What Conservation Means To Me

GUEST EDITORIAL

EACH TIME I enter our cool forests or fish in our clear streams, there comes a sense of kindred with the beauty of the wilderness. Nothing is more soothing to the troubled heart than to walk in the rustling leaves of autumn, to see snow piled high in fence corners, or to feel the thrill when a bass takes my noisy bug from beneath leaning willows.

What could be more enjoyable than to see a deer silhouetted by the evening sun on an Ozark hill, or the inquisitive eyes of a beaver peering from his streamside den? All these things are a manifestation of the completeness with which God set nature into motion. These are the things I enjoy about my nature land—from the howling winds that drive the 'coon to his warm den, to the steaming grass and dripping leaves of an early morning squirrel hunt. These can place things in a man's mind in proper perspective and show him the sham and hollow ring of concrete and steel.

Will the time come when I can no more take these small pleasures of life from nature's treasury? Will I someday see a barren wasteland where a quiet brook once wound its way? What if I should see an empire rise where, in the stillness of night, was once heard faintly the soft tread of a nocturnal creature in search of prey? These haunting questions cause a man to look with greater awe upon the wondrous dawn that makes sharp outlines where a ghost hill stood. And when I behold mist rising around cypress knees in a swamp, I think: "This is a beauty that we must preserve for children yet unborn."

A precious part of American hope lies in these woods and rambling streams. Here men of the future must walk and foster thoughts filtered through close communion with God to keep America aware of its reason for existence. Freedom in the beautifully unkept wilderness takes on real meaning. It is a prized freedom to enjoy what He has given us in unmeasured bounty.

Conservation means to me that I must endeavor to preserve this native beauty. Conservation means that some young man of tomorrow may walk beside undefiled streams and tramp the forest mile on undisturbed mile.

Conservation is giving to another man, perhaps yet unborn, a taste of the summer grapes I have relished and the venison he will bring down with his own hand.

I, who have enjoyed so much of nature, could ill afford to deny future generations the sustenance of its sweetness. May it never be said of me that I misused the land God gave me.

Rev. Dale Pollock

—In the "Missouri Conservationist"
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—Photo by Johnny Nicklas

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The Basics Of Dry Fly Fishing

By RAY OIVINGTON
(Photos by Author)

... a mixture of traditions and techniques, dry fly fishing is, none the less, not beyond the abilities of the average angler, "experts" to the contrary. ... and learning to cast well is one of those basics!

There are hundreds of thousands of trout anglers in America who enjoy the time honored sport of dry fly fishing. There are a considerably smaller number of those who are regarded as purists, or those who prefer to fish exclusively with the dry fly. Narrowing this later group and separating those who have made a study of the art of dry fly fishing in all its phases, we have a veritable handful of individuals who take their sport seriously enough to ask "why" when they are unlucky and so go to work to find the reasons.

Trout lore and tradition has it that the dry fly must be cast on the water in such a way as to make it act naturally on the water. It must, say the experts, drift on the top of stiff hackles. This is the first and great commandment which has put the dry fly fishing in the realm of the highest form of angling art, whether fish be caught by its technique or not! It is at best a tough proposition to design a fly which will float like a real insect and drift naturally on the water while attached to a leader. But, says the law book, that is what must be accomplished and that, my dear friends is why fly tiers and anglers have burned the midnight oil these many centuries in the effort to find the answer.

To approximate the real thing, we must be able to cast the fly in such a way as to land it on the water above the position where we judge a fish to be lying. It must land lightly, cock upright and float naturally. The conventional way to accomplish this is to cast the fly upstream, or at least up and across, preferably an area where the current is slower between the angler's position and the section picked to be worked over. The cast falls from the air and just at the instant it is about to touch the water, pull back slightly with the rod, stopping the fly in the air so it will not drop to the water on a tight leader. Release extra line which will allow sufficient slack to avoid any drag to set in and so spoil the effort. As the cast drifts down, retrieve the slack, being careful not to move the end of the line itself where it joins the leader, or a surface disturbance will be the result, and just one more chance to scare the fish.

Another situation in dry fly fishing which demands the extra qualities of fine delivery involves a section of stream with fairly fast water near at hand and with the quiet water that we wish to fish, just beyond. We must be able to cast the fly across the fast water and leave enough line ahead of the fly so as to give the artificial enough drifting time before drag will take its toll. Frankly, this is a hard one and at best will offer little time for the fly to be of interest to the trout, yet it has been my experience that it will often provoke a rise from an otherwise stubborn trout.

The cast delivery is started with the conventional fore and aft false cast and just before the line starts to fall out there in front, you roll your wrist, causing the fly to swing to the right or left, leaving a wide belly of slack line ahead and beyond the fly. With the
fly in slow water and the bellied line above it now, both will come down stream together and your cast will remain natural on the water until all the slack has drifted down ahead of the fly.

Or you can tackle the problem this way: Wade out into the fast water, well below the desired location. If you can reach the center of the fast water, your problem is half solved, for you can use the edges of the swift stretch to advantage. Cast along the edge of the faster water into the current which leads to the quiet stretch, throwing additional line before the fly hits the water. As the fly floats down, the belly of the line will gradually absorb and as it does, strip in the slack. Nine times out of ten, the taking in of the slack will, in this case, overbalance the effect of drag on the leader and then you've got it made!

The third way of accomplishing a drag free drift is to proceed to a spot well above the location you wish to fish the floater. If possible, wade again to the center of the fast water. Face downstream toward the fishing area. False cast a fairly long line and on the forward throw, stop the rod before the fly is whisked forward. This will cause the fly to fall into the water just beyond the rod tip. The slack line will fall practically at your feet. Now, with the fly floating down naturally on the currents near you, it will drift away from the fast water over into the quiet stretch you wish to work. . . . right at the division between fast and slow, right where trout like to lie in wait for their food. Drag will not set in until the fly has absorbed all the slack, and if you wish to fish farther down and still can control the works, let out line in keeping with the speed of the current.

Quite often, a stream is designed with all the good water on one side, where you cannot wade. Behind you on your side there is no back cast room. It is here then, that you employ the roll and mend cast, either up or down stream, to the right or left as the case may be. Note the photos in the article and you can see that this is accomplished by pulling back on the usual first step of the conventional cast and just as your rod tip reaches the upright position, snap it down quickly and firmly and the fly will pull out of the water, whisk up into the air in front of you and go flying back to whence it came. Roll your wrist, thereby turning the rod during this part of the cast and it will roll the way you wish it to go.

Now, that we have discussed the proper way to accomplish many kinds of tricks which will permit a drag free drift, we must say, in all honesty that your inability to master the dreaded drag need not scare you away from the water. Quite contrary to traditions, a little action from or near the fly quite often provokes good strikes from good fish that are feeding on the hatching and floating flies.

I remember a time when I worked over a par-

Casting the fly is poetry in motion. On the pickup, don't yank, let the rod do the work as you pull back and suck the fly off the water with a one two wrist snap and slight arm bend. The line will form a bow, lifting the fly out and back to form a bow.

As the line begins to straighten out behind, push forward on the rod until you feel the line come with you and then exert the forward shove.

And the forward bow will form, bringing the line straight and true toward the target. The vertical position is the easiest, but when you have to cast under an overhang, form the bow horizontal to the water.

The perfect and effortless cast drops out in front with a gentle touch to the water. When you wish to stop the cast, pull in on the line with your free hand. If you wish to lengthen the cast, let go a coil or two of line and the pressure of the forward cast will speed it out through the guides.
The roll cast. Note how the bow has formed by bringing the rod up sharply and then, before the line went too far, brought down quickly and with force. The very end of the line is still in the water!

ticularly large fish for several minutes. Try as I would to perform in my best style to deliver the fly above him and float it over his nose, he paid not the least attention. Helen was fishing below and seemed to be having success. She asked me what my trouble was and why I hadn't taken the fish, and I replied that it was stubbornly ignoring me and my best efforts. I would have gone away and left it had it not been such a good sized one. After pausing a minute to light a cigarette and watch her progress with her third fish, I again turned my attention to the feeding trout above me. He broke the surface after one of the fluttering Hendrickson mayflies and it was then the reason for my failure dawned on me. Quickly drying my cast in the air, I sent the fly a couple of feet above the trout, and, when it cocked on the water and drifted practically over its head, I gave it a slight twitch. This brought an immediate and sudden surface splash and the brown nabbed that fly and hooked himself without any help from me. Thinking that the switching motion might have just been luck, I tried it again further up the pool and again it worked. After taking still another fish, by the same ruse, I felt that I had definitely learned something and went down to tell Helen about it. When I arrived, she was fast to a nice trout and shortly netted it. Her casting was, at this time in her experience, far from perfect. Her delivery and knowledge of the drift were practically nil. I got quite a kick out of watching her next cast. The fly dragged unmercifully, but a splash of considerable proportions erupted near it and another fish was hooked. So you see, the art of presentation must be adapted to the conditions. In this situation, with the fish feeding on hatching, active insects, motion was the first attraction and the fish were taking the flies without looking them over carefully.

The proper angle of presentation and direction of the light can mean the difference between strikes or

The roll cast. Note how the bow has formed by bringing the rod up sharply and then, before the line went too far, brought down quickly and with force. The very end of the line is still in the water!

no strikes, and can best be described by an unforgettable experience Ernie and I had one evening on a Catskill stream. We had been working the head of a pool during the early spring Quill Gordon mayfly hatch. He was opposite me on the right side of the current near the head of the pool and I was parallel to him on the left. Because of the light, from my vintage point, I could look into the water and see the trout as they rose to the surface. He could not see this however as the sun was in such a position as to offer nothing but reflections. I recall that he made the remark that couldn't follow his fly much of the time unless it was in silhouette. I took the first fish, having seen it come up fast from the bubbles. Two more fish came up and I saw them open their mouths each time. Ernie hadn't had a single rise and indicated his disgust plainly. Both of us were fishing the same flies, so why was it, with good delivery in both cases, that he was not connecting?

Just for an experiment, we exchanged positions and the results were what you might expect. He took three fish in a row and I drew a complete blank. As nearly

Same goes here, except that the wrist is turned or rolled and with extra aid from the arm in the downward thrust, the line is thrown in the direction wanted. Note again, the end of the line and leader are still in the water. This cast will end up about fifty feet upstream.

as we could make out, either the leader, as presented from the dud was more visible to the trout, or the surface currents acted on the actual fly as to make it appear unnatural. So, light, then and its direction can
present its problems. To solve them calls then, for various approaches to the same water.

I know many dry fly fishermen, successful anglers who pay no heed to all this advice. They simply cover the waterfront, every inch of the stream in what is known as the coaxing theory, one of fishing the floating fly over every likely spot from all directions, fast water, riffles, still water, shallow and deep runs. One might term it the searching theory, for that is precisely what the angler is doing: he is searching for a trout that will rise to the fly. To the meticulous angler or student, this might seem to be a form of the "Chuck And Chance It" theory that the English dry fly purists attribute to the sport of wet fly fishing. It is actually just that . . . chuck and chance it and vague though it may be and devoid of theories, it has its army of devotees, because it does produce fish, provided the angler is patient enough to cover a lot of water just hoping for a rise. It is designed for the fisherman who delights in casting and wading in the beauties of the river. He is probably not too interested in pattern selection, his belief being that sooner or later the fish will begin rising and when they do, he'll have his action. Until that time he is perfectly happy to pick up the odd fish. He may even get a surprise roll from a big one . . . and often does.

Dry fly fishing means many things to many anglers, but in all cases it demands good casting ability which depends on good equipment including well balanced line and leader. There are many exceptions to the hordes of rules and traditions made over the years, and still more exceptions to the rules and conclusions you will make and break. But always remember, the trout knows none of them.

HOW TO MATCH BOAT AND MOTOR

Newcomers to the sport of boating frequently seek an answer on how to select the proper power for an outboard boat. Harry Ewald, chief engineer for Evinrude Motors, suggests the chart below as a rule-of-thumb. Many variables, such as size, shape and construction of hull, affect of boat’s performance. Because none of these is constant, Mr. Ewald recommends that a new boat buyer consult a reputable outboard motor dealer for advice on the proper motor to meet his specific need.

<table>
<thead>
<tr>
<th>TYPE OF BOAT</th>
<th>utility boat</th>
<th>utility boat</th>
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<tbody>
<tr>
<td>Length range from 6 to 10 feet. Round or flat bottom. 3 H.P. most efficient.</td>
<td>14 to 16 feet overall. 18 H.P.—35 H.P. if beam is sufficient.</td>
<td>14 to 16 feet overall. 18-35 H.P., depending upon size, beam and use of boat.</td>
</tr>
<tr>
<td>6 to 10 feet.</td>
<td>dinghy or pram</td>
<td>runabout</td>
</tr>
<tr>
<td>10 to 14 feet.</td>
<td>rowboat</td>
<td>14 to 16 feet overall.</td>
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MAY—1958
ADMINISTRATIVE PROBLEMS INVOLVED IN STOCKING FISH*

By ALBERT S. HAZZARD, Ph.D.

Assistant Executive Director
Pennsylvania Fish Commission

PART I

The administrators of agencies charged with the management of fisheries in their respective states or on the federal level, place the problems involved in fish stocking under three distinct headings—economic, social and biological.

Invariably, the latter are the least difficult to resolve because first, the biologist knows most of the environmental needs of the principal game fish and secondly, through his studies of a lake or a stream, he learns the chemistry and temperature range of the water, something of the types and quantities of fish food organisms present, what is afforded in the way of areas for fish to feed, rest and propagate, and the general nature of the existing fish population.

So, when the environmental needs of the species are met by a particular stream or lake, the problem most often resolves itself—biologically, that is.

But how and by whom can the problem be resolved that arises with the vociferous clamor for the stocking of more and bigger trout, when reliable surveys or trout stamp sales disclose that only 20% of a state's fishermen are trout fishermen? Or, in states and areas where resort interests are important, can resort owners demands for stocking be dismissed lightly? Or, how can sportsmen's groups who want bass or other warm water fishes stocked in a lake be convinced that their lake is already so over-populated with those same species that growths are stunted? These are but a few of the social and economic problems that attend fish stocking with which fishery administrators have been wrestling. Up to now there has been little indication and less hope that they will win the fall.

Withal, fishery administrators consider fish stocking from two basic angles—maintaining species already present and introduction of species. Although some of the same problems are involved in each, the latter gives rise to more problems because it covers a wider range of circumstances.

Introduction can apply to establishing a fish population in a newly constructed lake. It can also apply to re-establishing a population in waters where former populations were eliminated either by draining or chemical treatment in the course of reclamation or were destroyed by other causes. Introduction could also apply to the planting of a species totally new to a watershed or even to an individual stream or lake.

Of these several types of introduction, the prospects of bringing in a new species is probably the most exciting for all concerned, from the administrator to the fishermen. However, it's a step that should only be taken after studied consideration by the fishery biologist. And he is confronted immediately with these, among other questions: Will it thrive, reproduce, and provide the kind of fishing for which the species is noted in its native waters? Or, what is the likelihood that the planting will fail completely? Or, will the fish thrive too well and compete with or replace entirely a valued native species and ultimately result in poorer fishing?

Only after careful survey of a watershed and the native fish population of its waters and weighing the possible effects of successful establishment should the
introduction of an exotic or new species be undertaken. Fish are not static organisms, thus if they thrive and reproduce, every accessible and suitable part of the watershed will be invaded.

Brown trout, for example, may represent a fine addition to the fish population of the lower portion of a river system. But unless dams or high falls are present, their introduction could pose a threat to the native trout population of the headwaters or tributaries.

Also to be weighed is the fact that while the introduction of a species is relatively easy, its removal, if it proves undesirable, may be very difficult and costly or even impossible. Carp now present in many of our waters is an excellent example of the latter.

Then there are the social and economic problems to be faced. If the introduction of a new species is successful in one stream or lake, it's inevitable that requests will be made for similar plantings in other parts of the state where the fishing for the native species may be presently satisfactory.

Many years ago American Smelt were planted in several lakes in Michigan as food for the Sebago (Landlocked) Salmon, which the Conservation Department was trying to establish. Though the salmon failed to survive, the smelt did and spread to all of the Great Lakes and some connecting lakes in the northern part of the state. These smelt were responsible for the development of a fine, winter sport fishery which brought much revenue to adjacent communities, though some blame the smelt for the decline in the commercial catches in the Great Lakes.

Pennsylvania presents a similar example, though on a much smaller scale, in Harvey's Lake in Luzerne County, where the smelt were introduced as forage for lake trout that were re-established there successfully in 1950.

That the wintertime smelt fishing became a really big thing in Michigan has been indicated by the special smelt fishing trains which once chugged northward from the state's large southern cities, when the ice was safe and the fishing good. Charter busses and private cars have replaced those trains. Another modern development is the shanty villages, some electrically lighted, complete with stores that appear on the ice each winter, to add convenience and luxury to the fishing.

Subsequently, in the course of a statewide waters survey, Michigan's biologists found a number of lakes in the southern counties suited to smelt. This posed a sociological problem. Should smelt be introduced in these lakes and perhaps eventually deprive the northern communities of the winter revenue from their smelt fishery?

That same survey, incidentally, disclosed that some of those same southern Michigan lakes could also support trout, although unlike the smelt, trout reproduction could only be expected in a few of them. This gave rise to another question—should trout fishing also be brought closer to the urban communities of southern Michigan perhaps at the expense of the northern resort interests?

In states and areas where the tourist business is a major item, resort operators and local chambers of commerce are constantly knocking on the doors of fishery administrators. On some occasions they can be accommodated. But it is difficult to convince these people that only certain species of fish will do well in a particular lake and that fishing may be spoiled rather than improved by introducing new species. In such instances the regional fishery biologist or manager can do his most effective work. He can usually cite local examples of what happened to bass fishing, when crappies were planted in "Shallow Lake" or how trout fishing disappeared when yellow perch were released in "Deep Lake" by some well meaning resort owner in order "to have fish the kids could catch".

While there are other facets to stocking for introduction demands for stocking to maintain or augment existing species is possibly the biggest headache for the fishery administrators. The growing weight of evidence from all parts of the country supports the policy, now generally in effect, which limits the planting of young warm water fish to introduction or to re-establishment after reclamation or other complete kill. Bass, blue-gills, walleyes, and most other warm water species are so prolific that even in the most heavily fished waters enough breeders survive to produce more young than the natural food supply could possibly support to keeper size. Planting more young fish, where conditions are suitable for reproduction, only increases competition for food and may bring in disease or parasites. Such planting is like pouring water into a glass which is already full.

The administrator who takes the time to do it, usually has little difficulty in convincing most anglers that it is right to discontinue the planting of several hundred young bass or a couple thousand baby blue-gills in a lake every year. If a clincher is needed, a few hauls of a seine in late summer by the fishery
biologist assisted by the local warden and interested sportsmen, will furnish the evidence. However, the Chamber of Commerce or the man who runs a resort or boat livery is harder to satisfy. They may admit that many young bass are seen along the shoreline or that there is general complaint of the number of small walleyes being caught but they still want plantings so that it can be advertised that so many thousands of fish were planted in their lake last year. Even a token planting will often suffice and some feel such plantings are justified "for good public relations". But can fishery administrators, charged among other things with the wise expenditure of the sportsmen's funds, justify any activity which it knows contributes nothing toward better fishing?

There is the possibility that in some otherwise suitable waters walleyes or northern pike or muskelunge may not reproduce successfully but that desirable populations of these fish might be maintained by planting fingerlings at intervals of several years. Here again economics and sociology enter the picture. These fish are difficult and expensive to raise—especially the northern pike and muskelunge. Is it a wise use of the fishermen's funds to maintain "by force" these species in waters where they can only grow or favor those waters where they can also propagate? As in the case of the smelt referred to earlier, the local economy of the state could also be involved.

Then there are the problems that arise from the demand for planting warm water species of catchable size. The demand is growing and soon will require that answers be given.

Such remarks as these are being heard more frequently: "You raise trout to keeper size, why not bass and other warm water fish?"; "Why give trout fishermen all the breaks?"

While it is true that bass, bluegills, and perch cannot be readily stripped and their eggs hatched artificially, as with trout and salmon, these warm water species can be allowed to spawn and the young collected by the hundreds of thousands or even millions. Although artificial feeding is practiced to some extent already, methods could be improved. Eight inch bass and six inch bluegills have been produced in one season by intensive culture but no state has yet gone all out on such a program. Selective breeding should yield faster growing fish and improved rations would step up growth. Research in this field is needed.

Stocking these larger warm water fish has been well received when tried on a small scale in some of the eastern states. And not only have the fish stocked been readily taken by the anglers, it's also reported that the catch of the native species picks up when a load of hatchery or "transferred" adults is stocked.

Transfer of adult bass, walleyes, catfish and other desirable species to heavily fished inland lakes and streams from waters which at present are little utilized by anglers (Lake Erie and the Lower Delaware River) has improved fishing at reasonable cost. Expansion of fish cultural stations to produce more catchable warm water fish, however, is of questionable value.

Such a program is limited by the funds available to fishery administrators. It could be done but only if revenues were materially increased or at the expense of current programs. And it would be a much more costly operation than that of rearing catchable trout. Larger ponds to produce an equal number of bass for example would be necessary. Acquiring the real estate and building those ponds would have to be financed. So would the feed. So would the larger work force such a program would require.

(Editor's Note: Part II of "Administrative Problems Involved in Stocking Fish" will be presented in the June ANGLER. It will be an appraisal on trout planting. In it Dr. Hazzard likens the stocking of adult trout to a giant lottery. See if you don't agree.)

Fishing is a sport in which large tales are often connected with small fish.

Kenneth Roney
Oakmont, Pa.
Back in the 1880's, about the first day of May the Allegheny River fisherman checked the "spring" in the long hickory handle of his spear and then visited the village blacksmith where the muscled mechanic straightened the tines and sharpened and tooled back the barbs.

In three weeks the dogwood, with white flowers tipped in purplish hues, would blossom.

Sheets and patches of flowering dogwood sprayed on the hemlock-covered hills of Venango, Forest and Warren Counties were a never-failing sign that the buffalo suckers were schooling in the riffles.

Long, flat johnboats that had been hauled out of the crush of the Allegheny's ice gorges and errant lumber rafts were skidded back to the river's edge at the public access areas of those years—the raft and ferry landings.

Pine torches, which would be affixed to a "jack" jutting ahead of the boats and which would provide light since spearing was mostly a nocturnal sport, got a soaking in the crude oil so abundant in the area.

Both boys and men who had built up strong throwing muscles by clubbing chestnuts and sharpened their eyes on tails flicking high in the hemlocks during the communal squirrel hunts, took up their spears.

Large wooden washtubs were borrowed and loaded onto the boats with a promise that the spearing party meant to provide fish for eating.

The village would be sleeping, but if the torch-light and the spearing and floating conditions were ideal, or if a spoonbill sturgeon was stabbed and landed, the night fishermen would make such loud talk that the sleepers turned out to the landing.

Those who did usually were rewarded with a wash-pan of firm, olive-colored suckers. There would be scraping, scoring and salting and fish-cakes frying in the hogsmelt in the morning.

And the now-rare sturgeon would be paraded up and down the main street of Tionesta in Forest County while the "oldtimers" spoke of bigger fish and the children followed until they were late for school.

The spearing continued through the summer until cold weather drove the men off the River. The Allegheny's watershed was well-forested then, and the stream ran clear for many days on end.

The spearfisherman has a modern counterpart in the man who "fishes" today with bow and arrow.

However, early in May the bowfisherman experiences the same urges and goes through the same preparations that occupied the spearfisherman.

There is a scurry of archers around the riverfront. Have the carp begun to spawn? Are they in the swampy feeders? Have they moved out of the deep holes into the shallow riffles and shorelines?
Long distance calls are made between archery clubs for this information.

The bowfisherman, too, taunts the "spring" in his bow, sharpens the points of his barbed arrows, tests his shoulder and arm muscles against the protest of laminated glass and hard maple.

While the carp races in convoys of two and three, slapping, bumping, rolling, splashing in the shallows during the spawning exercises, the bowman has his supreme hour.

Then, standing only a few feet from the huge, football-shaped, brown-and-blue hulks, he can impale carp after carp at almost point-blank distances. The carp seems oblivious to man's interference then. Two fish are often skewered on one arrow.

Carp hunting, when the fish is taken up with the frenzy of spawning, becomes then simply a rote of going through the motions. Arms tire and fingers and palms burn as the heavy fish cut big circles trying to break free of the barb.

Not every spawner is hit. After all, a carp can scurry like a rabbit, and even shotguns miss rabbits.

In Northwestern Pennsylvania all carp do not spawn in one day. There seems to be a succession of matings as the roe-swollen females, many weighing more than 35 pounds, work out of the deep river holes.

The best bowfishing in the river and creeks, then lasts for about eight or ten days, beginning approximately on the 20th of May through Memorial Day. After the spawning the schools break up and disappear into deeper pools, offering only occasional individual targets when they seem to be suspended near the surface to all appearances taking bugs and other floating junk.

But like game fish, the carp will drift to safer depths as the bowfisherman approaches.

If in the period of spawning, the river and creeks muddy up because of heavy rains, the carp deposits and fertilizes its roe undisturbed, and the bowfisherman misses out completely.

In 1956, May passed in Venango County with the Oil Creek and the Allegheny River high and muddy. Oil City archers were disappointed as they had made many preparations. However they knew that once the water cleared in Oil Creek, the carp would be found in all eddies of that stream—there are about 30 between Oil City and Titusville.

When these eddies are drawn down to late spring and summer pools they are from 50 to 100 yards long, 30 yards wide and average two and a half feet deep. However a few shale holes have deeper water.

The Venango County archers know also that a carp will move into deeper water as soon as the hunter approaches. The banks of Oil Creek are not very steep. Carp, when they were located, cruised back and forth in taunting maneuvers. But they were almost impossible to hit with an arrow. The angle was too sharp and usually the sunlight came from the wrong direction.

Then, too, the carp doesn't live to accumulate 20 or 30 pounds of flaky steaks and half-dollar-size scales by being dumb. It's as smart as a fox, as rampaging as a bull and as clever at hiding as a rabbit. And it qualifies for many other fished-out similes used to describe bravery, endurance and cunning.

But put wings or legs on the carp, and the feeling among the "veteran" carp hunters is that the "el carpo" could provide gunners with challenging shots afield, too.

How then to get the carp within shooting distance? The same men who hunted carp also hunt deer with a bow. And what is done when deer snuggle in a grove? . . . Put on a drive and move them.

So the bowfishermen post watchers on more prominent rocks around a pool. As a rule three watchers "covered" the average Oil Creek "carp trails" quite adequately.

Bowfishing teams usually consist of four to six men. Two enter the bottom of a pool and the fish are "shagged" upstream, the idea being to drive the fish to the watchers.

Once a pool has been driven a few times, the carp's escape trails are marked and watchers get shooting. The carp, like the deer, is a creature of predictable traveling habits.

But when a school is disturbed, some carp react as non-conformists. Like the smart buck deer they will try to double back through the drivers. And many times they escape, but they provide shooting, which keeps drivers happy, too!
If the drivers do not push the carp too closely, they will remain and circle in the pool.

Followed too quickly, they will barrel through posted watchers, many times passing between their feet. The shooting then is like "potting" at a scurrying rabbit.

Carp that have escaped the pool are watched and "marked down" like a flushed grouse. Their wake betrays them. They can be found later lying huddled against a big rock in the riffle.

Sometimes a school of a dozen suddenly thins out. But when only two have been taken on arrows, and only four can be located in the pool when the murk settles, the results don't add up.

Where did the carp go?

Why under the willow bush on one side of the pool. Then the driver or wader approaches, the circle of watchers is tightened, and the bush is probed with an arrow or a booted leg.

Experienced eyes soon recognize carp frozen under the willows. Polaroid sun glasses help. The sharpest eyes are necessary. Usually the reddish tinge at the carp's tail betrays it.

Then follows some deliberation. Where are the vitals?

In the filtering sunlight under the willow bush, in roily water, under the floating "nest" of twigs and branches and "high-water" litter, hides the carp.

Tension builds up before the arrow is drawn and released. The distance can be less than six feet. The carp will not move. A miss sends a half dozen "submarines" zigzagging from under the willows. Everyone gets shooting. But watch the toes!

A hit brings an explosion of water, smiles and whoops all around and line spooling off the bow-reel as the fish cuts longer and longer arcs trying to escape.

Sometimes carp are wounded. When an arrow hits but does not penetrate, it leaves a white dot. Injured fish can be spotted easily. They invariably leave the school and seek a hiding place. They may use the floating mud-cloud to return under a willow, swim in next to or under a log or snuggle against a big rock on the stream side.

The team hunt then is concentrated on the wounded fish until it is found. Carp will swim 200 yards into a fast riffle even though severely wounded, and hide in the first cover that will accommodate their bulk.

Bowfishing with a team of drivers and watchers is a sport in which all participants share the enjoyment of an accurate shot or a near-miss. A team hunt does not need to wait only for the time when the carp spawn. It is tip-top recreation anytime when the water is free of mud and ice, whether the dogwood flowers or the trout is taking March Browns or the wild geese are flying south.

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A $5 Story:

Warden Overlooks Fibbing On License

To Mrs. Elsie Smith, 325 Forest Grove Road, Coraopolis, goes $5 for this outdoors story.

I was fishing in the Allegheny River near Oil City with my husband and our son.

Soon a motor boat approached us and it was the fish warden who wanted to see our licenses. I had everything else but no papers.

I offered to run up to the car to get them out of my purse, but he suggested that I mail them to him instead. He took my name, age (46), Weight (148) and Height (5-6).

When I arrived home and got ready to mail the papers I noticed that they said 42 years, 135 pounds, and 5 feet 3 inches. With fingers crossed I wrote, "My husband bought my license for me," and hoped that he would understand that I must still look thinner, smaller and younger in his eyes. Even if I had been fined, I would have still felt good about this.

But he did understand and everything was all right.

Outdoors Stories, Sports Department, Pittsburgh Press.

CONSERVATION IS EVERYBODY'S BUSINESS because it affects everybody. The battle will be almost won when enough of the people realize their own personal stake in sound conservation practices.

Ezra Taft Benson,
Secretary of Agriculture

MAY—1958
A child who goes to camp should not miss the thrill of “goin’ fishin’!” In spite of the ever increasing program possibilities, with improved recreation devices and the newest in games and skills, the art of angling should be given priority if there is the slightest rill, creek or pond on the site.

Aside from the pure relaxing value of this health-giving activity, fishing has advantages in many fields far greater than sports and crafts that are now finding top billing on many camp brochures.

The project is not limited to boys, for girls are just as fond of angling as males if permitted the precious time in camp to indulge, and given an enthusiastic counselor. “Let’s go!” is usually all that’s needed to set ‘Pied Piper’ off with his brood. Expensive equipment is out, for the traditional pole, line and barbless hook will do well for the first trek for small stream swimmers. Whether they use dough bait (rolled pellets of bread), or a mixture of flour and water is a matter of choice, for the very first nibble will spark the adventurous trip into the world of nature.

Small painted cork floats (the size of a peanut) will give them “something to watch,” and a nearby bait bucket “something to fill.” Conservation and observance of fishing laws must be highlighted in that minnows should be set free if not used for bigger fishing such as bass, pickerel or perch. Very few of the small stream fish will live long in camp aquariums, and it is recommended that the catches be gently returned to the water after being closely observed.

A color game while minnow fishing is novel, since each child is given a point for the different hues he discovers on his catch. A small magnifying glass is useful for this close study of fish, and a chart in camp might spark this color hunt by listing names of fish in which color is mentioned such as blue gills, redfins, yellow perch, black dace, white chub, ghost minnows (silver), golden shiners, brook and rainbow trout, emerald shiners, and brown trout.

Other than live bait fishing, there’s nothing like worm digging. There’s something very challenging about turning up shovelfuls of earth to capture those evasive crawlers. Long and thin, fat or stubby, these earth living creatures are fun to find. Some campers may prefer to explore after sundown for choice night crawlers, while others will dig when the grass is still sparkling with morning dew. In any case, the fine aspects of first hand nature study come into true focus for there is no better way to know the earth and what it contains than by digging deep.

Care of captured worms must play an important part in the camp program, for being confined for days on end in a tin can of drying sod is not ideal. A homemade bait box, filled with loose moist earth, leaves and moss and kept in a cool spot brings conservation and care of wildlife into play.

Reed worms, grubs, water worms and other live bait are good nature study boosters when worm keeping is difficult, and for the camper who has had some experience, the use of plugs, flies, nymphs, poppers, bugs and spoons may be in order. Emphasis on casting room is important with campers, since safety must be taught early if they are to really benefit from the experience. All hooks should be cork covered while being transported.

The fishing gadgets that a camper can make will greatly elaborate on the craft program. A pole, carefully carved through the bark can be held over a campfire to color the design and when stripped will disclose the artistic efforts of the young angler. Bobbers carved of balsam wood offer unlimited possibilities for color combinations and design, and rigged with beads, swivels and snaps are a satisfying craft. Corks centered with a hollow reed, or split with a knife to insert the leader are appealing to youngsters since they can note the slightest action on the hook end of their line.

Two large tin cans, one inside the other can serve well for bait with the inner container being hole-punched with a nail from the inside. The larger container holds fresh cool water for bait. Hand-lines are
Collecting is a natural urge of children, and as a follow up of an angling activity it is fine to “make something” from the gems that fill pockets and buckets of the young explorers. Pretty rocks can be set in plaster of Paris to make paper weights as a souvenir of their trip, and pine cones can stimulate a most creative activity. By adding a mixture of plaster of Paris with shredded asbestos to the consistency of putty to the ends of cones, it is possible to come up with a good likeness of a fish. When these have dried, a “make believe” fish exhibit is well on its way! By gilding, painting with silver or poster paints, these craft items can be mounted on the camp bulletin board to create interest in fishing. Original signs under these “fish” might read: “Pineconia Fish—found in shady and moist places in ‘Camp Summer.’ This fish feeds on fresh air and sunshine, and gets its name from the striking resemblance to the fruit of a pine tree.”

Camp counselors need not be the “old and experienced” fishermen, for they too can learn and grow with their charges. Knowing the safety rules, teaching conservation and preservation of wildlife, emphasizing fishing laws and having the understanding of exploring youth is enough to make your fishing program in camp a worthwhile and profitable experience. Angling training is being offered by many sports minded organizations, and this year the Eastern Pennsylvania Section of the American Camping Association will again include fishing at the Downingtown In-Camp Institute on June 7 and 8. Fishing must not become a “lost art,” nor overshadowed by more glamorous activities in camp, for it is one of the most ideal projects to highlight wholesome health-giving recreation in the outdoors.

THE RESOURCE CONSERVATION JOB is too big for any one agency or group, governmental or private, to do alone. It is essential that everybody work together at the job of proper use of the land and the water that enables the soil to produce the food, fiber, grass, timber, and wildlife we need.

D. A. WILLIAMS, Administrator, Soil Conservation Service

MAY—1958
If you're one of those anglers who likes to warble in the shower, roll your tonsils around the following words to the tune of “Love and Marriage”—a popular song of a few months ago:

Boats and fishing, boats and fishing,
Go together just like wells and wishing.
We can tell you, brother—
One ain't much fun without the other!

If you're not a bathtub tenor, at least read the lines and observe the point. No doubt about it, boating in general and outboarding in particular, is wedded to the sport of fishing with a hard-tied anchor hitch that resists any and all un-doing.

Distant fishing grounds are only minutes away with a powerful outboard combination like these two 35's. What's more, the ride is cool and pleasant in hot summer days—and the breeze takes care of the mosquitoes.

If a glance at the nearest body of water big enough to accommodate a “putt-putt” won't convince you, how about these hard facts:

1. Outboard motor sales for 1958 are expected to clip along at a high rate throughout the year and total about 650,000 units—mostly to fishermen.
2. Recreational boating is looking back at a ten-year period during which it trebled in size and now encompasses 7 million boats and 35 million participants—again MOSTLY for fishing.

3. In the 1957 power boat census, Pennsylvania showed a 10 per cent gain over 1956 and is said to have within its borders, some 190,000 power boats—again mostly for fishing and mostly outboards. Although we're talking mostly about outboards, let us break down for you this grand total of boats into their separate categories:

   Numbered and undocumented gasoline boats 10,230
   Numbered diesel boats 209
   Unnumbered gasoline boats 8,585
   Documented gasoline boats 51
   Documented diesel boats 38
   Outboard boats 171,000

Total Power Boats 190,113

The Pennsylvania total represents 3.22 per cent of all the power boats in the United States. This over-all total comes to 5,908,973 boats. You can add to it some 545,000 rowboats, dingies, canoes, etc., and some 595,000 sailboats and arrive at a figure of 7,071,000 total boats in the nation.

Why is the outboard of today such a dependable friend of the fisherman? As an outboarder ourselves, here's the way we see it.

First—who really enjoys rowing a boat except for short distances? The city gardener may enjoy hoeing 30 feet of back-yard vegetables. But if he owned 130 acres he'd be riding a tractor. Same thing.

Second—there's a greater feeling of safety in an outboard powered boat. When sudden squalls loom on the horizon, the putt-putt will get you back to shore in a hurry.

Third—and most important of all from the fishing point of view—is that the outboard actually helps you catch fish and in many cases is more important to the particular fishing grounds than the rod or the bait. Today's big motors get fishing craft into good fishing waters on the big lakes, bays, and rivers with a minimum of time spent in water travel. Some, on heavy enough boats, will even troll down for effective trolling. Some big boats carry two motors—a monster for power and speed in arriving on the grounds and a less than ten hp. model for trolling once on the spot. Probably most used of all is the medium sized motor which does both jobs well without compromising too much in either direction.
Bow fishermen, too, find the outboard ideal to get them into beds of water lilies where the big carp are wont to spawn. A new sport in Pennsylvania, outboards will help make it more popular as the years go by.

Then too, to be seriously humorous (or humorously serious) the outboard has helped the average fisherman follow his personal water version of the Will-o’-the-wisp. For is it not true that the outboarder who moors his boat at the eastern end of the lake does his fishing along the western shore—and vice versa? Of course 'tis. That's half the fun of fishing.

Sometimes the long run to fishing grounds is necessary. In the writer's own front yard (Lake Erie) the bluepikes fishing grounds are a half hour's run with a high powered motor from the popular liverys and boat launching ramps. And when the blues are running—they bite best at night—the gasoline lanterns hung over the sides of outboards give one the impression that a small city has sprung up in the offshore reaches of the lake.

It would take hours to row the same distance and we'd probably be more muscular if we did it. But instead of thousands of fishermen enjoying this sport there'd only be a hardy (and probably unemployed) few.

The use of outboards in fishing has probably also been enhanced by the development of today's modern boat trailers which seem to have everything but radios. As in science, one development or discovery makes for additional development and discovery. The development of the trailer put every fisherman with a car within striking distance of any body of water near a highway. In years past he could almost always rent boats at the popular spot but there's nothing like putting your own boat in the water and cranking up your own outboard egg beater. Experts say it's safer, too, because you're already familiar with its operation—and temperament.

In addition to all the personal satisfaction to fishermen brought about by the availability of outboards, the business of selling them is a healthful shot in the arm to the nation's economy. For example, in 1957, it's estimated that some 600,000 new outboard motors, 325,000 outboard boats, and 170,000 boat trailers involved the passage over the counter of some $400 million at retail. Servicing and the sale of accessories no doubt.

The modern outboard is available in the widest range of power and design ever seen—from peanut-sized mechanisms you can hold in one hand at arm's length up to complicated "heavies" that require two husky men to set it on the transom; from 1 hp. to 50 hp. And on the sterns of speedy outboard cruisers you're apt to see not one but (count 'em) two of these larger outboards sending up the spray.

And say, speaking of outboards, did we ever tell you about the time Old Mort McClintock decided to take his apart and fix it up?

"Yessir," said Old Mort, "I'm gonna clean my glasses (in boiling water we thought to remove the fish scales) then get a big piece of paper and when I take the motor apart I'll write down a picture of each piece and the way it fits back in."
Well, Mort is probably the world’s worst mechanic and is always gumming up one job or another but we figured if he went about this task as methodically as he described he had an even chance for success.

We didn’t hang around the boathouse the day he’d set aside for the job but one of the fellows who was there told us all about it. Mort had a wide assortment of wrenches, pliers, screwdrivers, mallets, etc., to get the old mill apart and was doing pretty good. In fact, he followed through on his picture idea and had every piece laid out just the way it was removed.

He decided it needed new rings, went up to the store, bought some, came back, and started to put them in. He did, but as he started to fit the other pieces together things didn’t go as well as before.

"Maybe I didn’t draw them pictures right," he said, scratching his head in consternation as this piece and that failed to fit where it was supposed to. And after cussin’ and stompin’ around for awhile he threw the whole mess in a washtub and carted it up to the repair shop where the outboard motor expert put it back together.

Now he’d like to know where the seven washing machine gears came from that were left over when the mechanic got through with his work. And none of the fellows who were who were around when Mort went out for the things has a word to say about it.

Important thing, though, is that it’s back together now. And Mort? Well, like most of the other outboarders—he’s gone fishin’.

TRAGEDY RIDES THE SUSQUEHANNA AT WILLIAMSPORT
WARDEN SCHROLL DIES IN SWOLLEN RIVER

On April 4th the wires hummed between Williamsport and Harrisburg, flashing the news of the drowning of Fish Warden Raymond L. Schroll, Jr.

The accident occurred in the swollen Susquehanna River at Williamsport while Schroll and Paul A. Ranck, a game protector, were checking waterfowl nestings and fishermen. Their motorboat suddenly engaged a heavy, swift current and capsized, throwing them into the raging river. Ranck clung to the overturned boat while Schroll, an expert swimmer, struck out for shore. Witnesses related that he had just about reached the shore when apparently realizing that his partner needed help, he turned and started back. He had gone but a short distance when he disappeared in the turbulent water. Ranck was rescued when he caught hold of a life-line lowered from a railroad bridge downstream by members of Williamsport’s Fire Engine Company No. 2.

Diligent searching parties employing all available watercraft and aided by U. S. Air Force helicopters from the Olmsted Air Force Base at Middletown continued a steadfast, from dawn to dark search for Schroll’s body.

On Monday afternoon, April 28, twenty-four days after the accident, the body was sighted floating under a bridge near Lewisburg, some thirty miles downstream from the site of the accident.

Born September 11, 1927, Schroll is a graduate of the Codorus Township High School of Glenville, York County. He was appointed a fish warden on June 23, 1952, and assigned to Lycoming County. During World War II he served with the U. S. Navy aboard the aircraft carrier U. S. S. Midway.

Warden Schroll is survived by his wife, Jean and two children, Linda Jean and Jeffery Allen.
Nonresident Price List For 1958 Fishing Licenses

The Pennsylvania Nonresident Fishing License Fee is reciprocal with other states, but in no instance is the fee to be less than three dollars and twenty-five cents ($3.25).

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ANOTHER TROUT STAMP

On July 1, this year, Virginia will become the twelfth “trout stamp state.” Thus the “Old Dominion” joins the growing list of states whose trout fishermen will henceforth pay a little extra to enjoy a sport that is becoming increasingly costly to provide.

The Virginia stamp fee has been set at $5.00. Those of Missouri, Tennessee and West Virginia are $1.00. States whose trout stamps cost $2.00 include California, Indiana, Michigan, Nevada and North Carolina. The privilege to fish for the brooks, browns and rainbows in Delaware costs $2.10, in addition to the regular fishing license fee. In New Jersey it’s $1.00 for residents and $5.00 for nonresidents. Arizona tops the list price-wise with its $10 trout stamp. Of the nine Canadian provinces, only Saskatchewan to date has adopted the stamp—at $8.

In accordance with the fishing license reciprocity arrangement that exists between the states, any resident of a trout stamp state who would fish for trout in Pennsylvania must therefore, in addition to purchasing a nonresident license, also purchase a trout stamp at the same fee his home state charges for the privilege.

MAY—1958

17
Notes From The Streams

Perseverance and “Sweet Oil”!

For the first time in many years the ice remained on the lakes in this area throughout the entire month of March. No lake fishing in March and very little stream fishing, however, the few hardy souls that tried their luck in French Creek had good success with walleyes.

S. Carlyle Sheldon, Warden Supervisor Northwest Region

The Early Worm

Many sucker fishermen hit the jackpot this spring, not only suckers but pikeperch and muskellunge. The largest I heard of was a muskellunge in the twenty-five pound class. (He took a worm.)

Kenneth G. Corey, Warden Warren County

Polar Bear Club Members—Maybe!

On March 30, I came across three boys in their birthday suits diving out of a boat in the Shenango River. When I asked them if it wasn't pretty cold, one of them replied, "It wasn't as bad as two weeks ago." They had lost an anchor two weeks before and had been diving after it since that time.

Richard Abplanalp, Warden Mercer and Lawrence Counties

Worth the Trip

March brought many fishermen to my district. Quite a number were rewarded with nice catches of walleyes and suckers. The largest fish I checked was a muskie caught at the tunnel outlet of the Tionesta Dam by a Pittsburgh angler. This muskie measured 39 inches in length and weighed approximately 18 or 20 lbs.

Norman L. Blum, Warden Forest and Clarion Counties

They Just Can't Obey the Law!

Special warden, Paul Overcash received a complaint recently of a man dumping garbage and paper along Conocochegue Creek, East Branch, Franklin Co., within 100 yards of the Chambersburg Borough Dump. The car license was taken, the offender arrested and fined $10.

Bryce Carnell, Warden Franklin and Fulton Counties

Tip-Up Fishing Pays Off

Revision of the law on tip-up fishing by the past session of the Legislature certainly met with approval here. Since we had ice in the Northeast till late in March, several nice catches of pickerel were noted. Those that were checked ran about 60% female and 40% male.

John I. Buck, Warden Luzerne and E. Sullivan Counties

Stocking Rattlesnakes

Through arrangements were made earlier to pick up Special Fish Warden Anthony Alverto who was to assist in stocking a mid-March consignment of trout, he was not home when I called for him. Mrs. Alverto stated that her man would be back soon. However, rather than risk being late at the place appointed for the meeting with the hatchery truck, I told her that I would run along but that Tony could catch up with us—we would be stocking Rattlesnake Creek. With the kitchen radio turned up to override the noise that attended her household chores, it was evident by the startled look on her face that she misunderstood. "Stocking rattlesnakes! Not my Tony. I thought you killed them."

Dean R. Davis, District Fish Warden Jefferson County

She Died Trying

On an early-March patrol on Little Sandy Creek I met Jay Anthony, through whose land the streams flows. He was getting ready for new occupants of the several bird houses he "keeps about the place."

Taking down one made of a small hollow log, in which he said wrens had nested for several years, he was about to thrust his hand into it when he passed and held it for me to look inside. On the nest it contained was a dead wren. Under it were six tiny eggs. "Probably froze to death trying to get an early start," Farmer Anthony said.

Dean R. Davis, Warden Jefferson County

50 Inches of Snow—and That's on the Level!

Snow shoes are still standard walking gear. Upperwoods roads from Cold Springs to the lake is one way traffic with snow banks up to twenty feet. The area around Gouldsboro Lake still has snow measuring forty to fifty inches on the level.

Harland F. Reynolds, Warden Wayne County

1958 vs. 1953

During a period of 14 days in March, 1953 fishermen were counted at Shawnee Lake, Bedford County. The count reached a total of 2,863 fishermen, or an average of 204 1/4 fishermen per day. For this period of time an estimate of 6000 large suckers was taken, an average of a little over two suckers per man per day. (Some were over 5 lbs.) A period of 14 days in the month of March 1958 revealed less fishermen, but the fishermen that were counted had an average of 4 1/4 suckers per man per day, also with an average of a little less than 1/2 pickerel per man.

William E. McIlhney, Warden Bedford County
Paying Off Already

On a routine patrol of the newly opened stretch of the Schuylkill River bordering the farm of the Penhurst State School, near Spring City in Chester County, Supervisor John Ogden and I checked six fishermen who had a total catch of over thirty suckers which ranged from 14" to 22". This is cause for two tributes—one to Supervisor Ogden and Dr. L. A. Potkonski, superintendent of the school who in early March reached the agreement which opened the area to fishing and the other to Pennsylvania's clean streams program which made it possible for fish to live and propagate in the Schuylkill. Ten years ago, the pollution load in the river at this point was so heavy that fish could not live in it. In addition to suckers, steady catches of bass and catfish are reported.

Paul Antolosky, District Fish Warden
Phila.-Montgomery Counties

An Orchid for Amos

Prevailing upon land owners along the Muddy Creek Watershed in York County to replace their "No Trespassing" signs, still up from last Fall, with our "Fishing Permitted" signs was made easy for me this Spring, thanks in a large part to Amos Kyle, a retired railroader of Red Lion. As 1957 was the first year trout were stocked in those waters thereby attracting many more fishermen to the twenty two miles of stream then fished them before, I anticipated more than the one minor complaint I got. Instead of being required to explain away the usual misdeeds of the few inconsiderate fishermen, land owners from one end of the stream to the other have only compliments for one Mr. Amos Kyle. It seems he always had a piece of gum or candy for the farmer's children and they got used to looking forward to his almost daily visits to the area to fish.

I am now convinced that we would have a lot less land posted to hunting and fishing if we had a few more Amos Kyles.

Paul Martin, Jr., District Fish Warden
York County

The ANGLER Salutes Another Fine Club!

At a recent meeting of the Standing Stone Hunting and Fishing Club, Huntingdon County, I suggested that we try to hustle up a few fifty gallon drums to place along one of our major trout streams, Standing Stone Creek, make the drums presentable and stencil them for trash. I was of the opinion that this may prevent a few prosecutions under the litterbug bill. The club through its President, Mr. E. B. Oakman, responded immediately, and the drums will be in operation come trout season.

This organization also builds and maintains numerous "fence stiles," provides jeeps for difficult trout stocking conditions and is always in complete cooperation with the Fish Commission.

Richard Owens, Warden
Huntingdon and Mifflin Counties

And It's Still Piled High in Potter

We have had a late spring here in Potter County. In the woods the snow is still two feet deep. I was surprised to see a steam shovel still clearing snow off the highway. It is piled so high you can't see out and in some places still one way traffic.

Kenneth Aley, Warden
Potter County

Ready for "Little America"

Fishermen enjoyed a successful winter fishing season on Presque Isle Bay. On Saturday afternoon, March 22, the ice started to break up. One of the ice floes carrying 30 fishermen (unknown to them) started moving towards the harbor entrance. Through the vigilance of the peninsula police and persons at the Ferncliff Beach, row boats were launched and the fishermen were rescued after a short trip on the ice floe.

Harold L. Solomon, Warden
Erie County

Smelt and Walleyes in Wyoming

I've noticed a very sharp decrease in the fishing pressure in my district during the past winter. I believe this was due to being so near Harveys Lake. A great number of fishermen, who formerly fished for pickerel, perch, etc., now use their spare time fishing for smelt at Harveys Lake.

However, some of the local fishermen who would rather fish for the larger species, caught some very nice walleyes at Lake Winola and Lake Carey.

Stephen A. Shabbick, Warden
Wyoming County

A Salute to a Fine Club

The Eldred Conservation Club of Eldred, Pa. has two nice trout rearing ponds. This year they raised approximately 1500 brook trout that averaged around 7 inches. On March 16 I went to Eldred accompanied by special fish warden Shelley and Deputy Game Protector Petruzzi and helped them stock Bardon Brook with some 1000 trout. They also stocked about 500 in Fowler Brook. This summer they plan to do some stream improvement work such as dams, wing-walls, plant evergreens and willows.

Wilbur G. Williams, Warden
McKean County

Nice Going—"Tony"

During the months of February and March sucker fishing was very good in Sweet Arrow Lake, Schuylkill County. It was a banner year, some fishermen had as many as 35 suckers in one day's catch.

Anthony J. Lech, Warden
Schuylkill County
Fisherman's Paradise

1958 SEASON

MAY 16—JULY 19 (Both Dates Inclusive)

(3 Miles South West of Bellefonte)

RULES AND REGULATIONS

1. OPEN SEASON—May 16 to July 19, both dates inclusive. NO SUNDAY FISHING.

2. OPEN—from 8:00 A.M. to 8:00 P.M. (E.S.T.) or until Klaxon is sounded.

3. ALL ANGLERS MUST PERSONALLY REGISTER BEFORE FISHING AND PERSONALLY CHECK OUT AND RETURN IDENTIFICATION BUTTON BEFORE LEAVING PROJECT.

4. TROUT IN THE POSSESSION OF ANGLERS MUST BE DECLARED AND DESCRIBED BY SIZE AND SPECIES AT REGISTRATION BOOTH WHEN CHECKING INTO PROJECT. FISH NOT SO REGISTERED WILL BE CONSIDERED AS HAVING BEEN CAUGHT ON THE PROJECT.

5. ANGLERS MUST PARK AUTOMOBILES BEFORE CHECKING IN AND MUST CHECK OUT BEFORE REMOVING AUTOMOBILES FROM PARKING LOT.

6. DAILY LIMIT—Only ONE TROUT may be killed. The Angler must stop fishing after ONE TROUT HAS BEEN KILLED.

7. LURES—Only artificial lures with barbless hooks or regular hooks with the barbs removed may be used. No swivels permitted. Artificial lures and streamers of construction materials limited to feathers, silk, wool, fur, hair, tinsel or fibre, except that bodies of flies or streamers may be of plastic, cork or rubber. Weight or sinkers up to the equivalent of 2 BB shot may be built into the fly or streamer or affixed to the leader. Other lures commonly described as spinners, spoons, or plugs made of metal, wood, plastic or rubber, singly or in combination, are prohibited.

8. Fishing with, or possession of, any live bait, angle worms, meat, liver or any other bait, is a violation of the rules and regulations. To avoid embarrassment and possible arrest do not carry your lunch to the stream.
9. **SIZE LIMIT**—All fish caught from large stream under 10 inches in length and on ladies stream under 7 inches in length must be carefully returned to the water.

10. All anglers holding a Pennsylvania Fishing License will be permitted to fish five days during the season. Angler is permitted to register once only on any one day.

11. The dressing or cleaning of fish will be permitted at the designated places, provided the fish have first been properly checked out.

12. **POSITIVELY NO WADING**—in the stream for any purpose permitted.

13. Fishing may be done only with fly fishing tackle. Spinning is not permitted. Any method of fishing whereby the fly or streamer is cast directly from the reel is prohibited.

14. Feeding fish **PROHIBITED** except on Sunday.

15. All foul hooked fish must be carefully returned to the stream.

16. Violators of the rules and regulations will be subject to a fine of Twenty Dollars ($20.00), and revocation of fishing privilege on the project for one year.

If you like this project you can help the sportsmen of the state by obeying these rules and reporting any infraction to the officers.

Section 251 of the Act of May 2, 1925, as amended, provides the Pennsylvania Fish Commission with authority to promulgate such rules and regulations for the angling, catching or removal of fish in or from any waters of this Commonwealth as may be deemed necessary. Penalty for violations—Twenty Dollars ($20.00) and in addition thereto may be fined Ten Dollars ($10.00) for each fish caught, taken or had in possession, contrary to these rules and regulations.

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**TAKES BIG MUSKIE ON TIONESTA CREEK**

Charles Adomaitis proudly displays a 39-inch muskie, weighing 19½ pounds, which he caught in Tionesta Creek on March 1 this year.

Following is the story as related by Mr. Adomaitis:

"Finding the fee fishing lakes frozen on March 1, I decided to go to Tionesta Creek and fish for walleyes. I arrived there about 8:30 A. M. and fished at one spot for quite a while, later waded across the creek to what appeared to be a quiet pool, and in which were a number of logs. It must have been about 10:00. I was using a Hildebrandt Gold Spinning Shiner with a spinning outfit and had made about a dozen casts when suddenly I felt that I had snagged on one of the logs. However, I immediately saw a flash of white just like turning over a newspaper, and I felt it move out. There was no sharp or lightning-like thrust, just a steady pull leading me around the pool, and gradually after about 15 or 20 minutes I succeeded in bringing it to shore and stunned it with a rock. My net was not big enough so I put my fingers in its eyes and dragged it farther up on the shore. This muskie weighed an even 19½ pounds and measured 39 inches in length."

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*MAY—1958*
Can fish smell? And closely allied to that question: have they any sense of taste?

Smell and taste are connected faculties, as is well known; smell operating from a distance, taste only when in contact with the object or liquid concerned. They are highly important senses to most fish, and the angler who may at times wonder whether a fish can really taste his baits at all need have no doubts on that score.

Most fish can taste quite well, many can detect food from a distance by smell also. Yet neither sense is all-important to fish, as is proved by the successful use of spinners and artificial flies. On the other hand, when a fish is caught with an artificial lure, there is a clear need for a rapid, unhesitant strike before the lack of attractive taste in the lure causes its rejection by the discriminating fish.

Taste and smell are chemical reactions, special sense-cells transforming a chemical impact into nervous impulses in the brain. The sense of smell in fish lies, as it does in most animals, in the nostrils, but these are quite different organs to our own. Most fish have twin nostrils, and in all cases they are merely small holes in the top of the snout leading, not down to the throat, as with us, but only into small sacs lying just beneath the surface of the skin. Each sac is lined with densely-folded sense-cells, which receive reactions from the water that passes into them, guided all the time by tiny moving hairs. Usually there are two sacs connected and supplied with a constant current of water—in through the front nostril and out again at the rear. There is no link with the fish's mouth, but a continual flow of scent impressions in its brain.

Taste is picked up by the tongue which, although stiff and immobile, instead of muscular, erectile and protuberant as in human beings, does have a number of taste buds along its length. These are not relatively so numerous as the taste buds on a man's tongue, but they do equip the fish with a fair sense of taste at all times. Human tastes have been boiled down to four distinct ones: sour, bitter, salty, and sweet, the rest being regarded as false tastes, or smells caused by minute particles of food entering the nose when smelling. Experiments have shown that many fish can tell salty, sour and bitter tastes; sweet seems to be unknown under water, and salty only in fresh water. Sea fish probably do not know salty.

In general, the sense of smell directs a fish to its food, and the sense of taste tells it that the food is good to eat. A number of most interesting experiments have been made on these points, but not nearly enough yet to give us a really clear picture of the subject. Fish that feed much by sight have weaker taste and smell senses. Game fish have both faculties very much in evidence, and most of the nocturnal feeders smell out their food. Tests made with dogfish have shown that its nostrils lead it close to likely food, when it swims round in a loose figure-of-eight, gradually drawing in and finally pin-pointing the food only when it actually sees it at short range.

If the nostrils are plugged with vaseline-soaked cotton wool, no realization that food is near is obtained by the dog-fish, and, if only one nostril is so blocked, the creature swims round and round with the good nostril on the inside, nearest the food.

Many other fish have been shown to have almost as good a sense of smell as this, but, among the daytime sight-feeders, the faculty of smell sometimes disappears altogether. Trout and salmon can smell out food when they want to, but rise to a fly solely by sight. Conger eels and pollack, usually sensitive to scents under water, have been known to take food tainted with such things as camphor, quinine, iodine, alcohol and creosote when they are really hungry. Thus the sense of smell may therefore be a discriminatory one, most useful when food happens to be plentiful.

The sense of taste, on the other hand, is more constant, telling the fish whether this morsel it has picked up by sight or scent is in fact worth swallowing. There is some evidence that certain species of fish, catfish and several deep-sea blind fish, for example, have rudimentary taste cells scattered all over their skin surfaces, apparently to aid them in finding food amid darkness and mud. In general, there seem to be good reasons for the use of flavored baits and ground baits, especially for coarse fish, while the bigger game fish will be attracted most readily to strong-smelling or blood-filled baits.

What about the sense of touch? Touch is the one faculty which is common to all members of the animal kingdom, from the most intelligent mammal down to the maggot and even the humble amoeba. It seems quite feasible that many of the existing senses grew
out of the elementary sense of touch. Fish are no exceptions to this rule, and have sensitive touch papillae, or sense-cells dotted all over their skin surfaces, so that they can register the impact of outside objects at once without necessarily having to see them. This sensitiveness to external objects applies only to solids, as far as we know, and, apart from certain cells designed to tell the fish temperature and current changes in the water, a fish’s touch-cells in its skin do not register the contact of the water in which it is swimming. If they did, it is not difficult to imagine that it might be permanently irritating, or at least uncomfortable, to keep swimming through resisting water!

Some kinds of fish have this universal sense of touch specially developed to aid them in hunting for food. The East Indian mahseer, related to the barbel, has sinuous spines projecting from its jaws which are peculiarly sensitive to touch, obviously for picking up food, while loach, paddle-fish, grey gurnard, rockling, kingfish, and many other bottom-feeders have touch organs in their snouts, barbels or fins, which first come into contact with food. The pectoral spines of the gurnards are skillful touch organs, as are the long fin-rays of many deep-sea fishes. Sole and other flatfish have minute sensory threads on their under-sides, which can first feel any food before it is eaten, even though they can see tolerably well. And the tickling of trout into a state of semi-stupefaction is another obvious example of the way in which fish can feel touch.

Lastly, can fish feel pain? We have established that they are fully sensitive to even the slightest touch—for that made on a dark ocean-bed by a minute morsel of food cannot but be very slight in most instances—and now we have to consider whether that sense is so well developed that fish can actually experience pain under various circumstances.

This is a question that has perplexed many people for quite some time, not a few of them being anglers incited perhaps to a little self-examination by the outcry of those who condemn their quiet sport on the grounds of its cruelty to the fish. Is fishing cruel? Do fish feel the pain of the hook? Even Walton himself, for all his sometimes barbarous methods, often tells us to go gently, to use the live bait “as though you loved him,” although the poet Byron in a fiery mood in his Don Juan called the immortal Izaak a “cruel comb,” describing how he would like to see a small trout pulling a hook in his gullet! Thus does supposed cruelty inspire its opponents.

But before becoming too involved in the ethics of the matter it is well to examine scientific facts. Fish can obviously feel the hook when it penetrates their mouths, but whether they feel pain is another question. Although able to absorb many sensations, a fish’s nervous system is nothing like so complex as ours. This has nothing to do with being cold-blooded; fish lack the central cerebral cortex of the human brain. Their brains are simpler, the dominating features deal with sight, not with thinking, reasoning, or imagining.

Therefore there is very strong evidence to suggest that fish do not have physical sensations on anything approaching the human level. A hooked fish, though possibly registering a dull ache in the actual spot and some vague sense of fear or discomfort at being restricted in movement, has little else to worry it. Indeed, cases where fish have been recaptured immediately after release are commonplace. A perch, foul-hooked, was released by removing the hook through its eye-sOCKET and was caught again a few minutes later with its own eye as bait. A shark has been caught on a bait of some of its own intestines, swordfish have been seen to feed normally whilst playing on the hook, and so on. All of which show that the sensation of pain was very far from intense or even noticeable, leaving no memory of the event, nor any imaginative working on the experience for future reference.

The truth lies in the fact that fish are incapable of suffering in the way we use that term. Unfortunately our discussion of the matter is all too often colored by human experience, human values being placed where they have no real significance.

Wildlife and Water Conservation

Good soil and water conservation is no less a prerequisite for sustained and successful agricultural crop yield than it is for wildlife production. Wildlife is a product of the land just as much as is corn, cotton or livestock.

Poor hunting and fishing are as characteristic of poor land as are the scanty agricultural crops produced. Wild animals abhor wornout, eroded and abandoned farm land because of inadequacy of food and cover and because the mineral fertility of food nutrients is too low to sustain them in health. Successful wildlife management must start with the soil. Good soil and water conservation, therefore, is inseparable from sound wildlife conservation.

by CLARENCE COTTAM
FISHING—AN ART OR SCIENCE

Art has been defined as wisdom in action. Certainly one who goes fishing displays a degree of wisdom and by proper actions his angling could become an art.

However, there are some folks who make of angling an exact science. Cortland Line Company's "Dick" Jennings reports that one such person is the remarkable Vic Dorris, pharmaceutical salesman of Columbus, Ohio.

There is nothing hit or miss about Vic. When he sallies forth with rod and line by you-know-who and is rewarded, promptly after releasing his catch, out comes a notebook. Recorded are these facts: size and species of fish, locale and time of catch, water temperature, wind velocity and direction, bait used and other pertinent circumstances.

Since the record keeping was started in 1950, notations were made on 29,726 fish weighing approximately eight and one-half tons. And only bluegills over 6 inches, crappies over 8 inches, bass over 10 inches and trout over 12 inches figured in the compilation.

Art, yes, but science too. By looking back over his record, Vic Dorris can now determine in advance when and how he should fish for what. His impressive take is proof positive that his system works. And needless to say, his "little black book" is coveted by fishermen friends in the same manner that bachelors covet the book of the newly married gay blade.

THE 'MODERN' FISH

It seems to me, the 'modern' fish,
   We nurse along by hand—
Is gettin' like the modern folks;
   For wantin' something grand.

How times have changed our fishin'-ways,
   As years go slippin' by—
From simple, to the most contrived,
   You'd ever want to try . . .

You hardly see a bamboo-pole,
   Or common cutty-hunk—
But 'Anglers' tote enough supplies
   To fill a little trunk . . .

You used to take some hooks and line,
   A can o' bait, or two—
And any kind o' fishin'-pole,
   Is all you took with you . . .

But now-a-days, you sit around,
   And hear this "Fishin'-talk";
And then go home, and scrutinize—
   And start to takin' stock . . .

You find you don't have any-thing,
   Compared with things you should;
And after seein' other kits,
   Yours isn't half as good . . .

You hear them talk o' gigs and reels
   And fancy fishin'-lines—
And wonder if you need it all,
   Or is it just their my-s . . .

It kindo' makes you wonder some,
   If fish in streams, you see;
Are gettin' weak and wiser, too.
   Like folks are s'posed to be . . .

There's one thing sure, I've noticed, late;
   That's true with-out a doubt—
There's folks who catch a lot o' fish,
   While others do with-out . . .

It seems to me, the 'modern' fish,
   We nurse along by hand—
Is gettin' like the modern folks;
   For wantin' things, so grand.

J. P. Kossman
New “Yank-It” Tackle Holder

The “YANK-IT” Tackle Holder which holds the net or creel comfortably and securely, without annoying straps and cords. A specially designed quick-release feature lets the fisherman free the net instantly, snap it back in place easily—with one hand! It may also be used to hold the fish stringer.

With this new tackle holder, the landing net can be carried either from the trouser belt or over-the-shoulder for over-the-shoulder carry. Both sections of nylon cord are tied to the creel and the “YANK-IT” unit is then slipped into place on the belt.

Endicott Machine & Tool Co., Inc.
Endicott, New York

Plastic Worms

Night crawlers and worms—the old, old stand-bys—have evolved into plastic imitations that do about everything but crawl by themselves!

To cinch the illusion, states Weber, the “wiggle” is molded right into each worm—it isn’t just a lifeless straight line. It has the egg sac, too. Limper than most the merest movement makes ‘em squirm as if alive. Yet they’re tougher than live worms! Further, the plastic formula contains a combination of wormy scents... the “feel” is even wormlike.

In a wide variety of colors and sizes, “Natural” is the most popular color, because it’s just the right shade of appetizing “earthy” brown. The other five colors are black, fluorescent red, luminescent white, red, and white with red head.

The Weber Lifelike Fly Co.
Stevens Point, Wisconsin

New Pellent

A most effective insect repellent. Plastic tube, won’t break or leak, easy to carry in pocket or tackle box.

Toluamide repellent ingredient. The new repellent developed by the U.S. Dept. of Agriculture.

Lasts longer on skin, does not irritate. will not sweat or wash off.

Has lanolin silicone base, not greasy—lanolin is nationally known for excellent skin qualities. Silicone is a water repellent—so product stays on skin without need for repeated applications every few minutes.

Andy Loishaw Company
1474 W. Hubbard St.
Chicago 22, Illinois

NEW THINGS in TACKLE and GEAR

Intended as a service to ANGLER readers wherein new items of fishing tackle and outdoors gear that come to the attention of the editor are introduced, with no intention of endorsement.

Address all inquiries to the respective manufacturers.

Kahle Horizontal Fish Hooks

Puts the hook in direct line of a strike. Eliminates interference of the shank permitting hook to enter the fish’s mouth farther.

Permits fish to strike from either side. Eliminates the gap or distance between the point of the hook and the shank. Guss ‘em—holds ‘em!

Curvature of shank makes it difficult to swallow and helps protect line from being cut.

Kahle Horizontal Fish Hook Co.
115 S. Wabasha St.
St. Paul 1, Minn.

Land ‘Em

Re-useable colored double split shot lead sinkers. Gold-silver and copper colors for better grip, note sharp “V” bottom cut.

Comes in assorted sizes and colors and packed in re-useable plastic box.

Alliance Mfg.
3121 Milwaukee Ave.
Chicago 18, Ill.

A & H Hook Remover

Simple to use! Just pass line or leader thru slot in knob and slide remover straight down to hook—Hook shank pulls thru hollow center, point seats in nearest groove, where it is protected from damage. Straight forward pressure will release hook. Then withdraw remover and leader together.

Small end for Pan Fish—hooks size six and under. Large end for the big ones.

A & H Tackle Co.
903 No. Los Angeles St.
Anaheim, Calif.

Jonah The Whale

A sensational novelty item made and imported from Spain. Jonah is a 6” whale that runs after a small fish with an open mouth. Jonah’s mouth then closes after the small fish is caught. Not a toy item but a novelty that will amuse all fishermen.

Kar-Gard Company
1004 Baltimore
Kansas City 5, Missouri
Gilbert the Guide — by John Clark

I SURE HOPE THIS GUY KNOWS WHAT HE'S TALKING ABOUT!!

LATER-

WELL...HERE GOES NOTHING--

ROAR-

CRASH--

BANG--