Radioactive Wastes — and 20-Legged Frogs

A Reuters (news agency) report from the Netherlands recently quoted the Dutch Minister of Health as reporting to Parliament that deformed frogs, some with as many as twenty legs, had been found in an Amsterdam ditch used for dumping nuclear waste. The deformities weren’t pinpointed as resulting from the radioactive waste, but the inference was there.

As the Sport Fishing Institute Bulletin for December, 1957, put it, this is rather chilling news that points up the hazardous nature of a new kind of waste material.

Pennsylvania fishermen may well give it a long, hard, sober second look and an even greater measure of thought, for radioactive wastes are here, and here to stay.

Even now the new atomic reactor plant in Beaver County at Shippingport, on the Ohio River downstream from Pittsburgh, is in operation producing electricity.

At Quehanna in Clearfield County in the Susquehanna River (West Branch), watershed, the experimental reactor of the Curtiss-Wright Corp., is in late stages of construction.

Other experimental and commercial scale reactors are bound to come.

Fortunately, Pennsylvania is in the forefront of public effort to assure that damaging radioactive wastes do not enter our streams. Indeed, the Commonwealth is the pioneer among the states to recognize the potential dangers and in the attempt to do something constructive about it.

Early in the Shippingport planning stages, the Department of Health’s Sanitary Water Board entered the scene and determined that a waste disposal permit for the plant would be needed, just as for any other new industry. Long and careful study followed, with frequent consultations with federal agencies and the company. The language of a waste disposal permit was drafted, worked over and redrafted and finally presented to the board, where it was approved.

It is complicated and highly technical. It contains terms alien to most people. The essential language says, however, that any radioactive wastes that may be permitted to reach the Ohio River shall not be greater than the standards approved by federal and state health authorities, and means that the effluent shall not be greater in radioactive strength than the amount that human beings may safely consume in drinking water on a continuing basis.

This permit may eventually provide a pattern for adoption in other states.

As this was written no permit for disposal of radioactive wastes at the Curtiss-Wright installation had been presented to the Sanitary Water Board for attention.

For some months there has been conducted a fairly elaborate series of monitoring tests of the air, earth and water within a radius of several miles of the Shippingport plant. These will be continued, so that significant changes in radioactive values can be noted and analyzed if any occur.

The Fish Commission has had a minor part in this. It offered the services of a regional fishery manager and such warden assistance as was needed, to collect fish samples from the Ohio River to be analyzed. This offer was accepted, and fish have been and will continue to be collected periodically for this purpose.

Thus, here in Pennsylvania, although it is early in the commercial phases of the atomic age, important steps already have been taken to try to assure that the waters of the Commonwealth will not produce frogs with twenty legs, or other aquatic monstrosities. It is gratifying to be able to report this sort of progress to Pennsylvania’s fishermen. At the same time, it is well to give warning that there can be no relaxation of vigilance, here or elsewhere. Radioactive wastes can be critically dangerous, and must be dealt with in the most intelligent and forward-looking manner at all times.

WILLIAM VOIGT, JR.
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Take a Pennsylvania map, run a line west to east across its northern boundaries—or cast to west, if you prefer—and that's ice fishing country.

If you want to meander a bit, go southward into Clarion, Jefferson, Clearfield, Montour and Luzerne counties, that's ice fishing country, too. And during a real blustery winter, you can get some even farther south.

But wherever it is, don't miss it. If you've confined your angling to the spring trout streams and the glassy summer bass ponds, try ice fishing. It doesn't have to be as rugged as it looks at first glance. And if there's anything in fishing that is attended by a reasonable guarantee of action, this is it.

Let's start in the western section of the state—at the sprawling state park at Presque Isle—convenient to many productive Lake Erie coves whose waters are filled with walleye, bass, smelt and yellow perch. And through the ice and on the table—prime eating, m-m-m.

From Presque Isle, take an eastward course along the state's northern counties and you'll find ice fishing within hailing distance of any of these communities: Smethport, Port Allegany, Roulette, Coudersport, Galton, Ansonia, Wellsboro, Mansfield, Troy, Towanda, Wyalusing, Tunkhannock, Scranton, Wilkes-Barre, Honesdale, Hawley and Stroudsburg.

PICTURED ABOVE is an ice fishing scene on Peck's Pond in Pike and Monroe counties, viewed by Pennsylvania Fish Warden Joseph Bartley (left foreground) on a mid-winter patrol.

You can make the sport what you want it to be. On Lake Wallenpaupack, I know one group of five who call their Sunday excursions "90 per cent banquet and 10 per cent fishing." They pack enough food to supply a roadside stand for a year—spaghetti, pizzas, steaks and assorted beverages. They cook over three collapsible charcoal grills, spreading a giant, flavorful aroma over the whole cove they occupy.

On Luzerne County's Harvey's Lake in the last two winters, ice fishing for smelt took on a carnival atmosphere at night. Hundreds flocked to the lake with rods, lines and tipups. At one time gasoline lanterns were sold out in nearby Wilkes-Barre stores. The gasoline lanterns, hundreds of them, twinkled like a firmament of stars on Harvey's Lake night after night during December and January.

But how do you go about it? If you haven't tried ice fishing, what do you need?

A good place to start is your feet. If they're cold you're finished before you start. Insulated rubber and leather boots have become almost standard footgear in the last three years among fishermen in the northern counties. Insulated underwear is fine, too, but not absolutely essential. Standard "long-johns," a woolen shirt and pants, a couple of sweaters, large-size and loose, and a warm jacket will complete your ice fishing outfit—if you haven't overlooked ear muffs and mittens.

Now for the gear: The law now allows you to use five tipups; or four tipups and one rod, or three tipups and two rods. The combinations may add up to five,
with no more than two rods and one hand-line being used. Experienced ice fishermen carry two or three extra tipups among their gear, equipped with line on the spools, in case of breakdowns. The old fashioned wooden tipups, with spring flag staff, have been proved over the years. About a year ago, a new aluminum tipup had become available. This one is equipped with three straddling legs which fit over the ice hole. It is fast becoming popular because it is not so easily damaged when it is removed from the ice after a long day. All tipups have a tendency to freeze into the ice around the fishing hole. You'll also need an assortment of hooks, sizes running from Nos. 4 to 8. This, of course, is a matter of individual preference, depending on what the fisherman is after. You'll want an axe, pick or spud for digging the holes and a bait bucket. We'll get to the luxuries in a moment.

Bait is where you find it. If you checked 90 per cent of the ice fishermen from Presque Isle in the west to Lake Wallenpaupack at Hawley, you'd find most of them using shiners of various species. The emerald and spotted shiners prevail around Lake Erie, for instance, with the golden and common shiners being used in the eastern section of the state. Grubs and angle-worms are excellent baits too, if you can find them. Some ice fishermen obtain them by mail.

Now that you have the necessities, how about the luxuries? One handy luxury item is a gasoline stove or charcoal grill. They serve two purposes—keep you warm and cook your food. Another real luxury is a windbreak. These come in all shapes, makes and sizes. There are wooden shanties, parked during the off-season on lake shores, to be sleded onto the ice in the winter, and collapsible, tent-type shelters fashioned from tarpaulin and aluminium poles. The tent-type shelter must be anchored firmly to the ice with spikes. Even so anchored, they've been known to billow ominously with a gust of wind before sailing ignominiously across acres of glistening ice.

And now for the fishing. In the big lakes such as Erie, Wallenpaupack and Harveys, it is well to know the areas where you fish—especially the depths. Setting out your tipups will be determined by the number of your companions and how crowded, or lonely, your sector is. At a minimum you will want your tipup holes 10 feet apart—even more if you can do it without barging into the next fellow's domain. Your tipups
AFTER ONE HOUR, a walleye and three fat and sassy yellow perch from Wallenpaupack. must be within easy control range of your shelter or shoreline station.

Your axe or pick should dig a hole from 12 to 25 inches in diameter, depending upon the supporting legs of your tipups—and, of course, on whether you anticipate catching lunkers or are willing to settle for their smaller cousins.

So now you have your tipups in position, the little red flags hooked down and your shiner neatly hanging from a hook piercing the body just beneath the dorsal fin. You have a sinker heavy enough to hold the line perpendicular without completely snubbing the bait’s movement. Now, it’s a waiting game.

In virtually all of the lakes and ponds along the ice fishing route, you’ll find chain and grass pickerel, usually hungry. Try to station your tipups over 8 to 12 feet of water and when you start out, fish about two feet off the bottom. If this doesn’t produce in a half hour, bring the bait up another foot. That should do it. The wintertime pickerel takes the shiner just as he does in the summer. He turns it in his jaws and runs a bit. By this time your flag is up. Give the pickerel several more seconds, grasp the line and smartly set the hook. Don’t yank. Set it with a firm, upward movement. Then haul him in. He’ll object and you’ll get a few dashes of cold water on your face at the climax but you’ll find the pickerel firm-fleshed and brilliantly colored.

Walleyes in the big lakes are lured the same way, though experienced ice fishermen have found them usually in deeper water than inhabited by the pickerel. If they are slow in biting, some ice fishermen add a willow leaf spinner about two feet above the shiner and “jig” their line to impart a flickering flash that sometimes does the trick.

They have been taken in Lake Wallenpaupack on angleworms and grubs “jigged” with the enticing spinner blade fastened to the line three or four inches from the hook.

In any event, there is general agreement that the walleye bites more often and harder in winter than in summer.

Both pickerel and walleyes need some “waiting out,” in the opinion of old hands at the ice fishing game. If you’re on top of your tipup the moment the flag flashes, quell your anxiety for at least 20 to 30 seconds and give the fish a chance to run and “mouth” the bait.

If you’re fishing the shallows in any pond or lake for pickerel and encounter panfish you don’t want, move your tipup locations. If this doesn’t work you’ll just have to put up with them. Surest cure is to use shiners that are too large for panfish to handle.

Fishing through the ice for smelt in Harveys Lake became a new, exciting pastime during the past two winters. Unofficial estimates placed as many as 300 to 400 fishermen on the lake on any given night. The
TIP-UP UP. A set close to the shoreline on Lake Wallenpaupack. Note pair of pickerel to the right of the ax.

Sport became an exciting family adventure.

Tiny hooks were used and rather than tipups, the main device was simply a line used to “jig” all sorts of baits—pieces of angleworms, a kernel of canned corn, a shred of raw hamburger. Individual catches of 300 smelts were not uncommon. In the firmament of lighted lanterns over acres of ice, hundreds of smelt glimmered on the ice like slivers of silver. And when it came to eating, old timers claimed there never was anything in Pennsylvania’s water to equal them for flavor. In winter, the pickerel also takes on new stature on the table.

If you can find grubs or angleworms, don’t overlook the panfish—bluegills, pumpkinseed, yellow perch and rock bass. Perch, particularly, will surprise you. When you’re fishing for pickerel or walleyes with fairly large shiners, hefty yellow perch often barge into the scene.

And, finally, a few cautions. It takes little imagination to picture the plight you’re in if you pitch through the ice into frigid water bundled in wintertime clothes. There is no hard and fast rule for determining safe ice. If experienced ice fishermen are at the lake ahead of you, ask their advice. If you’ve had alternate freezing and thawing temperatures, practice caution every step of the way. The first danger sign is crumbled ice along the shoreline. Despite how safe the ice may look beyond the crumbled shoreline, don’t attempt it.

LIMIT CATCHES of Pickerel—all around—out of Peck’s Pond.

Other obvious danger signs are “black ice,” usually denoting thin ice, its color blackened by the water so close to its surface. You might find “black ice” anywhere on a lake. Currents or wind may cause it. Steer clear of it—very clear. It can crack and plunge you to tragedy in a frightful twinkling.

“Snow ice” also is dangerous. This is formed by alternate freezing and thawing when the ice has been snow covered. Snow ice looks as its name indicates—white and porous. If you strike into it with a long stick, it will “feather” and crumple. If it does, don’t chance it.

Common sense and an ever present degree of sensible caution are all that are necessary, however, for safe ice fishing.

Try it.

"Oh, the gallant fisher's life!
It is the best of any;
'Tis full of pleasure, void of strife,
And 'tis beloved by many."

—Izaak Walton.
Many factors affect the growth of a fish once it has reached maturity and developed fully from its newly-hatched or alevin stage. Perhaps the most remarkable feature is that unlike mammals and human beings, whose bones grow up to a certain point and then become "set," beyond which stage they grow no longer, fish have bones that can develop and grow just as long as they live. Providing water conditions are satisfactory, and food is constantly available in sufficient quantities, fish may keep on growing until they die. In actual fact, other considerations enter into the matter, but in principle, this holds true for nearly all fish. After all, it offers one of the joys of angling, for the size of the catch may always be greater than is expected, and the older the fish, the bigger it will normally be. Incidentally, food being more plentiful in the sea than in rivers and lakes, marine fish usually reach a larger size in old age than those from fresh water. It is always worth remembering that there is no such thing as a full-grown trout, or a full-grown bass, or a full-grown grayling.

The rate and progress of growth varies a good deal with different kinds of fish, and in different stages in a fish's existence, but increase in size is generally constant: that is to say, a fish never really stops growing at all from the moment it leaves the egg. As with all creatures, the fastest rate of growth is in the very earliest stages. An alevin's size is governed by the individual size of its egg, which in turn is governed by the number of eggs that can be produced and accommodated inside its mother's body. Whilst ensconced within the tough walls of its egg, the alevin cannot develop larger than the size that almost fills the sphere as it curls round inside. But once clear of the egg, and with the last remnants of the egg-yolk absorbed in its body, the young fish knows no restrictions of the speed of growth. Often fish from minute eggs grow quicker than those from larger ones, and most marine fish develop from very small eggs, much smaller than those of freshwater species. The ultimate size of the adult fish is no guide to the size of its eggs, and often newly-hatched fish from tiny eggs are much smaller than those from larger eggs which however are far smaller when mature. Thus trout fry are roughly half an inch in length or rather more, yet baby swordfish, whose mother is many hundreds of times larger than the mother trout, are only a quarter of an inch long.

As a rule, baby fish are fairly like their parents, but there are some kinds in which the young are quite unrecognizable as such. Even so, the physical transformation of fish is never as great as that of many insects, which go through several quite distinct forms. The nearest example to that among fish is the striking metamorphosis of eels, which at one time held up the discovery of the real secret of the eel's life, people not connecting tiny elvers in their three earliest stages of development with the adult fish at all. Flatfish also undergo a quite marked transformation in their early stages, changing from vertical-swimming fish from the egg into flat creatures lying on the bottom, whose left eye moves round to the right. This whole process is usually complete in about a fortnight.

The scales of a fish can be "read" for positive signs of growth and development just as tree-rings can be interpreted by the forester, and of course it is not difficult to take up fish under observation in tanks and measure them at intervals. The cartilaginous, or bony, fishes grow fastest, and the water temperature also has a good deal to do with the speed of growth. Fish in cold seas nearly always grow very slowly, although they may sometimes, as do cod, reach much greater sizes in the long run. Food supplies influence the rate of growth in natural waters, and animal food, primarily other small fish, increases the rate of growth more effectively than vegetable or insect diets. Fish can, of course, be farmed, by acting upon this principle and introducing additional, artificially-reared food to their water, or fertilizers. Acid waters usually retard the rate of growth, too. Trout in a peat stream are smaller in the first few years of their life than those in a chalk stream, where the water is alkaline. The difference may be as great as twelve times as much for the chalk stream fish. Tails and heads grow quicker than the rest of the body, and sometimes the relative slowness of the body growth results in queer transformations among dorsal fins, which move along the back at different ages.
When maturity is reached and a fish is ready to spawn, growth slows down considerably, because food products are needed for reproductive purposes. Also, many fish starve themselves during spawning, and so have to build up depleted body tissues afterwards before they can grow appreciably again. Some fish reach maturity quickly, like the goby, which breeds and dies within the year, and others develop quite slowly, like the king salmon, which does not spawn before its fourth or fifth year. As a rough average, a fish can breed at about one third of the way through its lifespan. After the final stage, growth is usually only slight each year, and depends a lot upon spawning. As far as we know, only serious depletion of available food will cause a fish actually to shrink after a certain point has been reached: the trout in Loch Leven in Scotland, for instance, which drop down to long, half-starved specimens of about 3 lb. once they have reached a maximum of around 3 lb. It is not thought that anything like this happens with sea fish.

The spawnings that so greatly affect a fish's life depend for their number upon its length of life, and here we enter an even more difficult field of study. Positive evidence of the ages of fish is notoriously difficult to obtain, and the clear view of science, which is unbelievably sketchy, is clouded over with legends, hearsay and false beliefs.

Two species that spring to mind at once whenever the age of fish is mentioned are pike and carp. There is no doubt whatever that both these fish live longer than most, but they are also responsible for many of the legends of fish longevity. The worst one was that of the Mannheim pike. The story went that in 1497 it was caught in the Kaiserwag Lake, in Germany, bearing a brass ring round its neck with the inscription: "I am the fish which was first of all put into this lake by the hands of the Governor of the Universe, Frederick II, 5th October, 1230." Its skeleton was kept in Mannheim Cathedral for many years, and the story was swallowed by many scientists, among them Metchnikoff of the Pasteur Institute. Yet when a German anatomist examined the skeleton, it was found to consist of the vertebrae of several fish strung together! Similar cases are equally unreliable, including the carp marked in 1788 in Australia and recaught in 1933.

So many factors affect the age reached by fish, that anything over 100 can be discounted at once. Here are some reliable records of maximum (and therefore not necessarily usual) ages: catfish, 60; eel, 55; mirror carp, 47; sturgeon, 38; goldfish 30; plaice, 25; bream, 18; haddock, 14; salmon, 13; rudd, 10; perch, 12; dace, 8; mackerel, 4; grayling, 3. Some of these were aquarium-kept specimens, and possibly therefore artificial records. Carp get a lot of publicity for their alleged longevity, and Buffon, an otherwise reliable naturalist, believed that ages of 150 were not uncommon. But in the cold light of scientific proof, the most aged carp of which there is definite proof was under 50, and it is believed most die before they are 25. Most river dace die before their tenth birthdays, and gudgeon seldom live longer than 7. Most ruffe die even younger, at 4 or 5, and not many male roach reach the age of 8. Female roach, by the way, live to about 11 or 12. The females of most coarse fish live longer than their mates.

Education—Master Key To Progress

In conservation every man is his brother's keeper.

One farmer may suffer because another fails to hold the major portion of water that falls upon his land.

Any city may be damaged by floods or deprived of water because other communities fail to carry forward a district or watershed protection program.

And, when any person charged with the management of resources fails to use them wisely, he lowers the living standards of his neighbors and his nation.

You are your brother's keeper and he is yours.

What can you do for your brother? Through education, you can give him understanding. That is all. But therein lies the hope of the future—the promise that every tomorrow can be a better day.

—From Conserving Soil Resources.
Even the motorboater agrees that things have gotten out of hand... that present laws are inadequate and antiquated. They should be modernized. So...

**LET'S HAVE AT IT**

*By FRANCIS KEMP*

"Laws should be like clothes. They should be made to fit the people they are meant to serve."

Clarence Darrow

The preceding decade has witnessed a revolution on the nation's inland waters. In Pennsylvania, no less than elsewhere, thousands of her citizens have taken to powered boats. No water area capable of floating their crafts has been spared. And the end is nowhere near in sight.

The Outboard Boating Club of America has estimated that throughout the land, over 19 million water enthusiasts with their more than 4½ million outboards took part in boating in 1957. Other estimates place the number as high as 30 million participants and 6 million craft. Writing of it in his own state, one Pennsylvania outdoor scribe stated that if the trend continues, it would soon be possible to walk across a ¾-mile wide dam in the central part of the Commonwealth by stepping from boat to boat.

Coincidental with the surge, boat liveries have been forced to abandon many "wooden tubs" that formerly passed as fishing skiffs and buy modern, non-sinkable, aluminum or fibreglass boats that will safely ride the wake of a 70 horsepower cruiser. Many livery owners saw the handwriting on the wall and brought their establishments up to date by building completely new marinas. In many cases, even they are already hard-pressed to accommodate the growing fleet of pleasure crafts, which includes family cruisers, speed boats, as well as fishermen's boats. Also noteworthy is the fact that in 1957, higher powered outboard motors out-sold the medium and low horsepower models for the third straight year. And make no mistake about it, they are here to stay.

Also, where the inevitable congestion has taken place, anglers, pleasure boaters and swimmers have clashed when their respective basic interests conflict. These skirmishes are a manifestation of growing pains. They are the best indication that the time is now to
put the house in order, if complete chaos on many waters is to be averted.

Certainly the situation has not gone unnoted. It has long been the major concern of the Outboard Boating Club of America, which just recently published its second recommendation within four years for a uniform boating code among the states. It only took that long to render the 1954 effort obsolete.

Just last year a special Congressional committee—the Bonner committee—formed to study recreational boating, submitted a lengthy report. Nor has Pennsylvania remained unmoved. The Fish Commission along with many sportsmen and boaters—individually and as clubs—have been exploring for a possible solution.

To the uninitiated, it may seem that officials have been lax. That is not the case because the accelerated boating boom of the past ten years was more than anyone dreamed possible. Even Pennsylvania's regulations, better than those of most states, and adequate to cope with the problems that faced the users of our waters ten years ago, have become totally inadequate and antiquated. This despite occasional amendments. It is time, therefore, to put tail fins on the old buggy.

Toward that end in its own back yard, the Pennsylvania Fish Commission has solicited recommendations from its field force, staff and others. Many suggestions are known to have been submitted that should prove invaluable in framing amendments to our existing law or in the drafting of a totally new one. There is general accord that changes are necessary. While some would accept amending the present code, there is a growing sentiment for its total repeal and for replacement by a completely new act. In view of the changes and additions that are needed, the latter would appear to be an easier legislative procedure. It would certainly result in a more concise law and one that would be more readable and comprehended by the boating public.

Regardless, however, of what Pennsylvania does, it is becoming more and more apparent that the problem in any one state can only be totally resolved if its law is reasonably uniform with the laws of other states. This because fishermen and pleasure craft operators no longer confine themselves to one stream or lake. When the urge strikes, they load the boat on a trailer and take off, and could wind up anywhere within the four corners of the continent to cruise or fish new water—to view new scenery.

Such a uniformity of boating regulations for the several states is not a new concept. As stated earlier, the Outboard Boating Club of America prepared and recommended just such a document in 1954. More than two dozen states used it as a guide for their respective boating codes. Late in 1957 O.B.C. announced a modernized version. This new effort contains 30 sections. It is presumed that O.B.C. intended to cover all aspects of recreational boating. It is already apparent that the framers of the document did not quite make it.

Each section is devoted to one phase of the boating activity and although sections pertaining to operation of water craft are purposeful and definitive, those on enforcement and administration are vague and lacking in detail. It is quite possible that the legislative department of O.B.C. drafted these later sections in general language to permit the individual states to write their own tickets. It is equally possible that O.B.C. does not have strong convictions on who should enforce and administer the act.

Specifically, their Section 27 states, “It shall be the duty of all peace officers of this state and all political subdivisions thereof to enforce the provisions of this Act.” In one way this is an excellent provision, as it would empower any peace officer observing a violator to make a prompt arrest. On the other hand, it could lend greater authority to the axiom, “What is everybody’s business, is nobody’s business.” For the purpose of fixing responsibility in our state, Pennsylvania legislators and sportsmen would most likely insist that the Pennsylvania Fish Commission continue to be charged with the administration and enforcement of the act, and that all fines and fees collected therefrom be deposited in the Fish Fund.

Section 24 of O.B.C.’s proposed act would prohibit local regulations. This could cause conflict between municipalities desirous of coping with strictly local
problems and state agencies, if allowed to stand as written. It could easily be liberalized with a provision along these lines: “The administrating agency named in this act may upon the request of any town, city or municipality, promulgate such regulations limiting the operation of recreational boating on such waters that may be wholly owned or wholly within the limits of such named political subdivision. However, under no circumstances shall the minimum equipment requirements, registration or inspection provisions of this act be waived.”

Newly added features of O.B.C.’s recently fashioned model bill—features not contained in the 1954 recommendations—are sections on water skiing, careless operation, over-powering and operation in restricted areas.

Conspicuous by their absence, however, are sections that would: (1) cope with the license problem posed by the non-resident motor boater; (2) provide for zoning of water areas in a manner that would enable users of every type to enjoy their respective activities without undue interference or risk; (3) provide for a system of operator licensing to implement administration and enforcement.

The tourist boater has suggested the need for a new approach to the licensing of motorboats. While automobiles are permitted to operate on any highway in North, South and Central America, with their home state licenses, many states, including Pennsylvania, do not permit a non-resident to place a motor and boat on their waters without first buying their motor boat license. New York and the Canadian provinces are nearby exceptions.

Each year, thousands of non-residents have trailed boats and motors to those waters without the need to concern themselves with boating licenses of any sort. This situation cannot be expected to continue indefinitely without retaliation. Therefore, the universal adoption of a reciprocal license provision similar to New York’s would be laudable.

The Empire State’s statute provides that out-of-state motorboats may operate in its waters for a period of ten days without registration. And beyond that, temporary certificates are issued free, which permits the visitors to operate up to 30 days. New York makes it easy for visiting boaters, and for a very practical reason—tourists are dollars.

Admittedly zoning regulations would present a more complicated problem due to the multiplicity of circumstances that exist in various areas. Nevertheless, O.B.C. with its first hand insight into the situations of all states not only would be a very logical agency to explore the matter of zoning but could add measurably to the yeoman services they have already performed toward an adequate and uniform motorboat code.

The matter of operator licensing would possibly be the touchiest of all. The fear that this would act as a deterrent to the continued growth of motorboating might be the reason why O.B.C. had dodged the issue. It must be remembered that O.B.C. is essentially an organization of pleasure boatmen, manufacturers and retailers of boating equipment.

However, the way was pointed years ago by the license system evolved for the automobile. The cost of that operator’s license is a tiny fraction of the owner’s
investment, yet in the aggregate they not only provide a goodly portion of the required revenue for administration but that license is a powerful deterrent to a would-be violator of the motor vehicle laws. The same would apply to the motorboater.

While on the subject of licenses, the fee in Pennsylvania on boat motors of all types has long been a bone of contention among boating enthusiasts, including the fishermen. About five years ago, the Pennsylvania Federation of Sportsmen's Clubs recommended that the fee be based on the horsepower of a motor, rather than the present system of $1.00 per cylinder. Perhaps that idea should be dusted off and reviewed.

Sound as any of the foregoing recommendations may be—whether they are O.B.C.'s or the author's, no step should be taken in evolving a motorboat code without consultation among the various states' agencies, legislators, and sportsmen's and boating groups. But it's high time that such consultations get under way. And as adequate or as inadequate as O.B.C.'s recommended uniform pleasure boating act may be viewed, it could be used as the basis or format toward the desired end.

No one is going to solve overnight all of the problems that face all the various interests centered upon today's water areas. It's no secret that conflicts of interests between swimmers, anglers, skiers and boaters, exist and will have to be resolved. However, there is no attending problem so great that it cannot be worked out by reasonable men negotiating in good faith. So, let's have at it.

STEVE VALENCIC of 1250 Tenth Ave., W. Natrona, Pa., displays three fine "muskies" he caught in the Allegheny River. In sending the photo to the ANGLER, Steve writes—"I caught these three muskies on Monday and Tuesday, November 11 and 12, 1957, using plugs. They measured 36", 35" and 34". The largest one had two 6½" bass in its stomach, while the stomach of the small one contained nine bass measuring 3½" to 6½" long. So far this season, since September, I have caught nineteen muskies in the Allegheny River, the largest was 40½" long and weighed 17½ lbs.
Somewhere in the dim past, somebody said, "The weather—everybody talks about it, but nobody does anything about it." A philosopher of more recent times borrowed the adage in part and added his own twist, to wit: "Good trout fishing—everybody talks about it, but nobody does anything about it."

FINGERLINGS HERE, but they'll be husky six to eight inch "brookies" by March when they'll be released in the First and East Forks of the Sinnemahoning Creek, Potter County.

Both of those pundits were right in their respective heydays. But both, by current standards, are wronger than three dollar bills. What with seeding clouds with silver iodide and sundry other substances, they have finally gotten around to doing something about the weather. And what with trout rearing projects undertaken by sportsmen's groups here and there, more than just talk about improving that brand of fishing in Pennsylvania is being generated.

One such group flies under the banner of the East Fork Sportsmen's Association of Wharton, Pennsylvania. That community is located in Potter County at the junction of the First and East Forks of the Sinnemahoning Creek, and is the heart of a virtual paradise for fishermen and hunters alike.

Hundreds of miles of trout streams in Wharton's surrounding countryside and mountains attract thousands of fishermen from all parts of Pennsylvania and beyond. But that very attraction—miles of superb trout streams—also poses a serious problem. Keeping each stream and section of stream sufficiently populated with trout to meet the constant fishing pressure is an overwhelming job.

For the most part, fishermen sit back after they buy their license and turn over to the Fish Commission the entire job of raising and stocking trout, among other things. But not the "East Forkers."

"No matter how many trout the Commission could or would send us, it would still be a pretty thin spread for all the miles of water in this area," sums up Paul Hostetter, Secretary of the East Fork Sportsmen's As-
EVERYBODY CHIPS IN—Expense of rearing trout is partially offset by contributions such as the one pictured here by a Wharton Hotel patron. Club Secretary Hostetter says “Thanks.”

So, instead of demanding more and more trout, which, if granted, would only shortchange other locales, the East Fork Sportsmen decided to start their own trout rearing and stocking program to supplement the scheduled consignments from the Fish Commission.

The first hatchery ponds were opened in 1955 on Marvin Run, a tributary of the East Fork. The Fish Commission, in prompt response to a request and application, classified the area as nursery waters and sent a truckload of fingerling trout.

That was fine, but the Marvin Run ponds proved too small for the kind of a trout stocking program the East Fork Sportsmen had in mind. And, true to form, early last year, they opened a second and larger trout pond, using a roadside spring in Wharton for their water supply. Bulldozing and other attending work cost well over $400, plus uncounted man hours, blisters and beads of sweat.

Again the Fish Commission approved a request to have the pond classified as nursery waters and furnished another truckload of fingerling brook trout. They averaged from one to one and one-half inches long, when received. Based on past experience, by March, when they will be released under the supervision of the local fish warden, they’ll average six to eight inches.

Altogether, from its new pond and the Marvin Run ponds, the East Fork Sportsmen expect to have over 15,000 legal-sized brook trout ready for stocking during the coming season.

Early in the game with each brood, the trout are fed four times daily. As they grow and can take on more at each feeding, this arduous regimen tapers off. Nor are any bets overlooked to supplement their chow line diet. During the summer months, a light bulb is hung over the pond to attract insects.

Expense of raising and feeding the trout is partially offset through contributions from sportsmen and other patron visitors to the Wharton Hotel, association headquarters.

All the more remarkable, for the huge slice the East Fork Sportsmen’s Association has cut for itself is the fact that its membership is just a shade over 200. By no means one of the larger clubs in the State—number-wise, that is. But on accomplishment, 15,000 trout each year, Wow-wee!

NET RESULTS, the pay-off of the “East Forkers” project—a husky trout and friend. Evidence that the project supplements Commission plantings and insures more trout and better sport in the Wharton area.
Brush Shelters

Much time and money has been expended in recent times on the placement of underwater brush shelters on the assumption that they are beneficial to both fish and fishing. State agencies as well as energetic sportsmen's groups have put their hands to them.

With the advent of federal aid (D-J) funds, a few courageous states have set out to determine the value of these shelters as management tools, with inconclusive results at this early date. Virginia biologists recorded a 40% increase in the harvest of black crappies after the installation of shelters on their Holliday Lake. Fishing effort at the shelters was only 22% of the total effort. However, 57% of all the crappies harvested were taken at the shelters. On the other hand, a similar undertaking in Tennessee, with white crappies as the objective, seemed to have little influence on angling success.

—Sport Fishing Institute

Note: Sportsmen's clubs interested in testing-out a brush shelter project on their local waters may obtain complete directions in the "Brush Shelters" edition of the "Let's Build" series by John Bulger of the National Wildlife Federation, 232 Carroll Street, N.W., Tacoma Park, Washington 12, D.C.—price 25 cents.

Lamprey Control

Late in September we had the privilege of witnessing a demonstration of selective poisoning of larval lampreys at the U. S. Fish and Wildlife Service's fishery research laboratory at Hammond Bay, Michigan. The demonstration was arranged for members of the Great Lakes Fishery Commission meeting informally at the laboratory.

The laboratory staff used one of a group of selective poisons which they have developed to kill young sea lampreys in streams without harming useful fish or other organisms. The commission is encouraged by the success of this work. It is planned next to test the poisoning technique on a number of streams flowing into the upper Great Lakes.

—Sport Fishing Institute

Operation—Chemical Treatment

A crowd described by the Knoxville Journal as possibly the largest (estimated at 15,000) ever to gather in East Tennessee for a single event, turned out recently to watch "the greatest conservation experiment thus far conducted in the southeast." The event: the chemical treatment of a 10-mile stretch of the Little Tennessee River for the purpose of eliminating undesirable fish.

Cooperating in the project were biologists of the Tennessee Fish and Game Commission and the U. S. Fish and Wildlife Service, and the U. S. Air Force. Air Force helicopters assisted in the distribution of the chemical. Those among the spectators who came to retrieve fish which remain edible when thus killed, found few game species. They settled for carp, suckers, drum and other "rough" species whose presence would have been deleterious to the rainbow trout which were subsequently planted. The treated stretch of the river will become a reservoir behind the new Alcoa Dam at Chilhowie.

—N. W. F. Conservation News

Interesting Indeed

People from twelve to twenty-five do 37 per cent of the nation's fishing and 25 per cent of the nation's hunting. Retired people make up eight per cent of the nation's fishermen and three per cent of the nation's hunters.

U. S. Fish & Wildlife Service

Water Zoning Looms!

An editorial in THE ANGLER for August, 1957, indicated that water zoning may one day be necessary in Pennsylvania, to accommodate all those with a legitimate use for the Commonwealth's lakes and streams. Now comes word that at a 104-acre recreational reservoir in a national forest in California, the U. S. Forest Service has done just that. The regulations provide:

Fishermen will have the lake to themselves on Saturdays, with no water skiing permitted.

On all other days of the week, water skiing will be permitted from 10 a.m. to 4 p.m. only, within boundaries marked by buoys. Both anglers and skiers agreed that these regulations were needed and were fair.
Amen!

We received this intriguing suggestion in the mail on one of our brighter mornings, from a man engaged in raising bait fishes:

“There is a very simple and inexpensive method to overcome the shortage of qualified fishery biologists. All it requires is one man with a stack of diplomas stationed in any barbershop. At least half of the men who sit in a barber chair become expert fish and game men immediately.”

—Sport Fishing Institute

Radios Help Out in G-F Work

State Game Warden Norbert C. Faass said today that the radios recently installed in Wyoming Game and Fish Department vehicles and airplanes have already proved valuable in both game management and law enforcement work.

He said use of the radios has already resulted in the apprehension and prosecution of several violators during the upland game bird seasons and during the latter part of the big game seasons.

Building and Managing Fishing Lakes Pays Off

The Sport Fishing Institute recently observed that public fishing lakes, “properly constructed, managed, and located, represent some of the better fish conservation investments” being made across the country. Most of the lakes are being built as part of the Dingell-Johnson program, as is the case in Pennsylvania.

The Institute described in some detail what continues to be done in Alabama, where 15 state-owned lakes were built and are being managed for public fishing. Two others, one of them to cover 1,000 acres, will be completed in 1958.

In the 1955-1956 fiscal year the 15 Alabama lakes, totaling 1,089 acres of water, supported 131,500 individual fishing trips. The anglers caught nearly 513,000 fish, weighing 156,000 pounds. This was equivalent to 121 anglers taking an average of 472 fish weighing more than 143 pounds from each acre of water, in one year.

The anglers each paid daily fishing fees of fifty cents, in addition to buying the regular state fishing license. Revenue from the fees provided funds for operating costs such as fertilization, weed control, fish population manipulation, occasional renovation and restocking, and maintaining state-paid caretakers at each pond. (In Pennsylvania, state law now does not provide for state-operated fee lakes.)

Noteworthy is the fact that the lands for the lakes were deeded free to the state by local interests that wanted a lake. The costs of construction alone had to be borne by the department out of license and related revenues.

The Institute concluded that (1) the Alabama program “is one of the most productive” to be found; (2) it is very popular, and (3) well suited to a state having a dearth of natural lakes. It added that well-planned artificial lakes generally are more readily managed than most natural lakes. This is because they can be drained with relative ease for reclamation and other management purposes.

Boating Films

An excellent list of films on recreational boating has been published by the National Association of Engine and Boat Manufacturers. All films listed are 16mm size and are available free of charge from the sources indicated except where stated otherwise. Return postage is borne by the borrower.

The list may be secured gratis from the Association’s offices at 420 Lexington Ave., New York City 17.

Rely On the Professionals

Encouraging comment received in a recent letter from the State President of the Idaho Outdoor Association, Inc. (Twin Falls):

It has been my observation as a group leader that sportsmen are prone to blame the Department of Fish and Game for everything that goes wrong with big game and fish management. I feel that encouragement would do a lot more good.

They do have a hard job and much experimenting to do. They have more and more people to satisfy and less room for operation.

They are trained technicians and their critics invariably are not. They need our support and the best way to support anyone is to take them by the hand. The poorest way is to kick them in the pants.

Backyard Ponds

Latest booklet to come to our attention on how to locate, build, manage, and fish small artificial fish ponds is entitled YOUR OWN FISH POND. It’s a 31-page 6 x 9 booklet, written by fish and wildlife extension specialist Earl Kennamer. It’s especially designed to meet needs in Alabama, but contains much information of use to pond owners elsewhere.

To get a copy, write to the Extension Service, Alabama Polytechnic Institute, Auburn, for Circular 528.
FOOD FOR THOUGHT

FISH and CHICKENS

Homer S. Swingle of Alabama, one of the most respected fish culturists of the country and currently president of the American Fisheries Society, gives an unusual twist to his reasoning in order to make the point that fish raising and stocking isn't necessarily a good practice, particularly in regard to warm water species. He points out that in agriculture the principal problems of livestock production are those of producing abundant feed, and of controlling environment and reproduction. He then says:

"Despite this information in agriculture, early state and federal fisheries administrators made the unlikely guess that their newly established divisions could best increase production of fish by helping the fish reproduce.

"The hatchery movement reached its greatest absurdity in the warm freshwaters.

"Research into freshwater fish populations established that poor fishing was usually due to low basic fertility (of the water), or to the presence of too many small fish, or the presence of too many individuals of species not normally harvested.

"In almost no instance has restocking alone been of any value where conditions were suitable for natural spawning."

Mr. Swingle then puts the proposition in terms of chickens and eggs, like this:

"After all, it is rather inconsistent to eat at breakfast two fried eggs, at dinner young fried chicken, and then rush out to increase fish production by helping the fish reproduce. Brood fish as you know, lay eggs by the thousands, hundreds of thousands or even millions each year. The hen lays only 200 or less, and would thus appear more in need of help. The poultryman, however, has not found it necessary to close the harvest of poultry during the spawning season (all year), or to establish a minimum size limit for harvest so that every chicken could spawn once (no fried chicken), or to carefully gather all the eggs and hatch them for restocking (no eggs to eat)!

FISH and CANS

Beyond unsightliness and physical obstruction of waterways—which are enough to arouse the ire even of casual anglers—the dumping of trash such as old cans may have a directly damaging effect on the supply of sport fish in many cases. This is one result evident from a report in FISHING AND HUNTING NEWS (Portland, Oregon).

A Portland angler was fishing on the Sandy River by Dabney Park some time ago. While fishing he noticed a steelhead fry dart into the V-shaped opening of a beer can lying on the bottom of the stream in about 18 inches of water. The minnow failed to come out of the can after a few minutes. Inspection of the can revealed 40 more young steelhead imprisoned inside of the can. Over half of them were dead.

Fishery biologists believe that the opening in the can provided a natural attraction for small salmon, steelhead, and trout up to 2½ inches in length. Natural stream hiding places are normally in the cavities under rocks and boulders. Here, however, the fish can enter and leave readily.

Apparently, the V-shaped opening in the can acts much in the same manner as the opening slot in a minnow trap. The latter allows fish to enter but it is extremely difficult for them to find their way out.

As more and more young fish entered the beer can and were unable to escape the oxygen content of the water inside the beer can was lowered. This resulted in their death.

The lesson for anglers should be obvious. Keep those beer cans out of the water. Deposit them in trash barrels or take them back home for disposal! If you toss them in the water, you might kill the little fellow that three or four years hence would have given you a thrilling combat.

A REMINDER

Through this toilsome world, alas!
Once,—and only once I pass;
If a kindness I may show,
If a good deed I may do
To a suffering fellow man,
Let me do it while I can
No delay, for it is plain
I SHALL NOT PASS THIS WAY AGAIN.
Notes From The Streams

BEAR FACTS

Late in September, I took a friend of mine fishing. We had only traveled about fifty yards from shore when I looked back over my right shoulder to see if the boat was headed right, whereupon I saw what looked like a large animal. “What the dickens is that?” I shouted. He answered, “Looks like an otter.” “No sir!” I said. “That animal is too big.” So I put pressure on the oars and when about 200 feet from the animal, we discovered it to be a bear. And, at the same time, the bear spotted us. Instead of crossing the lake, he changed course and swam directly away from us. I again speeded up the boat and went around and in front of the brute, within oar distance and he again changed his course to his original destination. We followed him to shore. He got out on dry land, shook himself and looked at us as much as to say, “Well, what do you want?” and ambled off. By the way, he swam a good mile to cross the lake.

—Ralph Singer, Regional Supervisor Northeast Division Honesdale, Pa.

Another Wrinkle

A project started by our local Game Protector Dave Titus has proved quite successful in feeding trout in one of our streams. Dave takes “ripe” venison killed on the highway and places it on stakes above the water, the maggots form and drop in the water making a food the trout relish.

—Kenneth G. Corey, Warden Warren County

Few Lampreys—More Smelt

Commercial fishermen on Lake Erie have stated that the population of the sea lamprey has not increased according to their observations at the present time. They also report that the smelt population is on the increase, therefore indications show that a good run might be anticipated in our tributaries next spring.

—Harold L. Solomon, Warden Erie County

A Dubious Distinction

A Bucks County citizen became the first to get “pocketbook education” under the state’s new “litterbug” law. When apprehended by Warden Miles Witt, the violator admitted guilt, waived a hearing and paid the attending $10 fine on the spot.

“I had no idea that anyone might not like to have garbage dumped along a stream in a sort of an out of way place,” was the explanation given. The place: Along the Unami Creek near Quakertown on the property of A. H. Potts. Told that not only did Mr. Potts and the fishermen not like it, but that such “litterbugging” is now against the law, the offender also admitted thoughtlessness and promised it would not happen again.

That’s “Cool” Fishing

Pymatuning Lake has started to perk up since the water has cooled off and there are a lot of happy fishermen going home with walleye weighing up to 12 lbs. I know of one instance where a fisherman caught four walleyes at Pymatuning, the combined weight of which tipped the scales at 50 lbs. Most of them are being caught from dark until midnight.

—Edward O. Pond, Warden Crawford County

LONG LONG TRAIL

Joseph Albert (Ab) Johnson, retired state fish warden, passed away at his home in Bradford, October 3, 1957.

“Ab” as he was popularly known, became a state fish warden for McKean County in 1930, and served until January 1, 1950, when he retired. In addition to his official duties, Mr. Johnson also took a deep interest in the community and civic affairs of his native Bradford.

He is survived by his widow Kathryn, four sons and two daughters. The PENNSYLVANIA ANGLER gives this salute to the memory of a veteran officer of the field force of the Pennsylvania Fish Commission.
the RIGHT rod for bass

By KEITH C. SCHUYLER

Far too many anglers switch rods on the fifteenth day of June in the belief that the bass is too tough a customer for the wand they have been waving at trout from April 15 on. As a result, they hang on a hook or stand in a corner half the fun.

Personally, I haven’t caught a bass on a casting rod for several years.

To anticipate that question from the boys in back row, I’ll say now that I’ve caught more bass since sticking with the fly rod than ever before. Further, fewer fish have escaped until after they were netted although the time from strike to net has been considerably longer than previously. All of which adds up to more fun and more fish.

Right now it should be admitted that the fly rod is not the best bet for all occasions. When fishing water with numerous sub-surface snags and assorted logs and brush piles, you may need a stouter rod to work fish into open water. But, where practical, a fly rod spells more sport and more fish for the angler willing to put forth the extra effort.

Although the more expert anglers can successfully use the same rod on bass they use for trout, it generally holds that a heavier fly rod is needed. There are two very important reasons for this. Foremost is the fact that bass lures for fly rod work require a stiffer action than is normally found in a good trout rod, and of nearly equal importance is the need for more backbone to lead a bronze-back away from the escape zone. Otherwise, the requirements are about the same as for trout.

Personal preference for the fly rod stems from the fun which can be had with bass of any size when traveling light. The average bass in Pennsylvania waters is in my opinion, about 11 inches. On a heavy rod, a fish of this size, even a bass, is no match for the fellow at the other end. But, attach the same bass on the end of fly rod tackle, and you have an interesting scrap regardless of the size fish. The satisfaction that comes with landing a really big bass on such equipment provides one of the best answers to why fellows go fishing.

Spinning tackle comes close to providing the kind of excitement most anglers seek, but it rates a rather distant second to the fly rod. This is true mainly because the angler must fight his fish with the reel on the spinning rod. Using the fly rod brings all the “feel” of the fight as line is stripped in with the free hand or released to the wild surge of a bass in full flight.

Generally, fly rod work on bass is a top-side proposition. When it is necessary to go beneath the surface, either the casting or the spinning rod is most practical in still water, but the long wand still rates high on streams. True, it takes a bit more doing to continually shoot a line out the guides for long periods, but the thrills available make the effort well worth it.

Assuming we’re all going to at least give the fly rod a try for bass, the next likely question would be, “What lures?” Before getting to lures, however, more important than many anglers realize is the line. For surface lures, a “dry” line is needed such as the new non-sinkables. Although there is no line which will stay on top at all times, several of the floating lines will do as good a job as can be expected. Conversely, a wet line is best for submersibles, and two reels are almost a necessity for the angler who likes to mix up his fishing at will. An extra line will serve, but changing lines on one reel from time to time can become tiresome. In a pinch, a dry line will serve for the underwater lures, but it is not likely to work well if it becomes necessary to return to floating lures.

For the smaller floaters, such as dry flies and miniature bug types, a regular taper or level line will suffice. However, in the heavier lures, such as popping bugs and hair frogs, considerably more pleasure and performance can be found with the forward, or torpedo tapers. The bait boys who may be following this with mixed interest know that almost any free-flowing line will work well in the still fishing department. Although our subject is pointed to the use of artificial lures, it must be acknowledged that more fishermen will use bait than otherwise. However, these fellows may one day find that there is more fun and action in the use of fakes than in dunking natural food for bass. If there is anything said here to encourage them, it is intended.

In using the fly rod, we must ever bear in mind that it is the line which provides the only weight to get
the lure to the target. This, plus wrist action and the springboard provided by the rod itself, combine to shoot out a lure which many times offers considerable resistance to the air. This is especially true of some of the more heavily feathered popping bugs and the hair frogs.

Casts for bass are generally much farther than for trout. The reason for this is chiefly because the angler normally fishes bigger water and has more territory to cover. Too, it is frequently necessary to wade through shallows to cast over the deeper water, and on ponds and lakes a boat is usually used. Both of these factors make it necessary to cast some distance to reach water undisturbed by boots or boat. Here again are arguments for use of forward tapers to obtain the maximum cast possible when needed.

Choice of lures is an individual proposition. The important note to make about lures is that a strike on any one of them will almost invariably bring visible action to the angler. Small lures bite into a bass enough to make him mad. Since it is nearly impossible to horse a bass of any size in with a fly rod, the fish has an opportunity to give its all. Yet, the very resiliency of the rod, which prevents the angler from rushing the fight, provides the type of leverage needed to keep a wildly jumping bass fast to the hook.

Use of a fly rod for bass involves the same degree of caution that an angler would expect to exercise when using the same rod for trout. There is a definite limit upon the distance which the average angler can cast a lure with this equipment, and this limit may be further reduced by the margin of obstructions on the back cast. Consequently, care should be used to avoid spooking the more wary fish. These are usually the bigger brutes of the species. Therein lies the answer to why some anglers will maintain that the little lures won't take big bass.

They will take bass in Pennsylvania just as big as can be taken on any other lure.

Refusal to believe this statement will cause the doubter to miss out on sport that is certainly very close to, if not equal to, fly fishing for trout. There is a much less need for refinement in terminal equipment, but otherwise the game is much the same. Certainly a popping bug or a hand-sized hair frog lacks the delicate beauty of a finely made trout fly, but the bass fights no less because of it. And, the six or eight pound test leader, suitable for such lures, is like a rope compared to the wispy leader ends usually used on trout; but it is needed for the fish we're after. In fact, everything from the big hooks in bass lures to the relatively heavy leader allowable are points in favor of this type of angling.

Although it is conceded that spinning rods are fair substitutes for such fishing, the best sport comes with a fly rod. For, whether it is a bass just on the legal size limit or one ready to die of old age, you can be certain of an interesting scrap. One of the best points in favor of the fly rod miniatures is the fact that these little lures will not seriously injure any fish.

The angler who goes after his quarry with the lightest tackle possible frequently is not interested in take-home fish. Otherwise he would not give up the heavy hardware for such equipment. As a result, he is many times satisfied with the sport alone and tosses everything back for another try.

Underwater lure angling with fly rods is almost entirely a stream proposition, but this should be no deterrent to Pennsylvania sportsmen. Many of our best bass waters, especially for smallmouths, are moving streams. Here is where a spinner-fly combination or spinners-Streamer combination will produce tops in entertainment. Since a wet line is necessary, this type of angling is a bit more strenuous, but it is no less effective when bass are working the deep riffs early and late in the day. Any line, which sinks well and cast well with the rod in use, will work well beneath the waves.

Primarily a day-time method, underwater fly rod fishing provides a satisfying alternative when bass won't climb for the surface lures. Combined, the two methods will bring the same satisfaction when used on bass that makes fly rod fishing for trout the outstanding piscatorial pastime in this country.

Whether dunking bait or heaving hardware, the fly rod is the right rod for bass when practical to use. Night or day, it provides a way to get the real feel and fight from a fish that deserves a chance to demonstrate what it can do. Largemouth or smallmouth, large bass or small bass, tether to the tapered end of a slender shaft of glass or bamboo, it will give its all.

And, when it's a bass, brother; its all is plenty.
The most important item of terminal tackle is the hook. It is so easy for many of us to overlook its condition and to entirely forget it while under the spell of fishing. This common fault has caused the loss of many good bass, as well as other tough-mouthed fish. It took the experience of one particular afternoon to teach my companion and me a well-deserved lesson.

I watched Frank lose six nice smallmouths on eight or nine casts, several of which were almost brought to net. Not until then did it occur to him to inspect his lure. The size 8 long shanked hook of his Mickey Finn streamer was straightened. The water was a fast, rocky riffle below a spill-over dam. In all probability, the hook fouling on the rocks did the damage. This oversight cost Frank a better than average catch, and turned a good day into a disappointment. This could have been easily prevented with a little thought and care.

The smallmouth has lips of tough cartilage. Therefore, wide bend, long pointed and barbed hooks are to be preferred rather than narrow bend, shallow hooks.

Deep penetration and shallow, narrow bend hooks are to a noticeable degree incompatible, despite the fact that heavy fish are regularly taken on small hooks, especially in fly fishing. Just recall the times a beached or netted smallmouth comes free of the hook without help. Then the realization dawns that one is often plain, old-fashioned lucky a fish was safely landed. In the majority of strikes the thick, bone-like lip is where the point and barb has to penetrate when using fly rod lures, and many of spinning size.

Another reason abetting missed fish, and worthy of consideration, is the fact that the warm water smallmouth is not always the smashing, striking demon he is so often painted. The lowland streams are too warm a good part of the season. Much of the time he is more of a nipper or grabber than a striker, and on occasion prone to strike short.

One aspect favoring the angler when fishing wet for smallmouth is that leaders, and spinning lines, of sufficient breaking strength may be used to allow several firm tugs following the strike (or nip) to insure a secure hold with the hook. This can be overdone, and may result in the tearing out of the hook, if barely caught or located in the soften tissue of the lower mouth. Fishing conditions vary, and must be considered when applying the pressure. On the rare days when the smallmouth strike with abandon the hooking problem is automatically solved. But it seems, to me at least, these times become fewer each season. Anything to prevent the loss of hooked fish, or reduce the number of missed and short strikes will add to success, and of greater importance more pleasure and satisfaction. It is the angler’s lot to run into provocative situations when after this temperamental fish. Other than the care of hooks, a number of tackle changes can be employed to increase hooking potential.

A common change in the use of small spoons and wobblers is to substitute a size 5 or 6 single for the size 10 treble hook that is usually mounted on many small lures. The closely set points of the treble lack bite. The single hook, for me, has proved to be a more certain hooker, less likely to be thrown, and not as easily fouled on debris. However, some lures are not adaptable to changing hooks. Once the screw-eyes of wood or plastic bodied plugs are removed and re-
placed they may be too loose for safe use. This can quite often be remedied by applying water-proof cement to the screw when turned in again. Common sense will tell you which and what changes to attempt.

So, from a practical standpoint, the hook's size and bend, and most important of all, its condition mean more hooked strikes, the first step toward taking fish. A little time and care spent in keeping them in good shape will be justly compensated by better results. It is a simple matter, and requires but little time at odd moments.

A thin, narrow, five inch file, commonly sold at dime stores is ideal. Small and wieldy enough for the smallest hook, it is suitable for any size. The tapered, grooved carborundum stones designed for this use are obtainable at tackle shops and are rust proof. The phosphorous striking surface of a safety match box or book can be used in an emergency and will do a fair job of pointing-up a hook. For best results, file the inside and sides of the point lightly, touching the outside of the point only if burled or bent. Of equal importance, once the hooks are sharp, is the prevention of rust to keep them that way.

Rust will curb the effective hooking of any hook, and soon weakens the small sizes to the breaking point. Whenever possible give lures a chance to dry before returning to storage. Two handy gadgets for applying light oil are the tip of a pipe cleaner or a dab of cotton twisted on the tip of a toothpick. Excess oil should be removed from the swab before using. Touch the point, barb, and bend of each hook, taking care not to get oil on the bodies of flies, bucktails, etc. Treat frequently, depending on the number of wettings. Check your newly purchased lures as well, for many are fitted with new hooks so dull and blunt as to make hooking almost impossible. However, this is more often found in the standard bait casting lures of one-half ounce and heavier.

Fishing success nowadays comes all too seldom. Help yourself by spending a few minutes, from time to time, tuning-up your hooks.

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**ANGLER GADGETS**

**BY JOHN F. CLARK**

Can't afford both a spinning rod and a fly rod? Here's a solution that will give you both for little more than the cost of one...

**FIRST OF ALL PURCHASE THE SPINNING ROD OF YOUR CHOICE...**

**BUY A FLY ROD REEL SEAT... THEN PROCEED AS FOLLOWS:**

1. **SPINNING ROD HANDLE**
   - Cut off cork grip here
   - Salvage this piece

2. **CEMENT SALVAGED PIECE IN PLACE.**
   - Build up with cord or thread to fit reel seat.

3. **CEMENT REEL SEAT TO ROD...**
   - Of course you'll need both a spinning & fly reel but it's still cheaper than buying two complete outfits... when you want to switch from one type of fishing to the other, simply change reels... .

   **...CONVINCED?**

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JANUARY, 1958
COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA FISH COMMISSION

1958

FISHING REGULATIONS

OPEN SEASONS, SIZES AND CREEL LIMITS

FOR

INLAND WATER—CONOWINGO RESERVOIR—DELAWARE RIVER—LAKE PYMATUNING—LAKE ERIE

... established and fixed on July 8, 1957, by the Pennsylvania Fish Commission, by Authority of Act of May 2, 1925, P. L. 448, Section 251, as amended.

Penalties for violations are as provided by the Pennsylvania Fish Laws.

The following conditions and Regulations apply to all Commonwealth waters and waters bounding and adjacent thereto, unless otherwise noted under the separate waters listed herein:

1. Both dates are inclusive in the seasons listed.
2. All fishing hours listed are based on Eastern Standard Time.
3. It is illegal to have in possession at any time more than the fixed daily limits of fishes, including bait fish and fish bait.
   Further, it is illegal to keep Charr, commonly called Brook Trout, or any species of trout except Lake Trout caught during the lawful season from the open waters of the Commonwealth, in possession more than 90 days after the expiration of such season.
4. All species not specifically listed are classed as food fish and may be taken at any time of year, in any number or size, by approved means as set forth in the Pennsylvania Fish Laws, except that rough fish or trash fish, when so designated by the Commission, may be taken with such devices and under such regulations as the Commission determines.

The following Regulations and Laws apply to...

INLAND WATERS

SEASONS, SIZES AND CREEL LIMITS

<table>
<thead>
<tr>
<th>Species</th>
<th>Season</th>
<th>Size</th>
<th>Number (one day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TROUT except Lake or Salmon</td>
<td>5:00 A.M., April 15 to Midnight, Sept. 1</td>
<td>Minimum 6 inches</td>
<td>8 combined species</td>
</tr>
<tr>
<td>TROUT Lake or Salmon</td>
<td>5:00 A.M., April 15 to Midnight, Oct. 31</td>
<td>No minimum</td>
<td>8</td>
</tr>
<tr>
<td>BASS</td>
<td>Jan. 1 to Midnight, Mar. 14, Smallmouth</td>
<td>No minimum</td>
<td>6 combined species</td>
</tr>
<tr>
<td>WALLEYE</td>
<td>June 12 to Midnight, Mar. 14, Smallmouth</td>
<td>No minimum</td>
<td>6</td>
</tr>
<tr>
<td>PICKEREL, Walleye</td>
<td>Open year around</td>
<td>Minimum 12 inches</td>
<td>6 each species</td>
</tr>
<tr>
<td>Pikeperch or Susquehanna Salmon</td>
<td>Open year around</td>
<td>Minimum 30 inches</td>
<td>2 walleye only through ice</td>
</tr>
</tbody>
</table>

PIKE Or. Northern

FROGS July 2 to Midnight, Oct. 31 No minimum 25
TADPOLES July 2 to Midnight, Oct. 31 No minimum 25
TERRAPIN Nov. 2 to Midnight, Mar. 14, 1959 No minimum 5
BAIT-FISH Open year around No minimum 35 each FISH-BAIT mum 50 combined

It is unlawful to take frogs by use of an artificial light.
No more than 50 may be taken in the season. (Frog-Terrapin Law, Sec. 1, 2, 3, 4.)

POSSSESSION LIMIT

It is illegal to have in possession at any time more than two (2) days limit of the following species: Trout, all species; Bass, largemouth and smallmouth; Walleye (pike-perch or Susquehanna Salmon or yellow pike); Pickerel, Muskellunge and Great Northern Pike.

It is illegal to have in possession at any time more than one (1) day's limit of bait fish or fish bait which has been taken from any of the fishing waters of the Commonwealth.

BAIT FISH AND FISH BAIT CONTAINERS

Minnow traps or containers in which bait-fish or fish-bait are kept, whether anchored in a stream, lake or pond or retained at the place of residence of the fisherman, must have attached thereto a label or tag bearing the name, address and fishing license number of the owner. If the container is maintained by more than one person, it must be in separate sections. Each section may not contain more than the legal possession limit of bait fish or fish-bait. Each section must have the owner's tag attached.

A bait-fish or fish bait container used by more than one fisherman while fishing must also be sectionalized with no more than the legal possession limit for one fisherman retained in each section.

WATERS UNDER SPECIAL REGULATIONS

From time to time upon sportsmen's requests or at its own discretion the Fish Commission will set up special regulations applicable to designated streams, lakes or ponds. These regulations may include size, season and creel limits at variance with statewide regulations and/or laws. In all instances the waters involved will be posted accordingly. These special regulations will be publicized at appropriate times and copies of them may be obtained from the Fish Commission.

PENNSYLVANIA ANGLER
FLY FISHING ONLY WATERS

Upon the request by sportmen's groups and property owners, the Fish Commission may set aside sections of waters within the Commonwealth whereon the following regulations apply:

1. Fishing may be done only with artificial flies and streamers. Weight or strikers up to the equivalent of 2 BB shot may be built into the fly or affixed to the leader. Lures commonly described as spinners, spoons or plugs made of metal, wood, plastic or rubber, singly or in combination, will be prohibited.

2. Fishing may be done only with conventional fly fishing tackle.

3. The possession of any bait or lures other than artificial flies and streamers will be prohibited.

4. Fishing hours—5:00 A. M. to 9:00 P. M., Eastern Standard Time.

5. Minimum size—9 inches.


ROWING BOATS FOR FISHERMEN

A person rowing a boat while another in that boat is fishing is considered to be aiding the fisherman, therefore the Pish Commission may set aside sections of the Commonwealth on which motors are allowed.

TROLLING MOTOR BOATS

Trolling from motor boats is permissible on all waters of the Commonwealth on which motors are allowed.

CONOWINGO RESERVOIR

on

Lower Susquehanna River

between

Pennsylvania and Maryland

SEASONS, SIZES AND CREEL LIMITS

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<tr>
<th>Species</th>
<th>Season</th>
<th>Size</th>
<th>Number (one day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASS</td>
<td>June 1 to Nov. 30</td>
<td>Minimum 6 each</td>
<td>6 combined species</td>
</tr>
<tr>
<td>Large-mouth</td>
<td>9 inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small-mouth</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TROUT</td>
<td>April 15 to Sept. all species</td>
<td>Minimum 5</td>
<td>combined species</td>
</tr>
<tr>
<td>PICKEREL</td>
<td>June 1 to Nov. 30</td>
<td>Minimum 5</td>
<td>6 each</td>
</tr>
<tr>
<td>WALLEYE</td>
<td>April 1 to Nov. 30</td>
<td>Minimum 5</td>
<td>6 each</td>
</tr>
<tr>
<td>STRIPED BASS (Rock)</td>
<td>Open year around</td>
<td>Minimum 10</td>
<td>6 combined species</td>
</tr>
</tbody>
</table>

LICENSING

Fishing licenses in the Delaware River between the states of Pennsylvania and New Jersey and Pennsylvania and New York will be recognized from water's edge to water's edge and fishermen will be permitted to take off in a boat from either shore or from a boat livery and on returning have in possession any fish which might be legally taken.

Residents of Pennsylvania must possess a New Jersey Non-Resident License if they fish from the New Jersey bank, or a New York Non-Resident License if they wish to fish from the New York bank. Residents of New Jersey and of New York must possess a Pennsylvania Non-Resident License if they fish from the Pennsylvania bank.

FISHING DEVICES

Fishing may be done with two rods and two lines or one of each. Not more than three hooks (single or barb) may be used on one hook.

While fishing through holes in the ice for fish not protected by closed season five tips-ups or other legal devices may be used.

Long bows and arrows and spears (not mechanically propelled) may be used to take eels, carp, suckers, herring, and bullheads, except within fifty rods (275 yards) of an eel wire.

LAKE ERIE

PRESQUE ISLE BAY AND PENINSULAR WATERS

SEASONS, SIZES AND CREEL LIMITS

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<th>Size</th>
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<tbody>
<tr>
<td>BASS</td>
<td>Jan. 1 to Mid-night</td>
<td>No minimum</td>
<td>6 combined species</td>
</tr>
<tr>
<td>Large-mouth</td>
<td>June 15 to Mid-night</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small-mouth</td>
<td>1959</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIKE</td>
<td>Open year around</td>
<td>Minimum 6</td>
<td>6 each</td>
</tr>
<tr>
<td>Gr. Nor-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSKEL-</td>
<td>LUNGE</td>
<td>Open year around</td>
<td>Minimum 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All species, except small and minnows (see below), not mentioned above are classed as food fish and may be taken at any time, in any number or size, as set forth in Pennsylvania Fish Laws, except that rough fish or trash fish, when so designated by the Commission, may be taken with such devices and under such regulations as the Commission determines.

Regulations for taking smelt:

1. Waters affected: All streams emptying into Lake Erie, within the confines of Pennsylvania, from the mouth of the stream in a southerly direction to State Highway Route No. 5, which is a distance of approximately 1/4 mile. This excludes Crooked Creek, which has been designated Nursery Waters for rainbow trout experimental work.

2. Season: Open year around.

3. Size: No size.


5. Devices: Only a dip net or seines not over 20 inches in diameter or 20 inches square. Any size seine may be used on the Lake Erie shore except within 300 feet from the mouth of a stream in either direction.

6. License: All persons coming within the provisions of the law to have the proper fishing license.

The following Regulations apply to . . .

DELAWARE RIVER

between

Pennsylvania and New Jersey

and

Pennsylvania and New York

JANUARY, 1958
Seining for minnows:
There shall be no seining from the shores of Presque Isle Bay, or the shores of the lagoons and ponds.
In the taking of minnows from docks, or boats, permits are required for seines over four (4) feet to a maximum of twelve (12) feet. Applications available by writing the Pennsylvania Fish Commission at Harrisburg. The only species of minnows which can be taken from Lake Erie or Presque Isle Bay are the Emerald Shiner and the Great Lakes Spot Tall Shiner.

PYMATUNING LAKE

SEASONS, SIZES AND CREEL LIMITS

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<tr>
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<th>Size</th>
<th>Number (one day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUSKELLUNGE</td>
<td>Open year around</td>
<td>No minimum</td>
<td>2</td>
</tr>
<tr>
<td>BASS</td>
<td>Open year around</td>
<td>No minimum</td>
<td>6 combined species</td>
</tr>
<tr>
<td>PERCH</td>
<td>Open year around</td>
<td>No minimum</td>
<td>6 each species</td>
</tr>
<tr>
<td>TADPOLES</td>
<td>July 2 to Oct. 31, inc.</td>
<td>No minimum</td>
<td>35</td>
</tr>
<tr>
<td>FROGS</td>
<td>July 2 to Oct. 31, inc.</td>
<td>No minimum</td>
<td>25</td>
</tr>
</tbody>
</table>

It is unlawful to take frogs by use of an artificial light. No more than 50 may be taken in the season. (Frog-Terrapin Law, Sec. 1, 2, 3, 4.) It is NOT permissible to shoot frogs on Pymatuning Lake.

LICENSES
Persons possessing a Pennsylvania resident or non-resident fishing license may fish on any part of the Lake, except from the shore of the Ohio side.
Residents of Pennsylvania wishing to fish from the shore on the Ohio side must possess an Ohio non-resident license.
Residents of Ohio wishing to fish from the Pennsylvania shore must possess a Pennsylvania non-resident license.

FISHING DEVICES
Same as Inland Waters, except the taking of minnows. The latter is subject to the following:
Minnows may be taken with hook and line (not more than two rods and lines and one hand line, with not more than three hooks to a line).
It is unlawful to have in possession or use a minnow or bait fish trap having (1) more than 24" in its greatest overall length and more than 12" in its greatest overall width, (2) "wings" or "leads," (3) more than two openings, (4) an opening larger than 1" in diameter.

SEINES
The possession or use of seines of any type, including the 4 ft. minnow seine, on Pymatuning is prohibited.

MOTOR BOATS
Motor boats of six (6) horsepower are permitted in that portion of Pymatuning Lake extending from the main dam near Jamestown, northwardly to the causeway near Espyville. No boat is permitted on the Lake within 300 feet of the main dam.
The operation of all types of boats on Pymatuning are subject to special regulations drafted by the Pennsylvania Department of Forests & Waters, which with the Water and Power Resources Board control the Lake, and adopted by the Fish Commission. These regulations are contained in "Rules and Regulations for Operating Motor Boats," a copy of which can be obtained from the Pennsylvania Department of Revenue, or the Pennsylvania Fish Commission, or the Pennsylvania Department of Forests and Waters, Harrisburg, Pa.
Fishin' Intuition

It kindo' hurts my inner pride—
when my wife and I go fishin'.
She always puts the rules aside—
and goes on intuition . . .
It used to be—when we were boys—
—we had a fishin' rule—
"don't ever make a bit o' noise,
or the fish'll leave the pool . . ."

Well, the wife can spill the fishin' Kit
—with a rumble and a roar—
that makes you think the boat will split
—and you're goin' through the floor;
and when you think that every fish,
for miles around—is gone—
she gives her line another swish,
and—has a big one on . . .

When we fish with soft-shell crabs—
—she tries to make hers float—
and when a bass come up and grabs,
you ought to see her gloat . . .
She don't b'lieve there is a date,
when fishin' can be poor—
and she catches fish on any bait;
from the crawler to the lure,

It could be what we used to call—
the "new beginner's luck,"
but she gets them all—the big and small,
while I strive hard to duck . . .
She hardly reads a single thing—
that has to do with fishin';
but always gets the biggest string,
while I—just do the wishin'.

Altho' it hurts my inner pride—
when the wife and I go fishin',
and she puts the—artful rules—aside—
and calls them superstition;
at times I wonder which is worst—
the rules—or—intuition—
and, before I say too much; at first,
—I'll try her way o'fishin'—

J. P. Kossman
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PENNYSYLVANIA ANGLER

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