow trout, Schrader Creek.

Bucks County

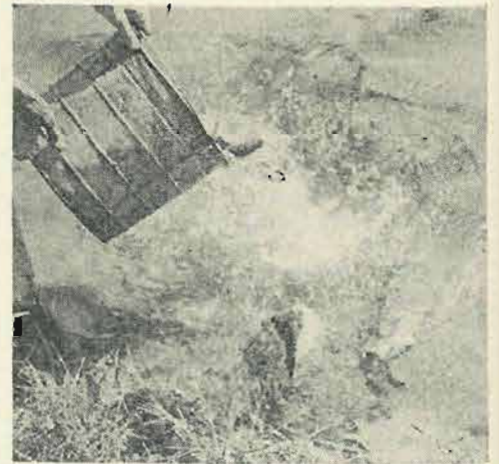
Brown and rainbow trout, Mill Creek; and brook trout, Cooks Creek.

Butler County

Brown trout, N. Br. Slippery Rock Creek and Little Connoquenessing Creek; brown and rainbow trout, Bear Creek, Silver Creek, and Thorn Creek.

Cambria County

Brook trout, Beaverdam Run, Bender Run, Bens Creek, S. Br. Blacklick Creek, Cedar Run, Beaverdam Run, Duclos Run, S. Fork Lt. Conemaugh River, Big Laurel Run, and Noels Creek; brown trout, N. Br. Blacklick Creek, Chest Creek, Clearfield Creek, and Slatelick Run; rainbow trout, Curtis Run and Ebensburg Water Co. Dam.



Releasing legal size rainbow trout in Kishacoquillas Creek, Mifflin county.

Cameron County

Brook trout, Brookes Run, Clear Creek, Hicks Run, E. Br. Hicks Run, Hunts Run, Upper Jerry Run, Lick Island Run, Lushbaugh Run, Mix Run, Portage Creek, Sterling Run and Wykoff Run; brown trout, Driftwood Br. Sinnemahoning Portage Creek.

Carbon County

Brook trout, Aquashicola Creek, Drakes Creek, Fawn Creek, Hunter Creek, James Run, Lesley Run, Mauch Chunk Creek, Pine Run, and Stoney Creek; brown and rainbow trout, Mud Run, and Pohopoco Creek; brook and rainbow trout, Big Bear Creek and Quakake Creek; brook and brown trout, Hayes Creek.

Centre County

Brook trout, Benner Run, W. Br. Big Run, Black Bear Run, Fields Run, Lt. Fishing Creek, Laurel Run, Big Sandy Run, Lt. Sandy Run, and White Deer Creek; brown trout, S. Fk. Beech Creek, Cold Stream, Marsh Creek, Poe Creek, Sinking Creek, and Six Mile Run; rainbow trout, Poe Valley Dam; brook, brown and rainbow trout, Elk Creek, Lt. Moshannot Creek, Penns Creek, and Spring Creek; brook and brown trout, Pine Creek; brown and rainbow trout, Bald Eagle Creek and Logan Branch.

Chester County

Brook trout, Beaver Run, Lt. Broad Run, Doe Run, Indian Run, Mathews Run, and West Valley Creek; brown trout, French Creek, and M. Br. White Clay Creek; brook and rainbow trout, Birch Run, and Valley Creek; brook and brown trout, White Clay Creek; brown and rainbow trout, Officers Run.

Clarion County

Brook trout, Canoe Creek, Lt. Piney Creek, and Lt. Toby Creek; brook and rainbow trout, Deer Creek and Toms Run; brown and rainbow trout, Mill Creek.

Clearfield County

Brook trout, Anderson Creek, Bilger Creek, Curry Run, Deer Creek, Gifford Run, Hockenberry Run, Hazeltt Run, Mix Run, Mont-

gomery Creek, Moshannon Creek, Mountain Run, Sawmill Run, Upper Three Runs, Trout Run, Whiskey Run and Wilson Run; brown trout, Bell Run, Lick Run, Mosquito Creek, Sugar Camp Run, N. Wilmer Run and South Wilmer Run; brown and rainbow trout, Laurel Run.

Clinton County

Brook trout, Antes Creek, Beaverdam Run, Big Run, M. Br. Big Run, Swamp Br. Big Run, Birch Island Run, Cedar Run, Cooks Run, Hammersley Forks, Hyner Run, Rattlesnake Run, Sandy Creek, and Trout Fork; brown trout, Lick Run, Paddys Run, Tangascootack Creek, N. Br. Tangascootack Creek, Young Woman's Creek, R. Br. Young Woman's Creek and W. Br. Young Woman's Creek; brook and rainbow trout, Kettle Creek, and Baker Run; brook, brown and rainbow trout, Big Fishing Creek.

Columbia County

Brook trout, Coles Creek, Lick Run and West Creek; brown trout, Mugser Run; brook and brown trout, Roaring Creek; brown and rainbow trout, Fishing Creek.

Crawford County

Brook trout, McKaughlin Run; brown trout, Lt. Sugar Creek and Thompson Run.

Cumberland County

Brook trout, Alexandra Run; brown and rainbow trout, Big Spring, Letort Spring, and Yellow Breeches; brook and brown trout, Mountain Creek; brook and rainbow trout, Trindle Spring; rainbow trout, Furnace Run Dam.

Dauphin County

Brown trout, Manada Creek, N. Fk. Powells Creek, and S. Fk. Powells Creek; brook and rainbow trout, Stoney Creek; brown and rainbow trout, W. Branch Rattling Creek.

Delaware County

Brown trout, Ridley Creek.

Elk County

Brook trout, Belmuth Run, Big Run, Crooked Creek, Hicks Run, E. Br. Hicks Run, Island Run, Kersey Run, W. Br. Kersey Run, Laurel Run, Maxwell Run, Medix Run, Mix Run, Paige Run, Spring Creek, Straight Creek, S. Br. Straight Creek, Vineyard Run and Wolf Lick Run; brown trout, Driftwood Branch; brown and rainbow trout, E. Br. Clarion River, W. Clarion Creek and Trout Run.

Erie County

Brown and rainbow trout, Beaverdam Run, Conneautee Creek, Lt. Conneautee Creek and S. Br. French Creek; rainbow trout, Pleasant Lake.

Fayette County

Brook trout, Back Creek, Beaver Run, Buck Run, Laurel Run, Mill Run, Morgan Run,

Mountain Creek and S. Fk. Mountain Creek; brown and rainbow trout, Dunbar Creek, and Big Meadow Run; brown trout, Big Sandy Run.

Forest County

Brook trout, Lt. Hickory Creek, and Tubbs Run; brook and rainbow trout, Coon Creek and Hemlock Creek; brown and rainbow trout, W. Hickory Creek and Maple Creek.

Franklin County

Brook trout, Bear Valley Run, Broad Run, Dennis Creek, Red Run, Trout Run, and Trout Run; brown trout, E. Br. Lt. Antietam Creek, Conococheague Creek, W. Br. Conococheague Creek and Muddy Run; rainbow trout, W. Br. Antietam Creek.

Fulton County

Brook trout, Brush Creek, Lt. Brush Creek, South Brush Creek, Oregon Creek and Wooden Bridge Creek; rainbow trout, Cowans Gap Dam; brown trout, Lt. Augwick Creek.

Huntingdon County

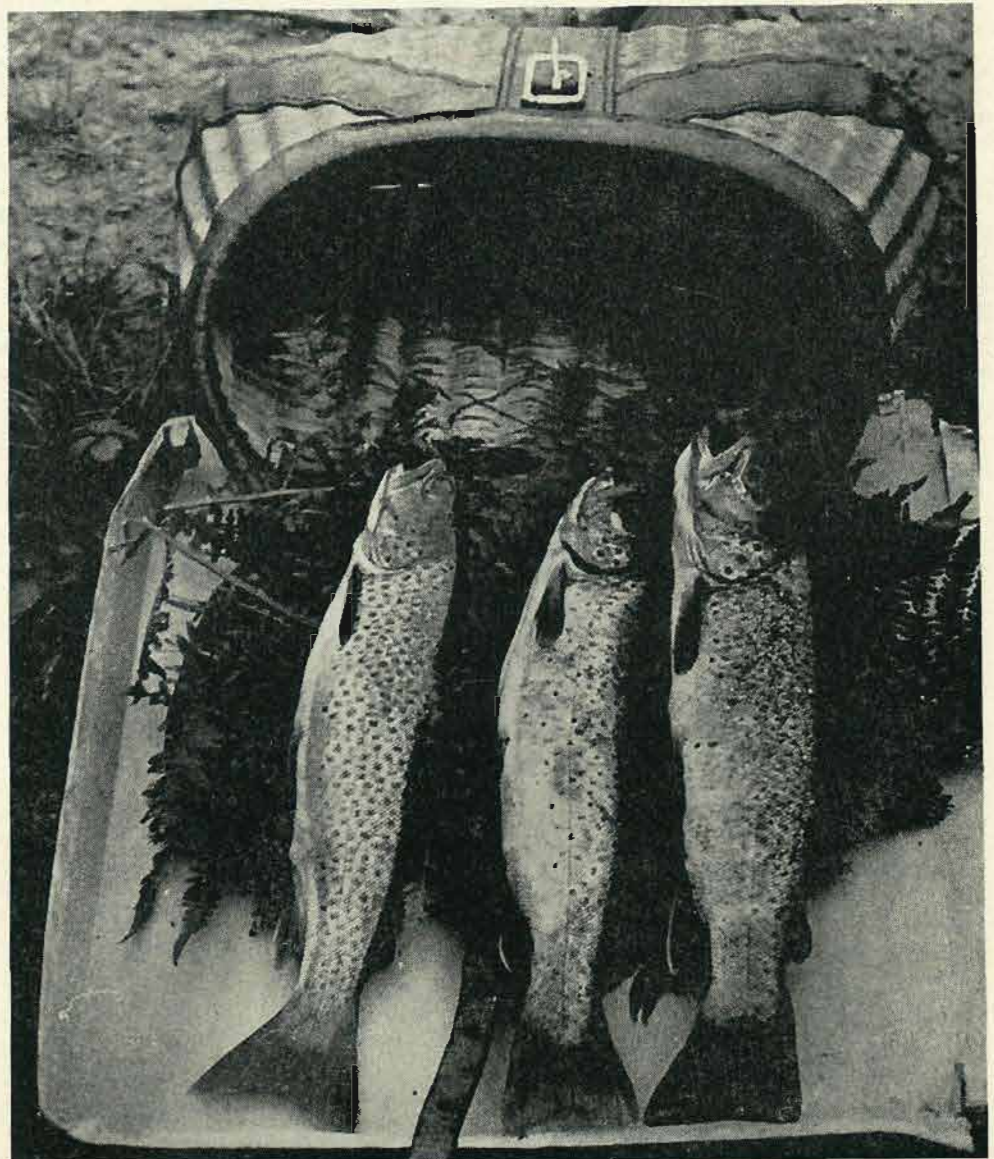
Brook trout, Laurel Run, West Licking Creek, Nine Mile Creek and Saddler Creek; brown trout, Black Log Creek, and E. Br. Standing Stone Creek; brook and brown trout, Spruce Creek; brown and rainbow trout, Standing Stone Creek; rainbow trout, Whipple Dam.

Indiana County

Brook trout, S. Br. Twolock Creek and Lt. Yellow Creek; brook and rainbow trout, Laurel Run; brown and rainbow trout, Yellow Creek.

Jefferson County

Brook trout, Callen Run, Camp Run, Coder Run, Horam Run, and Mill Creek; brown trout, Big Run, N. Fk. Red Bank Creek, S. Fk. of N. Br. Red Bank Creek and Lt. Sandy Creek; brook, brown and rainbow trout, Clear Run; brown and rainbow trout, Mill Creek and Lt. Mill Creek.



W. M. Dom, ardent Greensburg angler and conservationist, scored this pretty catch of Cedar Run, Tioga county, brown trout in fifteen minutes.

Juniata County

Brook trout, Horning Run and Liberty Valley Run; brown trout, Horse Valley Run, Licking Creek, Lost Creek and Willow Run.

Lackawanna County

Brook trout, Choke Creek and W. Br. Wallenpaupack Creek; brown and rainbow trout, Lehigh River and S. Br. Tunkhannock Creek; rainbow trout, Roaring Brook.

Lancaster County

Brook trout, Lt. Conestoga Creek, Donegal Creek, Hammer Creek, Middle Creek, Long Run, Muddy Run, Pequea Creek, Rock Run, and Trout Run; brown trout, Big Chickies Creek and Fishing Creek; brown and rainbow trout, W. Br. Octoraro Creek.

Lawrence County

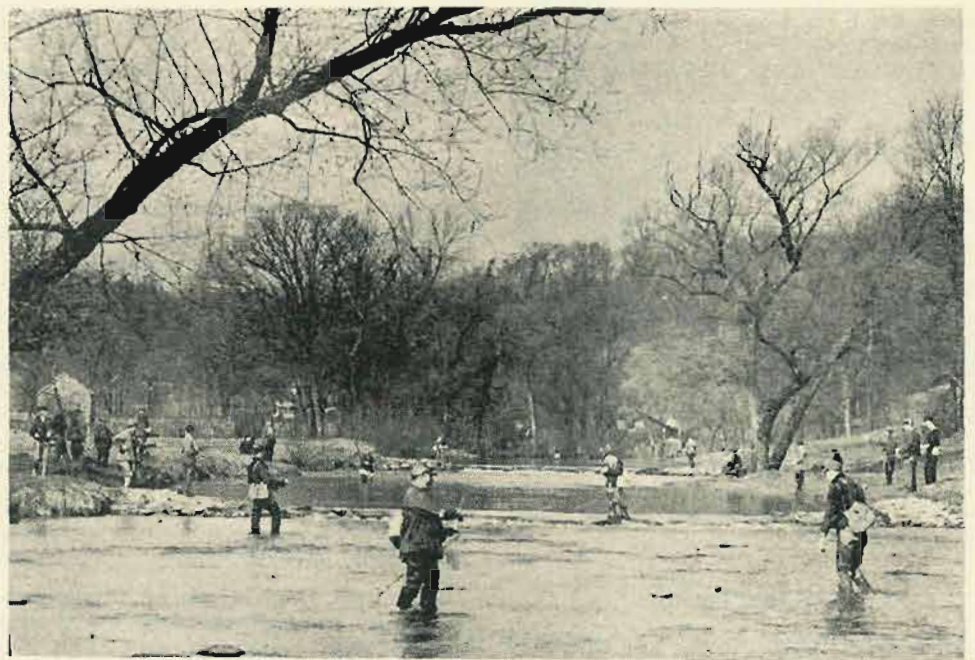
Brown and rainbow trout, Big Run, Deer Creek and Hickory Run; brown trout, Taylor Run.

Lebanon County

Brook trout, Bachman Run, Indiantown Creek and Snitz Creek; brown trout, Evening Branch, Gold Mine Run, Hammer Creek, and W. Br. Hammer Creek.

Lehigh County

Brook trout, Big Trout Run, Cedar Creek, Iron Run, S. Br. Saucon Creek and Swabia Creek; brook and brown trout, Lt. Lehigh River; brown and rainbow trout, Jordan Creek; rainbow trout, Mountain Creek; brown trout, Trout Creek.



Joe Licini of Allentown snapped this opening day scene on the Little Lehigh last season.

Luzerne County

Brook trout, Arnolds Creek, Balward Run, Bowman's Creek, Maple Creek, Phillips Creek, Pine Creek and Shade Creek; brook, brown and rainbow trout, Wapwallopen Creek; brown and rainbow trout, Lehigh River, and Lt. Wapwallopen Creek; brown trout, Harveys Creek, Huntingdon Creek, Kitchen Run, Linesville Creek, Lt. Nescopeck Creek, Lt. Shickshinny Creek and Wrights Creek.

Lycoming County

Brook trout, Lt. Bear Creek, Black Hole Creek, English Run, Fourth Gap Run, Hogland

Run, McMurrin Run, West Mill Creek, Lt. Muncy Creek, Upper Pine Bottom Run, Plunketts Run, Trout Run and Trout Run; rainbow trout, Rock Run; brown trout, Blockhouse Creek, Grays Run, Larrys Creek, Loyalsock Creek, Lycoming Creek, Muncy Creek, Lt. Pine Creek, Roaring Branch, Spring Creek, Wallis Run and White Deer Hole Creek.

McKean County

Brook trout, Bell Run, W. Clarion Creek, Comes Creek, Five Mile Run, Seven Mile Run; brown trout, Marvin Creek and Potato Creek; brown and rainbow trout, Portage Creek.

Mercer County

Brown trout, Lackawanna Creek, Mill Creek, Mill Creek, E. Br. Wolf Creek, N. Br. Wolf Creek, and W. Br. Wolf Creek; brown and rainbow trout, Deer Creek, Lt. Neshannock Creek and W. Br. Lt. Neshannock Creek.

Mifflin County

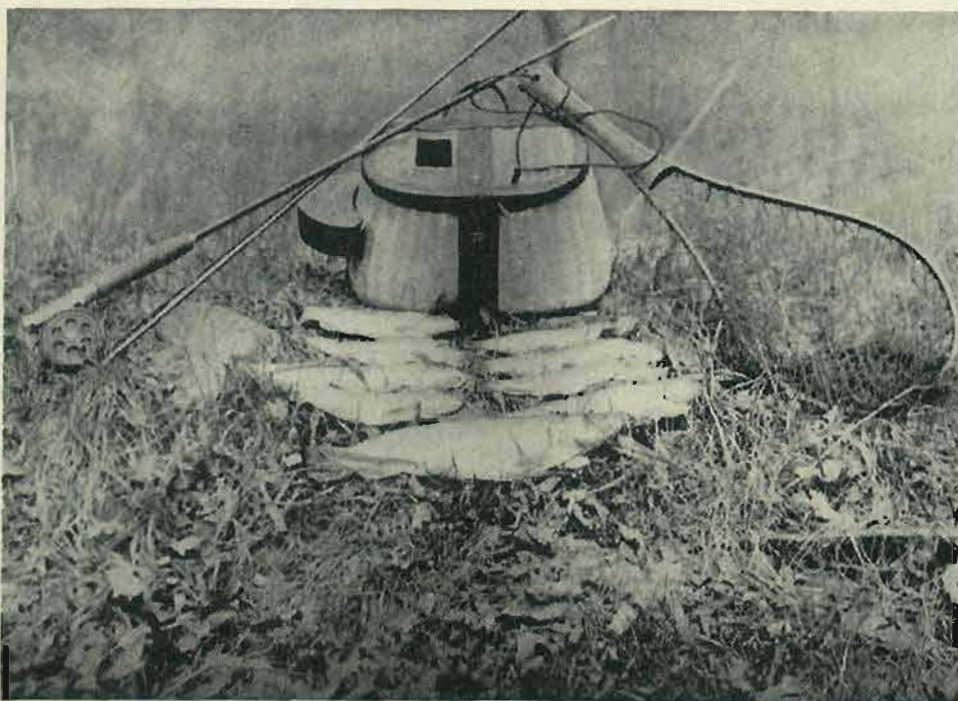
Brook trout, Havice Run, Laurel Run, Lingle Run, and Treaster Valley Creek; brown trout, New Lancaster Creek, Honey Creek and Licking Creek; brook, brown and rainbow trout, W. Br. Kishacoquillas Creek.

Monroe County

Brook trout, Aquashicola Creek, Buckwa Creek, Cherry Creek, Dotter Creek, Forest Hill Creek, Kettle Creek, Lake Creek, McMichaels Creek, Middle Creek, Mixsel Creek, Pencyl Creek, and Scott Run; brook and brown trout, Big Bushkill Creek and Pohopoco Creek; brown trout, Middle Brodheads Creek, Pocono Creek and Tunkhannock Creek; brown and rainbow trout, Brodheads Creek, Tobyhanna Creek and Lehigh River; rainbow trout, Snow Hill Dam and Weir Lake.

Montgomery County

Brown trout, Deep Creek and Mill Creek.



This nice catch of brown and rainbow trout was made last year on opening day of the season by Bart Snyder of Allentown, R. D., in the Little Lehigh.

Northampton County

Brook trout, Bertsch Creek, Coffeetown Run, Greenawalts Creek, Indian Creek, Jacobus Creek and Waltz Creek; brook and brown trout, Monocacy Creek; brook, brown and rainbow trout, Saucon Creek; brown and rainbow trout, Bushkill Creek and Catasaqua Creek; brown trout, Lt. Bushkill Creek, Hokendauqua Creek, Martins Creek and Lt. Martins Creek.

Perry County

Brook trout, Browns Run, Green Valley Run, Laurel Run, Liberty Valley Run, Montour Run, McCabe Run, Shaffer Run and Shermans Creek; brown trout, Horse Valley Creek, and Lt. Juniata Creek.

Pike County

Brook trout, Lt. Bushkill Creek, Middle Bushkill Creek, Dingmans Creek, Swarfkil Creek, Indian Ladder Creek, Kellam Creek, Middle Branch Creek, Millrift Creek, Panther Brook, Raymondskill Creek, Sanvantine Creek and Twin Lake Creek; brook and brown trout, Big Bushkill Creek; brown trout, Shohola Creek, Wallenpaupack Creek and E. Br. Wallenpaupack Creek.

Potter County

Brook trout, Bailey Run, Cushing Creek, Dingman Run, Left Hand Br. Dingman Run, Dodge Brook, Dry Run, Eleven Mile Run, Fishing Creek, E. Br. Fishing Creek, W. Br. Fishing Creek, Genesee River, Lt. Kettle Creek, Lyman Run, Big Moore Run, Nelson Run, Nine Mile Run, S. Br. Oswayo Creek, Oswayo Creek, Genesee Fk. of Pine Creek, E. Fk. Portage Creek, W. Fk. of Portage Creek, Sartwell Creek, Reynoldstown Creek, E. Fk. of the First Fk. of Sinnemahoning Creek, Trout Run, and S. Fk. of the First Fk. of Sinnemahoning Creek; brown trout, Cowanesque River, Cross Forks Creek, Kettle Creek, Mill Creek, Pine Creek, W. Br. Pine Creek and First Fk. Sinnemahoning Creek; brown and rainbow trout, N. Br. Genesee River and W. Br. Genesee River.

Schuylkill County

Brook trout, Bear Creek, Beaver Creek, Black Creek, Neifert Creek, Pine Creek and Pine Creek; brown trout, Evening Branch, Fishing Creek, W. Br. Fishing Creek and Locust Creek; brown and rainbow trout, Lt. Catawissa Creek, Deep Creek and Lt. Swatara Creek.

Snyder County

Brook trout, Aigler Run, Brickhart Run, Krepp Gap Run, Kuhn-Hooven Run and Swift Run; brown trout, N. Br. Middle Creek; brook and rainbow trout, N. Br. Mahantango Creek.

Somerset County

Brook trout, Beaverdam Run, S. Fk. Bens Creek, Blue Hole Run, Brush Creek, Clear Run, Shafer Run, Iser Run, Jones Mill Run, McClintock Run, Sandy Run and Tub Mill Run; brook and rainbow trout, Drakes Run; brown trout, Beaverdam Run, Piney Creek, Beaverdam Run, Deeter Run, Flaugherty Creek,



Warden C. Joel Young about to release some fine brown trout in the Little Lehigh Creek.

Raystown Br. Juniata River, Big Piney Creek, Stoney Creek and Wills Creek; rainbow trout, Koosers Lake; brown and rainbow trout, Clear Shade Creek, Laurel Hill Creek, and Whites Creek.

Sullivan County

Brook trout, Black Creek, Double Run, Ellick Run, Glass Creek, Lewis Creek, Lick Creek, N. Br. Mehoopany Creek, Mill Creek, Pigeon Creek, Pole Bridge Run, Rock and Rock Run; brown trout, Elk Creek, E. Br. Fishing Creek, W. Br. Fishing Creek, Hogland Branch, Kettle Creek, Lopez Creek, Loyalsock Creek, Lt. Loyalsock Creek, Muncy Creek, Ogdonia Creek and Sullivan Branch.

Susquehanna County

Brook trout, Mitchell Creek, Nine Partners Creek and Riley Creek; brook, brown and rainbow trout, Starrucca Creek; brown trout, Butler Creek, Gaylord Creek, Gibson Creek, Harding Creek, Harmony Creek, W. Br. Lackawanna Creek, E. Br. Lackawanna Creek, and E. Br. Tunkhannock Creek; brown and rainbow trout, Tunkhannock Creek.

Tioga County

Brook trout, Elk Run, Fall Brook, Four Mile Run, Long Run, Long Run, Mill Creek, W. Br. Mill Creek, Phoenix Run, Sand Run, Straight Run, Left Br. Straight Run and Right Br. Straight Run; brook and brown trout, Tioga River, and Asaph Run; brown and rainbow trout, Pine Creek; brown trout, Blacks Creek, Blockhouse Run and Stoney Fork Creek.

Union County

Brook trout, Bear Run, Beaver Run, Halfway Run, Sand Spring Run, and Spruce Run; brown trout, Buffalo Creek, Lt. Buffalo Creek, N. Br. Buffalo Creek, Laurel Run, Rapid Run, Spring Creek, Weiker Run, and White Deer Creek; rainbow trout, Halfway Dam; brown and rainbow trout, Penns Creek.

Venango County

Brook trout, Cherry Run, Hemlock Creek, Horse Creek, Mill Creek, Porkey Creek, Prather Run, Tarr Kill Creek, and Stewart Run; brown trout, Sugar Creek, E. Br. Sugar Creek, East Sandy Creek, S. Br. Sandy Creek and Lt. Sandy Creek; brown and rainbow trout, Upper Two Mile Run, Pithole Creek, West Pithole Creek, Scrubgrass Creek, Lt. Scrubgrass Creek, N. Fk. of Lt. Scrubgrass Creek and S. Fk. of Lt. Scrubgrass Creek.

Warren County

Brook trout, Ben George Creek, Blue Eye Creek, Coffee Creek, Hemlock Run, Lamb Run, Perry McGee Run, McGuire Run, Phelps Creek, Rock Hollow Run, N. W. Br. Spring Creek, Tidioute Creek, and Wilson Run; brown trout, West Hickory Creek, W. Br. Caldwell Creek and Caldwell Creek; brown and rainbow trout, Lt. Brokenstraw Creek, Brokenstraw Creek and E. Br. Spring Creek; brook, brown and rainbow trout, Pine Creek.

Wayne County

Brook trout, Babbitville Creek, Beaverdam Creek, Calkins Creek, N. Br. Calkins Creek, S. Br. Calkins Creek, Big. Br. Dyberry Creek, S. Br. Equinunk Creek, Shad Pond Creek and E. Br. Starrucca Creek; brown trout, Butter-nut Creek, Lackawaxen River, Middle Creek, Shehawken Creek and Wallenpaupack Creek; brook and rainbow trout, W. Br. Dyberry Creek; brook and brown trout, Lt. Equinunk Creek, and Lehigh River; brook, brown and rainbow trout, Johnson Creek, W. Br. Lackawaxen River and W. Br. Wallenpaupack Creek; brook, brown and rainbow trout, Johnson Creek.

Westmoreland County

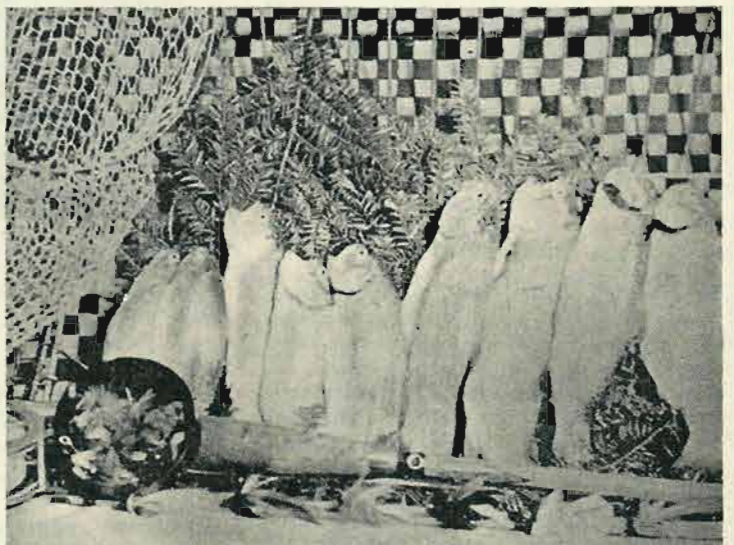
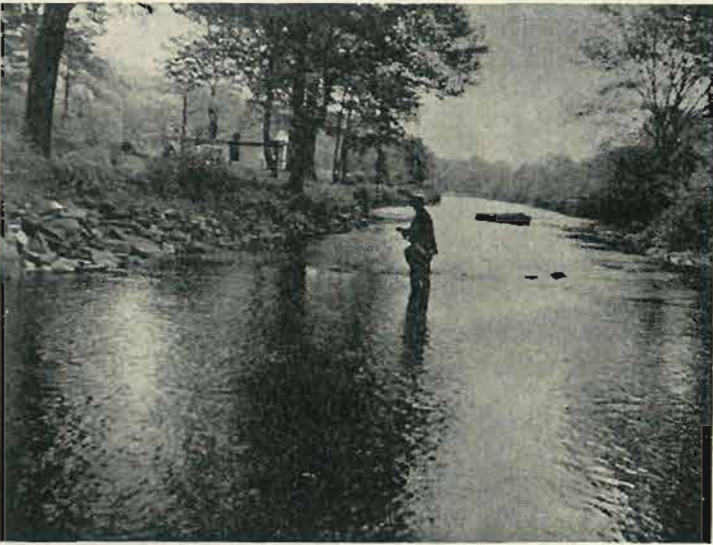
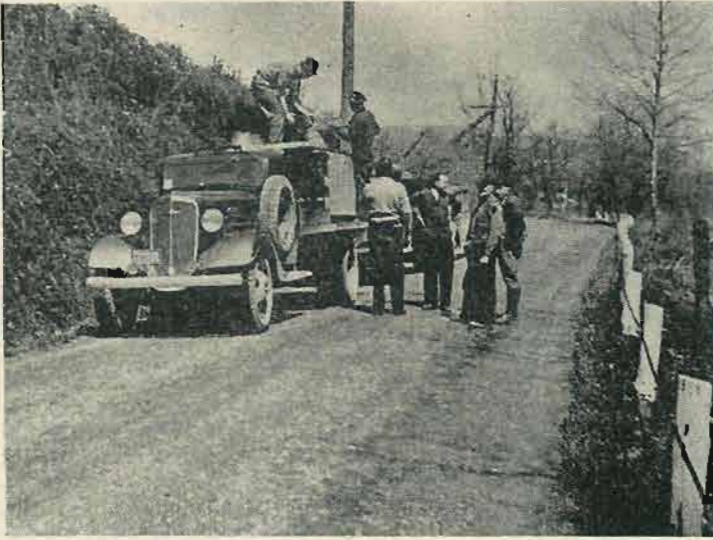
Brook trout, Baldwin Run, Camp Run, Furnace Run, Mill Creek, Middle Fk. Mill Creek, North Fk. Mill Creek, S. Fk. Mill Creek, Pike Run, Powder Mill Run, Roaring Run and Shannon Run; brown trout, Indian Creek, Jacobs Creek, Loyalhanna Creek, Tub Mill Run and Linn Run.

Wyoming County

Brook trout, Leonards Creek and Beaver Run; brook and rainbow trout, N. Br. Mehoopany Creek; brown and rainbow trout, Bowmans Creek; brook, brown and rainbow trout, Mehoopany Creek.

York County

Brook trout, Beaver Run, Fishing Creek, Kaltreiders Creek, Leibs Creek, Orson Run, Rambo Run, Rehmayer Hollow Run and Toms Run; brown trout, Furnace Run; brown and rainbow trout, Otter Creek; rainbow trout, Haldeman Pond.



Members of the Harrisburg Hunters' and Anglers' Association stocking legal size rainbow trout in Stony Creek, Dauphin county (above). Below, left, fishing a promising stretch of water in Stony Creek last season. Right, a catch of fine rainbows scored in Stony by Howard George, Harrisburg, last season.

Photos by Howard George.

TODAY'S FLY LINES

(Continued from Page 4)

backs are its price and the fact that only one end is tapered. These two are amply offset by its merits. Long casts when necessary, and they sometimes are, are easily made by the average caster. All records of distance casting are held by this type of line. Tremendous "shoots" are possible without placing undue strain on the rod. By picking off the water 45 or 50 feet of line, a "shoot" of 20 to 30 feet of line is not uncommon, especially after a little practice. This is truly an important feature of this line and an almost unheard of thing with a level or double taper line. Its best selling point undoubtedly is the ease with which beginners learn to cast with it. Information from authentic sources tells of instances where persons of absolutely no previous casting experience have been taught to cast well in 15 to 30 minutes.

Whatever one's choice of lines may be, the first and most important point is to get one that fits the rod. The trend of rod building today seems to be toward what is known as "dry fly action." These rods will not perform satisfactorily if used with the illfitting, light weight, small diameter lines so prevalent years ago when rods resembled more than anything, a willow switch. The deep enjoyment of angling can only be attained if that part of your equipment is correct, and therefore it should be

given the same sane judgment one uses in selecting flies.

Line Making

With the advent of the three diameter lines, a new group of sportsmen has developed—the line splicing fellows. Because of the increased interest in the making of the new "torpedo heads" I feel it would not be amiss to dwell on this phase, one of the many which only dyed in the wool anglers can enjoy. The first move is to obtain the necessary materials and tools. The former consists of a spool of winding silk of size 2-0 and a small amount of quick drying varnish; the latter, a small scissors, and a stiletto or medium sized needle. The lines can be procured from any reliable manufacturers. Mill ends are a good thing to use. Get them in sizes from .020 to .060.

Splicing

On paper, set down the approximate sizes and lengths of line you want to use. A good practice is to use more length for each section than you think will be satisfactory. You can easily shorten them if you find the line too heavy. Cut your lines and using the stiletto, pick out the ends of each piece. The frayed end should not exceed $\frac{1}{8}$ inch. Between $\frac{1}{8}$ and $\frac{1}{2}$ inch will be satisfactory. You can then separate the frayed ends into three or five even fingers and

interlock the two pieces or use the overlapping method. For the actual winding of the splice, a fishing buddy is invaluable. Have him hold the two pieces securely, keeping the ends in position while you wind. The winding should start in the center and run to one end. With another piece of winding silk repeat the operation on the other end, starting in the center. If you wish you can then wind over the entire splice from one end to the other. The windings should be very tight and finished off in the same manner as rod windings. Before rubbing the varnish into the finished splice, remove fuzz from winding by touching lightly with a match flame.

When line is finished and casting is tried, and you find it too heavy for the rod, cut out about a foot each time from the heavy portion until the proper weight is obtained. If the weight seems proper but the line does not straighten correctly, remove small pieces from the front and back tapers. Experiments with various diameters and lengths will eventually give you a nice line and in the meanwhile, you benefit by the casting practice.

The finished line will not be comparable to the manufacturers' products. The tapers cannot possibly be as smooth nor will you have a good counter balance portion; but in this manner you can have several good fishing "torpedo heads"—the lines of today.

TWELVE DRY FLY ACES

(Continued from Page 3)

ringneck pheasant tail feather; wings, gray drake breast feathers dyed a pale greenish yellow.

No. 6. Red Quill

(Female Hendrickson)

Body, red quill stripped from a red hackle; hackle, rusty dun; tail, rusty dun; wings, Mandarin.

No. 7. Little Marryat

Body, Australian Oppossum; hackle, cream; tail, cream hackle tips; wings, light gray fibres from a Mallard wing quill.

No. 8. Fanwing Royal Coachman

Body, Peacock and red; hackle, brown; tail, golden pheasant tippet; wings, white fans from a duck's breast or the bow of a duck's wing.

No. 9. Gray Spider

Body, gold tinsel; hackle and tail, blue dun; wings, none.

No. 10. Wickhams Fancy

Body, gold with brown hackle tied palmer; hackle, brown; tail, brown; wings, slate gray fibres from a duck wing.

No. 11. Badger Bivisible

Badger hackle tied palmer sparsely two thirds of the length of the hook and more dense near the eye. A few turns of white hackle at the head to make the fly more visible. This pattern is one of the outstanding bivisible patterns for the duration of the entire season.

No. 12. Brown Bivisible

The brown Bivisible is tied the same as the badger, substituting brown hackle. I would suggest that one carry an assortment of different color bivisibles, but if I were to choose two patterns they would be the badger and brown.

You will notice that I have not mentioned several of the prominent patterns. Among these are such flies as the Ginger Quill, but a light Cahill and the Ginger Quill compare so favorably that they more often cover the same pattern.

I have also omitted the black gnat for the reason that no other fly covers the needs better, when these flies are a necessity, than a small badger bivisible.

The larger stone flies are usually fished wet and for that reason I did not include them in the dry fly list. The smaller yellow stone flies or yellow sallies can well be imitated with a light ginger bivisible.

In some sections flies vary in size and coloration. Whether this is due to food or climate or both, I have been unable to ascertain, but the difference is so noticeable that sometimes we are at a loss as to how the artificial should be dressed. A specific example of this was brought to my attention, when in 1934 I collected and preserved an assortment of Green Drakes (*Hexagenia limbata*) and tied patterns from the preserved specimens. Several weeks



John Werst, Alburts, with a 26 inch, 5 pounds 2 ounces brown trout taken last season in the Little Lehigh.

later I was given several flies tied by a friend of mine from Centre County and I was disappointed to find that the color of his flies did not correspond very well with those I had tied. Knowing this acquaintance of mine to be a close student of coloration and a very good fly tier, I began to investigate, and found that the color of the flies taken from Penn's Creek in Centre County and those taken from Clark's Creek in Dauphin county does vary and the peculiar part of the whole affair is that the Green Drakes on Clark's Creek are from stock caught on Penn's Creek and planted in Clark's Creek. And there is a thought worthy of mention. We have collected flies on various streams and released them on local streams with the idea of propagation in mind and we found that our experiment was a success. This of course cannot be accomplished so well with the smaller flies, but such species as the drakes and stone flies can be successfully collected and transported in screen cages.

An interesting as well as exciting thing occurred during Shad Fly season of 1935 that illustrates the reason for feeling that an exact replica of any insect is unnecessary. Billy Ibberson, a veteran Penn's Creek fisherman, persuaded me to tie him several bivisible type flies on number eight hooks, the hackles being a pale yellow color and large enough for at least a number four hook. These flies, if flies they could be called, resembled pom-poms more than anything else and the owner became the object of quite a bit of good natured ribbing about his assortment of fuzzy-wuzzies.

Along towards dusk when the drakes began to appear as if by magic, Billy deliberately,

though a bit scornfully tied to his leader one of these gill tickling creations and deftly switched it toward the middle of the stream where he knew a good trout was feeding. That fly never did light on the water. Before it had completed its descent to drop on the water two pounds of fighting brown trout had intercepted it and the battle was on. After landing the trout, Billy decided it was his turn to do a bit of ribbing.

Unhesitatingly I produced from my pocket a box where I had secretly stowed away a few pom-poms and passed them among the fellows. We were all pom-pom fishing, and then the oddest experience of my fishing career occurred. One of the fellows fishing directly opposite the position I had taken began casting to the center of the stream where a large trout was gorging himself with shad flies.

Our lines accidentally became tangled and in trying to free them our flies dangled above the water. Trout seemed to come from all directions after those grotesque looking gobs of hackle. Time after time those trout would leap clear of the water, grab at the fly, and drop back again unharmed. After several minutes of this procedure one old lunker hit the flies so hard they became untangled and the fun was over. We did learn however that by raising the rod tip slightly at the moment the leader was extended, the fly would drop back a bit and start its downward flight so slowly that many strikes occurred before the fly hit the water.

Since the Shad Fly or Green Drake is most difficult to imitate owing to its size and general graceful appearance, I spent considerable time experimenting with this pattern and find the following dressing very good. In the imago stage the Wings, Gray barred Mallard Drake dyed pale yellow, Body, Light yellow or cream color floss over which a piece of rubber substance known commercially as sterilastic is pressed; Legs, Pale yellow hackle; Tail, Three strands from a cock pheasant tail.

While many varied patterns of the drake flies are offered for sale, the type with turned up bodies are realistic looking enough, although more expensive and quite unnecessary, because when this fly appears on the water a feeding orgy usually begins and as this usually occurs in late evening the trout are not too selective to take a fly with a straight tied body.

The Spinner stage, or Coffin fly as it is sometimes called, is dressed quite differently and is a good pattern for local streams. It is dressed as follows.

Wings, dark barred Mallard drake or teal feathers; Body, white silk covered with sterilastic; Legs, color ranging from dark gray to black; Tail, three strands of cock pheasant tail.

In reference to the material used for translucent bodies, the rubber material mentioned looks like sheet sponge rubber, and will adhere readily to itself, but will not cling to other substance. By cutting a piece the length of the body and placing it underneath the hook and horizontal with the shank it can be stretched up along the sides of the silk and pressed firmly together at the top. If stretched properly the body silk will be plainly seen through the rubber covering and produces a very life-like translucent effect.

REVIEW OF BOARD'S WORK DURING 1938

The year 1938 was the first time the Fish Commission had authority to set up rules and regulations governing fishing in the inland waters. The important changes which were made in the size, season and number of any species, was an increase in the size of bass from nine to ten inches—placing the rock bass in the sunfish group—and a reduction in the creel limits on trout, black bass, pike-perch, pickerel, yellow perch, sunfish, catfish, suckers, baitfish, fishbait, etc.

There were also many requests from all sections asking for some regulation which would prohibit fishing in waters inhabited by trout before the opening of the trout season.

With exception of the size limit on bass, the changes have met with apparent satisfaction in all sections of the Commonwealth. Shortly after the opening of the bass season, many letters and petitions were received asking that the size limit be returned to nine inches.

For several years the Board has been making studies in various waters in connection with the black bass and felt that a ten inch size limit was a real conservation measure, but it would depend mainly on the available food supply.

Unfortunately the taking of bait-fish and fish-bait as provided under the old law was a toll which many of our waters were unable to stand with the result that the depletion of food reached the point where in our opinion it seriously affected bass waters and that in a great many streams bass were not reaching a size of more than eight or nine inches, which was caused mainly by an insufficient food supply.

With additional information received from the Board's survey men, it was decided that in setting up the new rules and regulations for 1939, the size limit on bass should be returned to nine inches, which has been done.

We respectfully request those who are in favor of an increased size to contact the Board so we may have their opinion. Any letters on the subject will be given serious consideration. We believe the majority of bass fishermen will be in thorough accord with the following data on the baitfish situation:

We believe the average fisherman will agree the Board has been far too liberal with those taking bait. Prior to 1938, it had no control. Last year, rules and regulations permitted all persons to have fifty bait-fish and fifty fish-bait in possession without prosecution. The ruling was made primarily to assist those who had been in the habit of securing bait-fish for sale.

The regulations for 1939 provide that no person may have in possession more than thirty-five bait-fish or thirty-five fish-bait, and not more than fifty of the combined species. In reducing the number by more than fifty per cent, the Board believes it will work no hardship on any one and should provide sufficient bait for the average fisherman.

At the December meeting action was taken formulating a program which will place the Board in a position where minnows can be furnished in much greater numbers for planting, and with the completion of the Bellefonte Hatchery and the \$100,000 program which is being carried on at Huntsdale, we are confident we will be able to greatly increase our minnow distribution. Arrangements have already been made for a study which will cover the propagation of the crayfish, helgramite, etc.



A sucker fisherman with his catch on the Jordan Creek near Allentown.

With the proper food supply, there isn't any question but that the future bass situation in Pennsylvania will be indeed bright. The distribution of bass this year was well over 500,000, which is a tremendous increase over previous years, and with the new hatchery additions completed, there will not only be additional bass, but increased numbers of forage fish for our various waters.

Sucker Fishing

Here's a real problem and one which the Board feels must be solved by the combined efforts of the Commission, the Federation, individual sportsmen's clubs, and the fishermen in general. Experience has shown that to set up any hard and fast rule which would prohibit fishing in trout streams for suckers before the opening of the season would be the wrong procedure to follow, unless it had the combined approval of everyone in the district where it was done.

The sucker fishermen are numbered by the tens of thousands and probably get as much enjoyment from this method of fishing as the trout and bass fishermen.

Early in 1938, many letters and petitions were received asking that some regulation be set up. After considering the question from all angles, it was decided the only proper way to approach the problem would be to submit it to the Federation at their next meeting in February and ask their opinion, which would be a cross-section of the entire Commonwealth.

In discussing the matter with the groups where the question had been brought up quite

forcibly, the result was the posting of the upper waters of one or two streams in their county with the suggestion that no fishing be done in the portion of the stream posted. This worked out very satisfactorily in these counties and apparently the majority of complaints were eliminated.

The Board respectfully asks that if this is a problem which is worrying your group, that you give it consideration at one of your meetings and then advise the Board what your particular wishes are in the matter.

CONNECTICUT URGES SAVING FISH SCALES

Connecticut sportsmen are urged to help the State Board gather vital information by saving the scales from any game fish which they might catch. Special envelopes, with directions for taking scale samples, will be given to clubs or individuals upon request.

The life story of each fish is recorded in the structure of its scales, and to the careful reader of this diary is revealed the experiences of the fish during its lifetime. The fat years and the lean years, the winters, the spawning times, and age at death are told. If sufficient information on length is taken at time of capture it is even possible to tell how large the fish was at any given age. When it is realized how much information can be learned from the study of fish scales, it is easy to understand why this work is a most important tool of modern fisheries work.

This appeal for help is made because it is believed there are many sportsmen who are sufficiently interested in fish conservation methods to take an active part in carrying on the work. Response to this request will be of great help to the Survey, because the field force can cover more lakes during the summer months. Even with nets and seines much time is used in collecting fish.

During the summer of 1938 the State Board of Fisheries and Game started a lake and pond survey to gather data about our impounded waters and to make plans for better fishing. It is planned to continue and expand this work until the important lakes of the State have been covered. In the past, restoration methods had consisted almost entirely of stocking without consideration of physical and chemical factors.

The Survey makes chemical and physical examinations of the water, studies the fish food supply, the food habits of fish, and examines fish for disease and parasites. Spawning is studied and the abundance of the various fishes noted. In this way the kind of fish best suited to the water can be told. We need to find how well the capacity is being used by the game fishes present before good restoration methods can be started. For example, it often happens that rich lakes do not produce a big crop because stocking and laws have favored fishes ill-suited to the body of water, or to an unproductive combination of species. Sometimes it is found that the game fishes are growing very slowly because there are too many young fish for the food supply, and stocking only makes things worse. Study of the scales shows whether or not the rate of growth is too slow.

If those supplying scales to the Department desire, they will be informed as to the age of the specimens sent in.

NURSERY WATERS CLOSED BY BOARD

The Fish Commission has announced closing of the following streams to serve as nursery waters. All fishing on these streams is prohibited until July 31, 1943. Here is the list:

Berks County—*Tributary to Furnace Creek*, Heidelberg Township, Berks County, for a distance of one mile, starting at headwaters of dam located on tributary, and *Ontelaunee Lake*—section requested by Federated Sportsmen's Clubs of Berks County.

Butler County—*Municipal Reservoirs* of Boro. of Zelenople.

Cameron County—*Crooked Run*—entire length, *Finley Run*,—2 miles, *Fishing Creek*, trib. to Driftwood Branch, *Big Spring* or *Big Spring Draft*, trib. to Wykoff Run, *Whipoorwill Run*, trib. to East Branch of Hicks Run, one mile long, and *Little Fork*, trib. to mix Run, one and one-half miles long.

Carbon County—*Fireline Creek*.

Centre County—*Game Refuge No. 33*.

Clearfield County—*Game Refuge No. 93*, all tributaries of *Haslett Run* and all tributaries of *Curry Run*.

Clinton County—Following tributaries of *Kettle Creek*: *Trout Run*—from the Fork up stream, *Walthers Run*, entire length, *Bearfield Run*—entire length, *Hetner* or *Hebner Run*—entire length, and *Spicewood Run*—entire length.

Clinton and Centre Counties—*Beach Creek* from Dam at Beech Cr. to Orviston.

Crawford County—*Pymatuning Sanctuary*, *Game Refuge No. 10*, Northern and Shenango River, below Dam at Pymatuning Lake.

Elk County—*Rocky Run*—from source 2 miles, *Windfall* or *Cherry Run*—2½ miles from mouth to source, *Clear Creek*—from source 3½ miles, *Smith Run* or *Rocky Run*—entire length, *Hytic Run* or *Spring Run*—entire length, *Falls Shanty* or *Auman Hollow*—entire length, *Falls Shanty*—three miles flowing into the E. Branch of *Kersey Run*, *Spring Run*,—from what is known as "Bony Gerg's Bridge" to source. This is head waters of *Spring Run* and about 5 miles in length; all tributaries of *Mill Creek*, and all tributaries of *Bear Creek*.

Elk and Forest Counties—*Maple Run*, trib. *Bear Creek*—3 miles, *Cherry Mill Run*, trib. *Big Mill Creek*—2½ miles.

Lancaster County—stream running through Public Park at Lititz (exhib.)

Lebanon County—*Game Refuge No. 80*.

Luzerne County—*Sugar Notch Dam*—about one third, and approximately 4 acres of *Harveys Lake*.

Lycoming County—*Pleasant Stream* and all tributaries, all tributaries of *Pine Creek* and all tributaries of *Lycoming Creek*.

McKean County—*Fly Brook*, trib. *Willow Creek*—2½ miles, *Wintergreen Run*, trib. *Kinzua Creek*—2 miles, *Brown Valley*, trib. *N. Fork Sugar Run*—1½ miles, *Right Hand Branch* of *W. Br. Tuna Creek*—1 mile, *Blind Robin*, trib. *Main Sugar Run*—2 miles, and *Game Refuge No. 61*.

Montgomery County—2 ponds on Howard Beidler Property at Abrams, one pond on Frank Henkins Property at Collegeville, one pond on G. B. French Property at Graterford,

and 2 ponds on Joseph Hippel Property at Norwood.

Pike County—*Portion of Pecks Lake*—above wire on E. Br. inlet Egypt Mill Dam, and *Portion of Promised Land Pond*.

Potter County—*Game Refuge No. 59*, *Aux. Refuge No. 10*, *Blumendal Run*, trib. to Little Kettle Creek, two miles long, *Lutz Run*, trib. to Pine Creek, one mile long, *Upper Dry Run*, trib. to West Branch of Pine Creek one mile long, *Beach Flap Run*, trib. to West Branch of Pine Creek, two miles long, *Wetmore Run*, trib. to West Branch of Pine Creek, four and one-half miles long, *Barns Brook*, trib. to Cushing Creek, five miles long, *Boligh Run*, trib. to Cross Forks Creek, two miles long, *Elklick Run*, trib. to Cross Forks Creek, two miles long, *Crowell Run*, trib. to Nine Mile Creek, one and one-half miles long, and *Splashdam Run*, trib. to Lyman Run, two miles in Susquehannock Dist. State Forest.

Schuylkill County—*Nursery Pools* on the old Schirner Farm, Schuylkill county—request of Tamaqua Rod and Gun Club, Tamaqua.

Somerset County—*Blue Hole Run*, trib. *Laurel Hill Creek*, and *Three Miles of Brush Creek*, trib. to Wills Creek.

Tioga County—*Hills Creek*—1½ miles, *Norris Brook*—1½ miles, *All of Blue Run*, Jameson Creek down as far as the State owns; All tributaries to Pine Creek as follows: *Little Slate Run*—1½ miles, *Little Four Mile Run*—1½ miles, *Colton Branch* of *Four Mile Run*—¾ mile, *Four Mile Run*, above highway bridge—2½ miles, *Painter Run*, above highway bridge—1 mile, *Mill Run* above forks—3 miles, *Lick Run*, above *Deerlick Hollow*—2 miles, *Steele Run*—1 mile, *Little Asaph* or *Right Branch*—1½ miles, *Schambacher Hollow Run*—1 mile, *Right Branch* of *Straight Run*—1½ miles, and *Elk Run*, Above CCC Camp—1 mile.

Warren county—*Four Mile Run*, trib. *Tionesta Creek*, all tributaries and *Long Run*, also *Ludlow Br.* of same stream, *Farnsworth Run*, Trib. *Tionesta Creek*, from source of point 1 mile below *Hermit Spring*, also *Crisswell Branch*, *Headwaters of Broxon Run*, including all of *Hook Run*, *Fluent Branch* and upper 1½ miles of *Broxon Run*, *Dedman Run*, trib. to *Spring Creek*, one-half mile, and *Greeley Run*, trib. to *Spring Creek*, three-fourths mile long.

KOCH AGAIN HEADS MILTON SPORTSMEN

Charles T. Lontz resigned as secretary of the Milton Fish and Game Association at a meeting in the Moose hall. Donald L. Fulmer was elected to succeed him. The other officers were reelected as follows: President, Kenneth M. Koch; vice president, George J. Yocum, and treasurer, Leroy K. DeHart.

Members abandoned plans for constructing a rearing pen, but decided to cooperate fully with the Game Commission in all stocking projects. More than fifty bushels of corn and scratch feed were distributed in the vicinity of Milton during the past winter for both small and large game.

A lunch was served after the meeting.

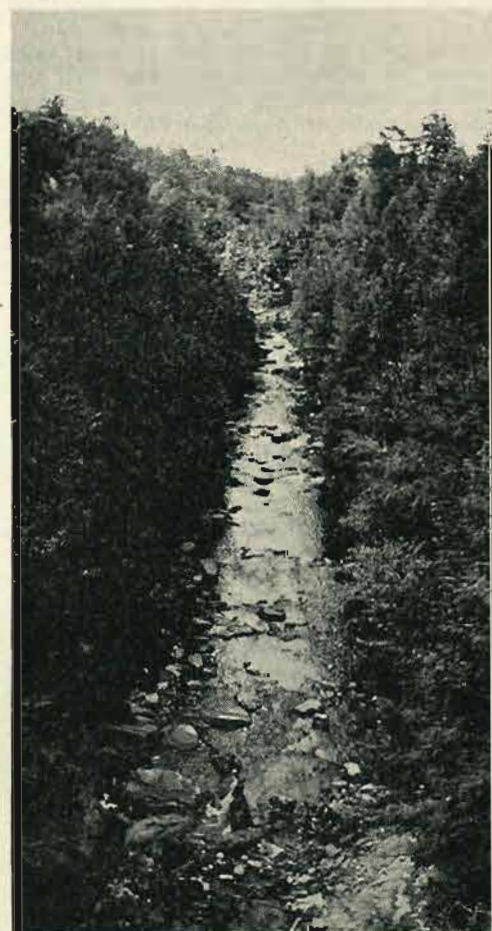
MONROE EXHIBIT LAUDED AT SHOW

Judged by observers to be the "No. 2 exhibit" at the National Sportsmen's Show from the standpoint of natural beauty in detail, the Monroe Pike Sportsmen's Association woodland trout scene will be recommended by New York newspapers and big news services for a spot of publicity.

Observers who have viewed the scores of elaborate exhibits at the entire show covering three floors of the Grand Central Palace, have advised officials of the general committee handling the exhibit that the Monroe-Pike exhibit is excelled only by the exhibit of the State of Maine, which covers many times the space and is a complete Maine woodland hunting scene, including all types of live game animals found in Maine.

Jack Dean, an ardent sportsman and viewer of the Monroe county exhibit last night, contacted various resort interests whose connections with New York City newspapers are close. He advised them that this county should reap its due publicity for the exhibit, which was designed and completely installed by the LaBar Rhododendron Nursery.

Thus far, Mr. Dean pointed out, much less attractive exhibits have received much publicity, while the Monroe-Pike exhibit on the basis of merit alone completely outdistances them. Maine's great exhibit is a natural result of having resources of an entire state at the command of the sportsmen there.



Drought last year had a telling effect on this woodland trout stream.



This special V-type deflector, was built with the intention of cutting a channel in a wide shallow of the stream.

KEY MEN AID IN LYCOMING STOCKING

A quarter million fish are more than the ordinary angler ever will see—or can even imagine, for that matter—but the time is now at hand for beginning the 1939 stocking program of the Consolidated Sportsmen of Lycoming County in the course of which about that many fish of all varieties will be planted in the streams of the county, writes Richard F. Williamson, Outdoor Editor of the *Williamsport Grit*.

And right ready for the job is the "father" of the fish planting program in Lycoming County—W. H. (Bill) Corson, of 821 Cherry Street, this city, who has been plugging away at the job of stocking streams since 1922 and who has created a corps of more than a hundred sportsmen who are associated with him in the work.

From hatcheries operated by the federal and the state governments, and from the hatchery which the sportsmen's group itself maintains, will come the tens of thousands of fish of all varieties for streams both large and small in this vicinity this year.

The job begins about the middle of this month, tapers off a bit from the middle of April through the summer season, and then is finished with full force during the autumn months.

Last year a grand total of 218,530 fish were planted in county streams—an increase of 60 per cent, incidentally, over the total for 1935, when 137,758 were planted.

There's no guesswork about these figures. Bill Corson has them all in a thick book in his taxidermy shop, along with long lists of sportsmen who through the years have aided him in his work as chairman of the fish committees of various sportsmen's organizations of the past and now of the Consolidated Sportsmen of Lycoming County.

Of last year's total, incidentally, 91,600 fish were fingerling trout placed in feeder streams in the county to thrive and reach legal size and furnish thrilling sport for anglers. From the fish hatchery maintained by the sportsmen's group came 18,430 more fish. The state contributed 120,330 fish, and 6,600 trout were obtained from hatcheries operated by the federal government.

The allotment for 1939 is not definitely

known, of course, but if records of past years are any indication, the stocking to be done this year will be even more extensive than in 1938.

Because the trout season is the first to open—trout are the first fish to go into the streams. The first consignments will arrive about the middle of this month, and a heavier supply will come the first of April.

Before opening of trout season about 25 per cent of the state's quota will go into the streams. Then from April 15 until about the first of August bass, food fish, and minnows will be stocked principally, and during the last four months of the year other heavy consignments of trout will be divided among the streams of the county which are open to public fishing. Last year the job was not completely done until in December.

Minnows, which supply food for bass and trout, are more heavily stocked than in former years. Last year the total placed in the streams of the county reached 30,000.

There's a tremendous lot more to the job of fish stocking than just haphazard dumping of cans of trout and bass into the waters of convenient creeks and brooks, however.

Aiding Bill Corson in his distribution are about 100 key men, chosen so that they cover completely the scores of streams of all sizes which flow through Lycoming County. Each one of these committee members has his own helpers—often as many as half a dozen—and when a truckload of fish arrives in Williamsport for the hatchery, these men are contacted by Mr. Corson and the fish given to them to put in the streams.

But there is even more than that to the job. Members of Mr. Corson's committee and other interested sportsmen are constantly studying the streams under their supervision, and the planting of fish is done according to carefully laid plans to keep all streams in peak condition.

Plenty of fish of legal size of all kinds are stocked during the course of a season, but because of the nature of the waters in this county and the outstanding interest in trout fishing among sportsmen in the county, emphasis is laid on building the foundations of a never-ending reservoir of good trout fishing.

Do you wonder what became of the 91,600 fingerling trout which were stocked in Lycoming County last year?

Well, the answer is simple and amazing. They were divided among about 150 small

streams which flow into the favorite trout streams in the county. Feeder streams these brooks are called. There the fingerlings live and thrive until they are able to make their own way in the world—when nature will impel them to swim into the larger streams and some day have to make the choice between an artificial fly and a real bug or a worm that has been washed into a creek by a rain.

Even more interesting is this fact. Of these 150 feeder streams in which baby trout are planted, the headwaters on 46 are closed to fishing. That is, fishing is prohibited within two miles of the source of each of these 46 feeder brooks, of which 37 are on state-owned land and 9 on privately-owned land.

Under the guidance of Mr. Corson this creation of so-called nursery streams is progressing rapidly. The program is being broadened through the signing of agreements with land-owners permitting the sportsmen's organization to close the headwaters of feeder brooks.

Think what 46 streams, each closed for two miles at its source, means. That is 92 solid miles of trout water in which all fishing is prohibited and in which thousands of baby trout are growing.

A fish hatchery in itself!

Bill Corson is a real veteran in this fish stocking science. His program in Lycoming County, in fact, has been widely copied in other parts of the state and has brought him high praise from experts in the science of fish conservation.

It was a one-man job when he began it, back in 1922, for the Newberry Sportsmen's Association. Only the big streams were stocked, and they with comparatively few fish.

Brown trout were not stocked at all until about ten years ago, and in 1935 only 900 bass were placed in county streams, as compared to 9,000 in 1938 in Lycoming, Loyalsock, Pine, and Muncy Creeks.

There were few men able to help—or rather, interested enough to help—in the early days, but this year Mr. Corson will have probably the largest corps of assistants in the history of his work.

Nor has the program reached its limit.

Expansion of the nursery stream program is of vital concern.

Stocking of greater numbers of minnows and other food fish in the streams is another pet project.

Still another that holds alluring possibilities is an experiment now being conducted with the propagation of rainbow trout on Rock Run. Last year 1,800 rainbow trout from 6 to 12 inches in length were placed in this beautiful stream. Apparently they are thriving there, and some are finding their way into Lycoming Creek, into which Rock Run flows. Rainbows are considered by many sportsmen to be the gamest members of the trout family, but because of spawning habits they have been difficult to maintain in streams in this section of the country.

What is Bill Corson's favorite fish:

"The brown trout," he explains, "because it is a tough guy that takes care of itself; it gets big enough to smash the tackle of careless anglers, and it furnishes the finest fly fishing imaginable."

But he can't choose favorites.

"In the months to come," he explains, "I have to take care of all of 'em—trout, bass, perch, sunfish, minnows, and all the rest. We're all set to go."



Allentown Call Photo.

A 14-pound carp, one of the largest ever caught in the Jordan Creek, was landed by John Sahnton, Allentown, while fishing at Helfrich's Spring. The fish, which measured 27 inches, gave Sahnton, a veteran fisherman, a stiff battle.

TAKE DAD ALONG FISHING

(Contributed)

For quite some time, the angling editors of our out-door publications have been urging fishermen fathers to take their sons along. Perhaps it has not occurred to them that the boy is often responsible for the presence of his father on the stream. I know whereof I speak, because after considerable argumentation, I succeeded in convincing my dad to give fishing a trial. He was not a novice, because his boyhood days were spent in the country. Anyone who has lived in such an environment knows that fishing is one of the major summer pastimes. He knew his fish too, because he had one of the finest bass streams of that time at his disposal, the Delaware River. Not only did it yield some fine bass, but it also was alive with shad, yellow perch, and in his estimation the finest fish of them all the white perch. He was not lacking in tutelage either. "Doodles" Rietsell, one of the best fishermen on the river, taught him considerable about the habits of Pisces.

It was a difficult task, convincing him that trout fishing was more than standing waist-deep in some stream swishing a stick that would not make a good switch and trying to lure some old trout to strike at a bunch of feathers.

"You boys don't know what fishing is," he said. "In my day, we had an eighteen foot bamboo pole and a piece of string the same length and we tied our hook directly to it. We did not know what a leader was and tapered lines were unheard of. Flies? Shucks, if you catch anything on them feathers it will be pure luck."

"Well, dad, I'll forgive you for belittling our outfits because you are getting old and you can't stand the strain of wading any more. I bet you would not be able to hold one of these light rods all day anymore." This was a bit of strategy designed to get him mad enough to give trout fishing a try.

"Why you . . . you young pup, I can stand more punishment now than you ever could. I'll show you who is getting old. I am getting you up early tomorrow and we'll fish the meadow run. If I don't get more fish than you do, I'll shoot myself. What's more, I'll use them things you call flies and beat you at your own game. Goodnight." And he strode from the room.

It seems like I had hardly got to sleep before he shook me and made me get up. After a hasty breakfast, consisting of bacon and eggs and coffee, we walked to the stream. The air was chill and the grass was coated with frost. The sun was not up yet and the cool moist air made me shiver slightly. It numbed the hands and made it hard to run the line through the guides. I showed Dad how to string up his rod and attach the leader and fly. I illustrated the principles of fly casting to him and placed a fishing license in his hand. I had gone into town, to the sporting goods store to procure it for him, and I had to get the storekeeper out of bed to get it. It surprised me to see Dad quickly master the fundamental casting technic. After a bit we were ready to start fishing.

I had just slipped into the stream, when I noticed the pale glow in the east that denoted the break of day. I paused to watch the spectacle with awe. It is funny that no matter how many times you witness the sunrise, you will gaze at it each time as if it were the first you ever saw. The sun cast its rays across the open meadow and transformed the frost on the grass into a myriad of sparkling, shimmering priceless gems. The birds too seemed to become living things once more. Their cheery notes each blending to make the transformation complete. It seems that you are transported from the silence of the dead into the glorious world of the living. There are many people who have never witnessed this beautiful transfiguration, and I pity them. The stream also added to the beauty of the scene. Winding its way lazily over the meadow, it seemed to denote a peace and serenity that most people have forgot existed.

Once more I started casting, after a few false casts I let the line shoot out upon the water. The fly landed lightly and traveled about two feet when I had a smashing strike. I struck and hooked the fish and he shot out of the water in a spray of water. Finding that to no avail, he turned and headed for the log from which he had struck. I tried to turn him but he had other ideas and he succeeded in breaking the leader by snagging it. You anglers have all had that experience at one time or another and you know the sensation it creates in your body. I turned to talk to Dad and discovered that he

was not there. He did not say that he was going, and I sensed that he was up to something. Presently, another angler appeared and I hailed him with the usual greeting when two fishermen meet.

"What luck?" I asked.

"Not much, I've got two small brooks. These fish sure are foxy. I let them break three leaders on me. How are you making out?" He queried.

"Just lost one via the broken leader. Say did you see an elderly man fishing below here?"

"If you mean that tall fellow fishing the Silver Doctor, I just saw him by the willow tree. He was just sitting under the tree dangling the fly in the water." He replied.

"Thanks for the information and tight lines to you," I said.

I crept stealthily toward the tree, and I could see him lifting the rod from time to time. Presently he hooked one and horsed it ashore. I strode up to him to view the catch and it proved to be a well-girthed rainbow a foot long.

"I told you you were getting old," I chided. "Who ever heard fishing for trout that way?"

"Son did you ever read *The Compleat Angler* by Izaak Walton? There is a piece of poetry in that book that approves of this type of fishing. It goes something like this.

"Of recreation there is none
So free as fishing is alone,
All other pastimes do no less
Than mind and body both possess,
My hand alone my work can do
So I can fish and study too."

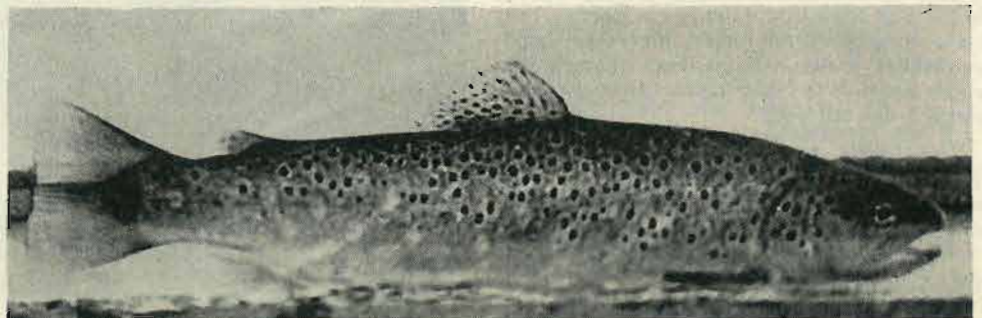
"Hurrying from place to place don't get you anywhere. If you want to succeed in catching fish you must have patience. I learned long ago that in being patient you get results.

"That's the trouble with most fellows today, they do not know the meaning of the word patience. Until they learn that they will not be of much use to anyone. Fishing teaches you patience, and while you wait for the fish to bite, you can straighten out a lot of complex problems. That is why I fish in this manner."

"Dad, I have never looked at it that way before, but I know you are right about it. Do you think you could teach me?" I asked.

"I suppose I could, but it would take quite some time. You are young and being young makes you impetuous. It'll take a lot of fishing to convert you, but it can be done."

So it seems that he took me fishing when I thought I was taking him. That fishing trip changed my mind about a lot of things, and it gave me the swellest fishing partner a fellow could have. His Dad.



A nicely marked brown trout.



This catch of North Tier brook trout was scored on Trout Run, Potter county, by F. B. Deiter and H. H. Hoffman of Stroudsburg.

ANGLER REVIEWS 1938 SEASON

Just a few words following the close of the 1938 fishing season, writes Robert E. Gambol, of Media. My wife and I fished a bit down this way (Ridley and White Clay Creeks). Last year we were not able to stray very far away from home due to the arrival of another little fisherman in our family.

We think that trout fishing in 1938 was of the best early in the season or until the middle of May. Heavy rains during the first part of June and then again in July messed up the fishing somewhat. It also changed a lot of pools, formed others and on the whole changed the stream bed quite a bit. I went out several times after the rains and found fish in holes that would have died if someone had not put them back.

We caught 61 trout on Ridley Creek the first two days of the season, keeping 12 that were all better than 9 inches in length. Many of these were caught at the base of a dam and released on the other side with the hope that they might furnish sport at some future date. Believe it or not, I fished above the dam five times thereafter and caught only two trout.

Most of the fish were in fine condition but a few had fungus markings on the head.

White Clay Creek produced the largest fish for us. Three which I caught and one taken by the wife being over 12 inches in length. The lower sections of this creek offer some good possibilities if one will go down through the woods and fish the deep holes. It is not easy going, I can tell you.

Bass fishing was terrible down this way. Plenty of little ones, a few really good days and very few big fish. Plenty of minnows in some creeks, none in others, and too much muddy water. One of the finest sights I ever saw occurred last year after the big rains of July when we watched the carp spawning in Crum Creek. There were thousands of these yellow bellied fish going in schools through the

grass. Two that I know of were caught, each weighing better than 20 pounds.

We spent our vacation at Promise Land Park in Pike County, and fished about 10 different lakes for pickerel and walleyed pike. Plenty of pickerel, but most of them were from 12 to 15 inches in length.

I am glad to see that the Board cut the limit on bass from 10 to 9 inches again and reduced the number of fish bait that could be taken. Tried hard to show fellow fishermen how to take the hook out or cut the hook off in under-size bass. After all, who wants to eat a small bass when one around 14 or 15 inches is so much better.

One thing I want to say in closing. I use worms for trout more than any other bait but I also use barbless hooks. You can have heaps more fun and you can't "hoss" them in.

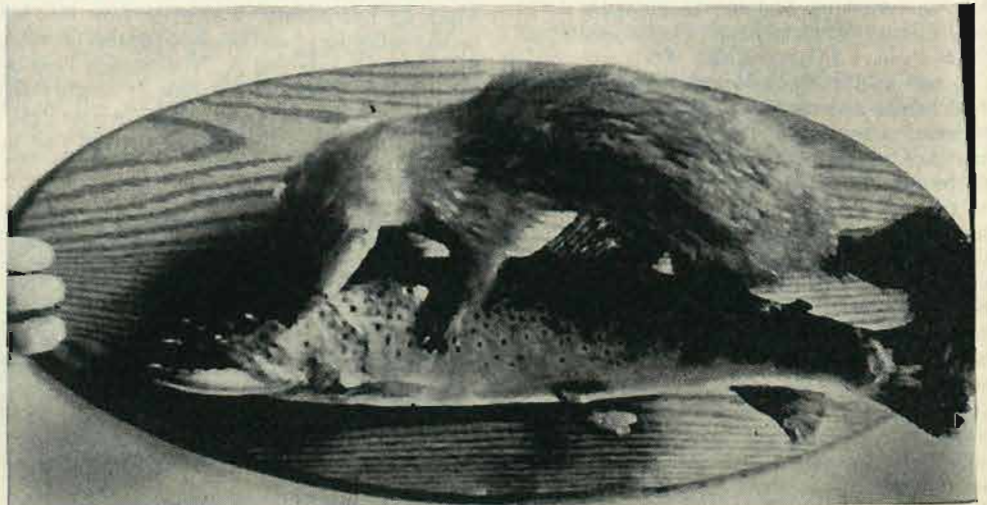


Photo by Warden Carl Bidelspacher.
An unusual mount of a mink with a brown trout by J. Aug Beck of Williamsport.

CENTRE CLUBS DISCUSS PROJECT AT SPRING CREEK

With about 75 members of clubs in eight different sections of the county present, the Centre County Federation of Sportsmen's Clubs held another of a series of district meetings at Howard. Prior to the meeting in the Howard high school building the sportsmen enjoyed a chicken and noodle dinner served at the Methodist church there by the women of that church.

Harry Weber, of Philipsburg, a member of the Fish Commission, told the sportsmen that the Commission has plenty of trout to distribute to all sections of the state. He said, in answer to the usual criticism the board gets for not stocking before spring, that the commission had planned a stocking program for last fall but that the streams were not in good condition to harbor trout then because of low water which resulted in a lack of food.

A discussion arose over the crowded condition on Spring Creek during the trout season since the Fisherman's Paradise was first opened in 1935. It was suggested that in order to alleviate that condition other similar projects should be started in other sections of the state. Commissioner Weber said he doubted whether another "Paradise" could be constructed by the Fish Commission in the near future because of the great expense connected with a project of that type unless it could be established in connection with a state hatchery. Spring Creek at present seems to be the main attraction for fishermen throughout the state because it has received such wide advertisement through the "Paradise."

POTTER COUNTY CATCH

One of the nicest creel limits of trout taken in this county during the 1938 trout season, writes Warden Kenneth Alley, of Galeton, Potter county, was that caught by Vern Osgood, of Galeton. Vern's catch consisted of 10 rainbow trout that ranged from 12 to 16 inches in length and had a combined weight of 7 pounds.

CENTRE SPORTSMEN HOLD ANNUAL DINNER

The annual dinner of the State Centre, Game, Fish and Forestry Association, held in the American Legion Home at Philipsburg proved to be one of the most inspirational ever held by the association. Seventy members of the association and their guests were present.

Following the dinner, served by the Ladies Auxiliary of the American Legion, guests of the evening were introduced by the president, Russel Lucas. These were Harry Weber, member of the Fish Commission; M. E. Woodward, Game Protector of Bellefonte; Herman Howland, Game Protector of Snow Shoe; S. B. Reed, Game Protector of Pine Grove mills; Dave Dahlgren, local Fish warden; Elmer J. Turner, local Game Protector and Elmer Pilling, Game Protector of the Glass City Refuge.

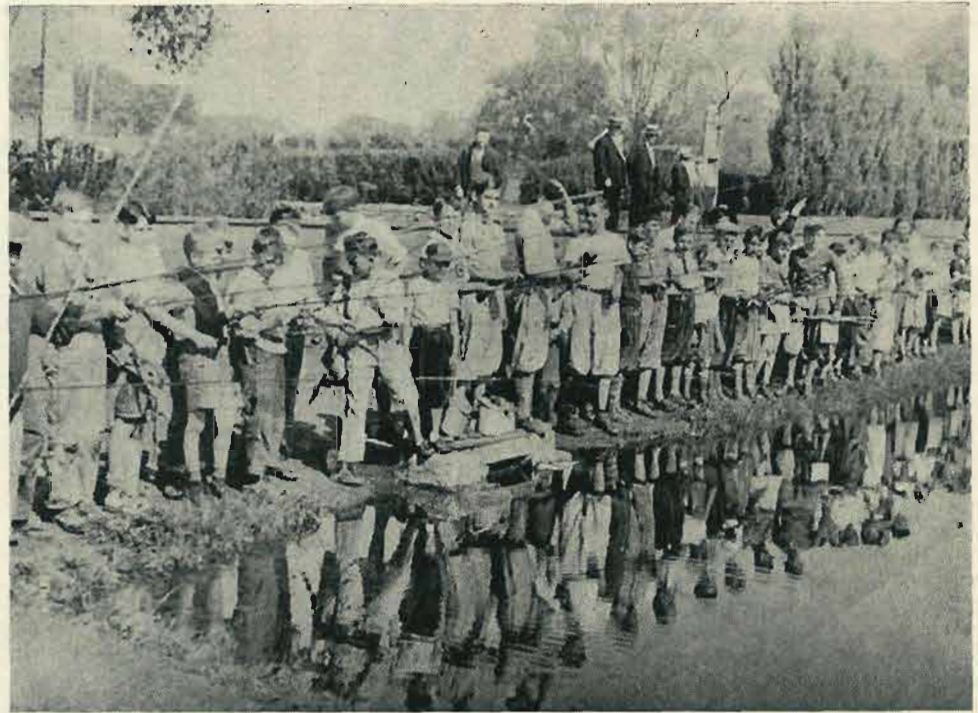
Mr. Weber spoke briefly on the activities of the commission, and urged all sportsmen present to cooperate with members of the commission in promoting better understanding between the various groups in the State, and bringing back the streams to a condition where more fish may be stocked and maintained. He reported that great numbers of fish are now available for stocking and should be placed in the streams, but cannot be placed till the opening of the season due to the scarcity of food caused by low water.

This talk was followed by that of Mr. Sherman, Game Supervisor of an eight county district, located at St. Mary's. Living up to his reputation as the best speaker in his field in the State, he presented an outstanding inspirational talk to the group.

Following Mr. Sherman's talk the committees for the year were announced. Standing committees for the year were:

Fish committee—Chairman Ed. Loding, Wm. Fenton, Charles Hartle, Charles Rumberger, James Brooks, Joseph Kephart, Ed. Miller, Alfred Jones, Charles Eboch, Sr., Ed. Smith.

Membership committee—W. C. Kephart, chairman; Eldon Woodside, Fred Mattern, Clifford Drury, Fred Kenjora, Jones Hess, C. A. Swanson, Stanley Johnston, George Griest, Ed. Miller.



Scene at the opening of the Union Terrace fishing pool for children at Allentown last year.

Youth Education committee—William Townsend, chairman; W. F. Weber, Elmer Pillings, F. E. Ehredfeld, Ed. Hewitt, George Tay, LeRoy Hellewell.

Forestry committee—John Beals, chairman; Dave Dahlgren, John Nixon, Jacob Hurwitz, Elmer Turner, Joseph Johnson, George Griest, Jr.

Conservation committee—Barrett Merrill, chairman; H. E. Weber, Calvin Orwig, Jr., John Beals, Elmer Pillings, Greyson Selby, William Supina, William Nixon, Robert Johnston.

Publicity committee—Maynard Henry, chairman; William McFeeters, Barrett Merrill, George Sheldon, Edward Hewitt.

Skeet Field committee—Ed. Loding, chairman; Charles Hartle, Dave Dahlgren, John

Beals, James Reiter, C. F. Kephart, Claude Gette, Jr., Charles Rumberger, J. F. Kephart, Axel Swanson, Dean Allison, Web Jacobson.

Game committee—Dean Allison and Dr. Claude Gette, Jr., co-chairmen; Clyde Arbegast, Forrest Rapsey, Charles Rumberger, J. F. Kephart, Les Pryde, William Townsend, Charles Johns.

Legislative committee—Charles Rumberger, chairman, and T. C. Jackson.

A number of the activities of the association now under way were announced by the president. These include:

(1) Education of the young sportsmen—talks to be given by game protectors and fish and game wardens, promotion of the rifle clubs, and the assistance of the younger members in game distribution, game feeding, stream improvement and fish re-stocking. Each sportsman was urged to take a boy along on their hunting and fishing trips, and also invite them to attend meetings.

(2) Game distribution—138 rabbits have already been ordered for restocking, with the possibility of turkeys also being stocked before the close of the season.

(3) Co-operation with game and fish wardens, and attempt to report all violations of the sportsman's code.

(4) Other activities also developed will be those of dog shows, skeet shooting, field trials, rifle matches.

Parson Brown had concluded his sermon and was making the announcements for next week.

"And now, my bred'ren," he said, "next Sunday I will speak to you upon the condition of the church and my topic will be 'The Status Quo.'"

"Pardon me, Parson," interrupted Deacon Jones, "but what do that mean?"

"Well, Deacon," rejoined the parson, "dat's Latin for we's in a h--- of a fix."



Sloping stone dam and boulder retard as placed in the Little Lohigh, Lehigh County.

A FIRST DAY THRILL

It was April 15th, the first day of the 1938 trout season in Pennsylvania. The three of us arrived at the stream just as the silvery moonlit shadows blended into the gray shades of approaching dawn. Our tackle hurriedly assembled, we scrambled down the steep embankment to the stream, full of early season enthusiasm augmented with a hope of catching one of the 'old timers' we were sure the stream contained.

As a lure I selected a live minnow carefully threaded on a leader loop and held in place with a double hook. I had fished for about a half hour with no success when finally a nine inch Brown decided to have breakfast on the minnow I offered; to his disappointment he landed in my creel. Casting into every part of the stream as I moved along I came to a deep blue pool at the foot of a small waterfall. My first cast into the pool brought no result, but the second was the inauguration of my supreme thrill of the day. As my line and minnow drifted with the swift current through the center of the pool it suddenly stopped, I tightened the line thinking it might be fast on a submerged log, but as the line became taught it began to move across the pool toward an overhanging ledge of rock. Thinking I had another trout about the size of the one I had just caught, I decided to "heave" him out on an adjacent sand bar. Such a foolish move really put that trout into action and before I could release any line my rod, being bent double, was drawn for half its length into the water. I maneuvered him across the pool into a position where I could get a good look at him, and would estimate his length to be at least twenty inches. Holding him at bay for a short while as he charged back and forth across the pool, I tried to bring him close enough to slip my net under him, but with no success. Finally Mr. Trout decided to try his luck on a long flat riffle below the pool. Feeding him line as he dashed madly down the stream I stumbled after him, as I knew he would never come back into the pool. He seemed to be almost played out as I held him steady with a taut line while I tried to get on the downstream side, but with a last final effort in a desperate attempt to escape, he churned the water madly, leaped clear of the water and shook his head with determination, and then—VICTORY—for the trout, as in his last attempt, after several minutes of ferocious battling, he seemed to unfasten the double hook from the leader loop.

My hat is off to that big boy for his gallant fight and victory. Even though bringing him home would have been an added thrill, I'm glad he's still there to thrill some other angler's heart and perhaps mine, as I'm going back to the same pool to challenge him again.

—RALPH E. BARNETT.



C. H. Lahry, Lemoyne, with his catch of 10 suckers, 13½ to 17¾ inches, scored on January 20 in the Yellow Breeches Creek. These suckers, caught in two hours, had a combined weight of 19 pounds, 4 ounces.

STREAMS IMPROVED

Under the direction of Homer H. Smith, forest ranger, CCC workers from Darling Run camp improved Asaph and Straight Runs, making them fine trout streams, writes Warden Leland Cloos, of Middlebury Center, Tioga county.

In Asaph Run, 52 stone dams, 38 log dams, 45 stone deflectors and eight log deflectors were constructed. Improvement work in Straight Run consisted of 20 log dams and two stone dams. A good many retards and plenty of brush for cover were placed in these streams.

PERFECTION IN TROUT

While reading the ANGLER, I was reminded of an experience that occurred while on a little trouting trip up Swift Run in Snyder county, writes G. Earl Shoop, of Shamokin.

I had attempted a cast in a small pool while going up the stream and had had no success. However, on the way downstream, I made another cast into this pool and caught an eight inch hemlock trout (brook trout). To me these trout are as pretty as one gets anywhere. Then, as dusk was falling, I cast into a larger pool and out came a trout, one of the most beautiful fish I have ever caught. It had a dark back and the belly was golden to pink as were the lower fins. I have caught many trout but I just looked at this one and thought its remarkable beauty and spots were wonderful. God made some grand fish but to me this was one of His best creations.

But the main reason in writing this concerns the trout I first mentioned. It was somewhere around two hours after I caught it that I cleaned it. When I removed the stomach, I came upon a good sized lizard and lo and behold, the lizard was still alive. When I put it back in the water, the lizard swam away. Don't you think this was unusual, that the lizard could be in the stomach of a fish for at least two hours and still live? Likewise, the worm on which the trout was taken was still wriggling.

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HARRISBURG, PA.**

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FROM "ANONOMUS"

DEAR MISTER EDITER:

This time I am writin on the typewriter so I kin spell so much better and quicker. I seen in a sportin magazine where fish and game all has such a sense of humor but I didnt pay it no heed till yistiday but yistiday I was alaying up in the brush in lily's bottom (i mean mr. lily's Bottom where Shovers run Runs through it) and 2 fellers cum along an I knowed right away that one of them must have saw me where I was layin becose when he stepped across me to throw in his bait he sed Lookout.

I was a layen there with a bran new streemer just like that there charley Foxes waiting for old Inspector to cum and look at it. Old Inspector is a fair size trout that looks at the flies and things people tells about and there pictures in the ANGLER. I make one just like the pictures and if he takes a look at it, it is purty near a cinch that another fish would bite on it and I will ketch him. It saves me lots of time trying it on the other fish becose Old Inspector, I call him that, he is always right there and ready to oblige. Well, this here feller stepped across me and said lookout and throwed in. He said is there any fish in here and I said there wasent none above the bridge becose they dont never stock it and he says if there aint no fish in here why is them 2 cow paths on both sides of the crick. He says they seen a big fish cummin up this side of the bridge and I sed why didnt you ketch him and he sed he wouldnt bite but they tried him. He sed he caught one yistiday in the cumberland Dam 22 inches and one haff long and I forgit how big around and I sed that must have been one of them old woreout government hatchery Rain-bows what they dump there evry Spring and he sed it couldent of been one of them becose they had et him and it tasted O. K. He sed they had been on the go ever since they left jonstown nigh before last and he wisht this here crick hadent been fished so much sos

they could of took them a mess of fish home with them.

The other feller he says they ort to have stocked this part of the crick to and then kep everybody out for a whole year after they stock it. He sed they ot to keep everbody out of every crick for a whole year and then they wuldent taste like liver. He says what kind of a fish was it they see comin up this side of the bridge, his belly was all yello. I sed like enough was a sunfish and he sed, O, he sed, he was mabe a foot long and I says yes they get big like that in this crick if the sucker fishers don't get them before the trout season opens and the other feller that stepped across me and sed LookOut he sed, honestly isent there emy trout in this crick up in here and I sed honestly I didnt know of but just one trout above the bridge and he lives about 3 hundred yds above here by a big old log and I seen him at daylight this mornin and he didnt bit. So they both tuk down there rods and they sed they gessed they would go back to Jonstown and by crackey if old Inspector didnt cum up that very minit and we all seen him and I says Migosh, i says, lookit that. I cant just sense all of them picktures of flyes and things in the ANGLER but wus there ever anny what looked like a big old green leaf becose it was just a big old green leaf that old Inspector had rose to look at and the next time I go fishin I will try one for bait if you dont tell me there aint been no pickture that looked like one in the ANGLER and mabee old Inspector was just kidden them 2 Jonstown fellers after what I was just tellen them bout there not beein no fish above the bridge. What do you think? Anyhow they both put there rods together again awful quick and throwed there baits together right where Old Inspector laid on the bottom and we could all see him layin there and he never moved.

They was both usen worms. Big nite-crawllers.

Yewrs Truly,

ANONOMUS.

CLINTON OBSERVES GOLDEN ANNIVERSARY

More than 475 sportsmen jammed the Masonic Temple in Lock Haven ballroom to attend the 15th annual banquet of the Clinton County Fish & Game Association, which is rapidly approaching its golden anniversary, and to hear John B. Thompson, the "Ozark Ripley" of hunting and fishing fame, speak.

After serving six presidential terms laden with success, Frank F. Marshall announced his retirement from office.

A turkey dinner was speedily and efficiently served by the Masonic banquet corps. The Temple Ensemble, augmented to the number of 22 for the occasion and under the direction of Kenneth W. Hassinger played during the banquet.

Mr. Marshall opened the after-dinner program saying that the association was organized in 1894, 45 years ago. He pointed out that it had grown considerably and that there were now three such organizations in Clinton County including the Western Clinton Sportsmen's Association and the Southern Clinton County group. He said the combined membership was 1,000 or about one-third of all licensed sportsmen. He introduced Calvin W. Bathurst as master of ceremonies.

Mr. Bathurst called for a rising vote of thanks for Mr. Marshall for his service as president. He then introduced for short speeches: John C. Youngman, Williamsport, president of the Pennsylvania Federation of Sportsmen; Merrill C. Merritts, Altoona, vice president; H. M. B. Weicksel, Renovo, president of the Western Clinton Association, and Rep. Charles E. Donahue.

ANXIOUS PICKEREL

Carl Biesecker, of Scranton, submits the following "believe it or not."

While fishing at LaBar's Landing, on Lake Wallenpaupack, I was pulling in a 14½ inch pickerel. I had two hooks on my line and as I was lifting the 14½ inch pickerel into the boat, another 13 inch pickerel jumped at the other hook. I reached out and touched the 13 inch pickerel with my left hand.

FISHING IMPROVED

Most of the trout I caught during the 1938 season, writes Joe Glachen, of South Fork, were taken from Bobs Creek, in Bedford county, and the Ebensburg water dam in Cambria county. Last year was a revelation to me in how a stream could be improved for fishing. Heretofore, Bobs Creek had a poor reputation in this section as few trout were caught from it after the first week or two. I know of quite a few nice catches having been taken right up through May and June last year. The dam also produced some great fishing and increased the use of artificial lures many times over in this section. Both places are fished very hard. After the season is open a few weeks, the smaller trout streams in this section are pretty well cleaned out.

Between the two places mentioned and the Wilmore Dam near here with its crappie fishing, our sport has improved many times over.

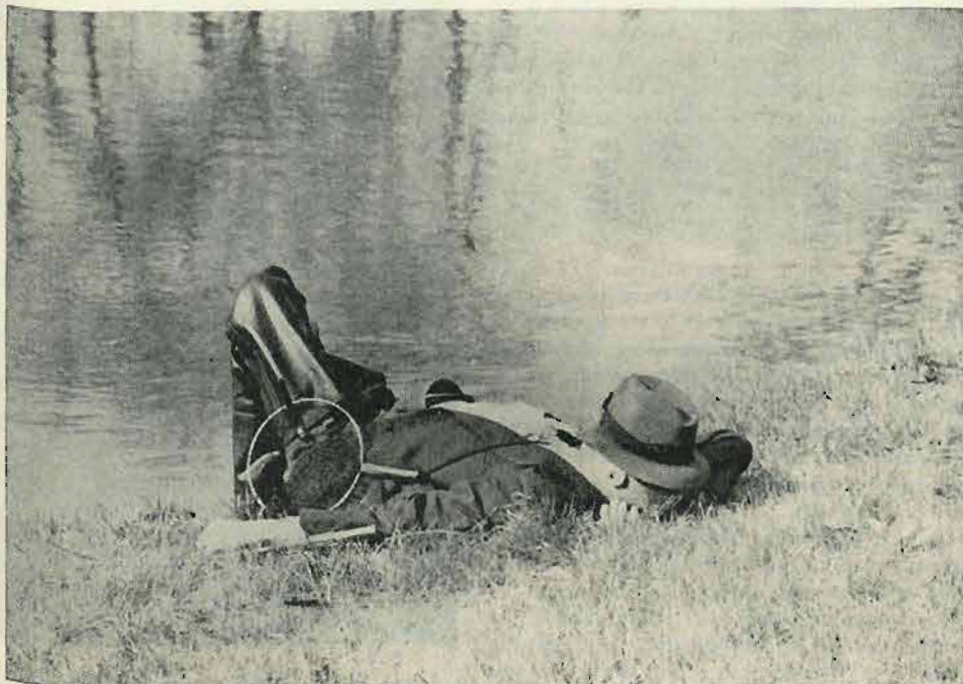


Photo by Joe Licini of Allentown.
Some fished, others snoozed on the Little Lehigh opening day of last trout season.



Have had more sucker fishing in this section than usual, writes Warden R. C. Bailey, of Youngsville, Warren county. Our streams have been open most all winter. Conewango Creek in the vicinity of North Warren has been a favorite spot. The largest sucker reported at this location was taken by Blair Thompson, of North Warren. It weighed 4 pounds 12 ounces. The Allegheny River also furnished some good sucker fishing at the mouth of Brown Run just above Warren and in the vicinity of Tidioute and West Hickory.

Spring is only a few days off and with it comes our task of planting about one and one-half million trees, writes C. E. Spinney, acting forest supervisor for the U. S. Department of Agriculture, at Warren. The planting season is short and with fewer CCC enrollees to draw upon our days are apt to be busy ones. I have arranged to have CCC men meet the consignments of fish scheduled for this section during the week of March 5 to 11. We will be able to give you full assistance up to the first of April. Assistance after April 1 will depend upon the weather or the retention of existing CCC camps. You may be assured that we will cooperate to the limit of our available man power.

Writes Board Member Fred McKean, of New Kensington: Save the crab. When you are fishing and you accidentally catch a crayfish, don't trample it in the mud. Just return it to the water unharmed. It will make a meal for a bass and maybe some day this same fish will make a swell dinner for you. By conserving our fish food we can help save our fish.

From Warden Harry Z. Cole, of Norristown, comes word that sucker fishing is on full swing on the Delaware River. On Saturday, March 4, I checked better than 60 fishermen between New Hope and Durham. There were many catches of from four to fifteen nice suckers, some 18 and 20 inches in length. Then there were some who really did not know how to sucker fish and of course, they were disappointed. While I was checking the fishermen at one point, Elmer Fluck, of Erwinna, pulled out two, which made his 88th and 89th suckers caught during the past three weeks.

A nightcrawler accounted for the 21 inch, 2 pounds 13 ounces brown trout taken last season in Flory's dam at Bangor, by Francis Doll, of Bangor.

HERE AND THERE IN ANGLERDOM

Word has been received that Colin McFarland Reed, a director in the Pennsylvania Federation of Sportsmen's Clubs and president of the Southwestern Division of the Federation, has been signally honored by having been elected vice president of the National Wildlife Federation. Mr. Reed's home is in Washington (Pa.).

A water worm, larva of the crane fly, lured a fine 17½ inch brown trout to the strike for Francis Pretko, of Allentown, one day last season. The fish was taken on the Little Lehigh.

We have been receiving quite a few inquiries on how to reach Brokenstraw Creek in Warren county, one of the largest trout streams in northwestern Pennsylvania. The following data concerning this stream has been furnished by Warden R. C. Bailey, of Youngsville. Brokenstraw Creek provides some of the best trout and bass fishing in this section of the state. Bass are plentiful over the entire range of the stream as are large rainbow and brown trout. However, you will find the best trout fishing from Garland upstream to Spring Creek. To reach this point from Pleasantville, follow Route 27 to Garland and turn left in Garland. Drive upstream about 4 miles. The road parallels the stream and you will find good fishing along this section of the stream.

Good news for trout fishermen planning to fish North Tier waters early in the trout season comes from Warden Kenneth Aley, of Galeton, Potter county. From all indications, he writes, spring is here or just around the corner. First the ice goes out, then come the early sucker fisherman and last but not least arrives that harbinger of spring, the robin. The ice went out on February 1, and on the second of February the sucker fisherman could be observed seated along the stream, patience personified, with his cane poles. The first robin put in an appearance one week later. Some nice catches of suckers are being taken from Big Pine Creek. Gerald Slocum was one of the first to make a nice catch. Kenneth Walter and Robert Fender also made some nice catches.



Tony Lupia, of Harrisburg, is hoping to duplicate the catch of trout he made last season on Easter Sunday in the Yellow Breeches Creek. Topping the catch was a 15½ inch trout weighing one pound 6 ounces, and the other 6 trout in his creel ranged in length from 8 to 11 inches.

Five suckers, ranging in length from 14 to 18 inches and having a combined weight of 8 pounds were taken by Robert Gier recently while fishing the Sweet Arrow Lake, Schuylkill county, according to Warden Anthony Lech.



George Tepper, Media, scored with this 25 inch, 5 pound brown trout in Valley Creek at Valley Forge last season. He sets a personal 10 inch size limit on the trout he takes.

Anglerette Astream



Mrs. Floyd C. (Marian) Baker of Scranton will no doubt re-enact this scene on April 15th, opening day of the trout season this year. Writes Leon E. Decker, secretary of Camp No. 63, United Sportsmen of Pennsylvania, who submitted the photo: "You probably know that Marian is our most popular anglerette."

Fish for the fun of fishing!

A full creel is like a weight on the shoulder and the mind of the thinking angler; for if he thinks, he will know that he is taking more than his share, and in so doing is depleting the source of future sport for himself and brother anglers. Better one or two good fish in the creel with the rest carefully put back as an investment in future sport.