CONSERVATION VIEWPOINT
by ROBERT J. BIELO
Executive Director

MIGRATION BLOCKS

Pennsylvania is linked to the resources of the Atlantic Ocean by two slender threads—the Delaware and the Susquehanna Rivers.

These great waterways once formed the pathways by which hundreds of thousands of American shad, herring and striped bass gained access to landlocked Pennsylvania.

Today but a small portion of the once great runs of American shad find their way up the Delaware River to historic spawning grounds. Even this remnant run is jeopardized by pollution and the tight control of heavy spring flows which are needed to lead the migrating fish up river.

However, the Delaware River with all the diversion to New York and the heavy interstate pollution loading of its tidal zone has not suffered a fate as absolute in terms of migrating ocean fish as has the Susquehanna River.

High dams, not pollution and diversions, form the barriers on this river that have barred any Pennsylvania benefits from the resources of the sea.

Certainly no one will quarrel with the purposes of these dams which block the Susquehanna at four points—three in Pennsylvania and one in Maryland. They hold back the river’s powerful flow that it can be fed through turbines to produce much needed electricity. And we must be mindful that the matter of fish passage was not ignored by the pioneers of the electric power industry when the dams were constructed. The earliest dam located at York Haven was low and was clearly thought to be readily passable during high spring flows. The dam located at Holtwood, Pennsylvania in 1910 included a fishway at the powerhouse and later one on the opposite bank. Neither successfully passed shad.

We also must recognize that when the Conowingo Dam in Maryland was constructed the power company plans called for installation of fishways. Actually, a Federal conservation official of the time recommended the fishways be deleted as it was then considered that American shad would not use fishways at high dams. Later studies show these fishway plans were inadequate and would have had little chance of success.

Thus, with the complete closing of the Susquehanna River in 1928 to migrating fish there was no reason to include fishways at the upstream Safe Harbor Dam constructed in 1930.

At that time the possibility of workable fishways seemed remote, thus, Pennsylvania, Maryland and power company officials agreed to annual payments to the respective states in lieu of fishways. With this, one might expect the matter would have been put to rest.

Such has not been the case and for good and valid reasons we hope to reopen this important issue. Details of our findings and recommendations will be presented in this editorial column next month.
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D. THOMAS EGGLER, EDITOR

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JOLTED BY STREAM NOTE

Gentlemen:

I have been an ardent "Pennsylvania Angler" studier for a goodly number of years and cannot begin to tell you just how much pleasure I derive from $5 over a 3 year period. Suffice it to say that it is well worth it.

In all these years I've read little articles here and there in the Angler which move me one way or the other. None, however, gave me such a jolt as the Stream Notes note by Waterways Patrolman Francis Rotchford regarding the volunteers for an anti-litter patrol.

My aversion to streamside litter and those pigs who cause it is second only to losing my casting arm. I'm not one to hate another man, but I come very close when I observe some pig discarding beer cans, paper cups, bags of trash, etc. alongside and in a stream or public place. Oh yes. I have picked up after these people on countless occasions. I have also growled at men twice my size for their piggish behavior. But I continue and keep trying to do it the way I sincerely believe it should be done. It's a losing battle, you must recognize.

Therefore, I propose that you gentlemen empower your patrolmen to empower anglers, hunters, boaters, etc. along Pennsylvania streams and fields with the right and honorary legality to prosecute each offender whom he thinks is perpetrating some kind of aforementioned approbrium upon the people of Pennsylvania who care—perhaps by handing out a small printed leaflet, pointing out that, not only has he broken a law of his beautiful state, but has contributed to the wholesale destruction of the most beautiful state in America by his thoughtless action. Make up an honorary badge or pocket card for such people in the event they're challenged. Even a vest patch could help. I strongly believe that a pamphlet, or better still, a one small sheet admonition would serve to shame these thoughtless ones and make them realize what their actions mean.

It's probably a very fuzzy scheme at best, but if you believe it would do any good, I'd be willing to submit copies for such a project. Short and sweet—nicely but firmly to the point.

Jack Hunter, Willow Grove

The real "trash pigs"—the slobs who intentionally toss their garbage into a stream, over a bank, or along a road—probably would throw away the pamphlet you suggest above. They'll litter anytime they can get away with it and only when the law tightens enough so their littering costs them some cash will they be persuaded.

However, many of the litter problems of the country aren't caused by the "trash pigs" but rather by all these nice folks who get just a little careless because they think their "little" contribution of a candy wrapper or an empty cigarette pack "doesn't really matter."

The answer, of course, is that it does matter. The community in which they live and the country they use—this litter—isn't worth quite as much with all that rubbish on it. And the direct cost of hiring some government worker to pick it up is tenfold that of the slight trouble it might have been to have discarded it in some refuse container. Obviously these people—and the people who don't litter—will, sooner or later, get stuck with the bill for cleaning it all up.

Your suggestion and interest exhibits a growing awareness among many Pennsylvanians that it's time to bring a halt to the littering problems.

Keep growling!

—Tom Eggler, Editor

COMMENTS—

Gentlemen:

I would like to comment on one of your letters published in your "Leaky Boots" section. It is the one titled "Different Viewpoint." First of all, I think this woman is the whole idea of the article titled "Unhappy With Fish Hogs" all wrong. She seemed to think the person who wrote it was serious about dumping the trout on the shore when actually he was being very sarcastic. She also seems to have mixed up in her interpretation of the idea of a trout stamp—the stamp would get rid of the meat fishermen and the people who aren't really trout fishermen. If she really likes trout fishing, why doesn't she help improve the streams to support more trout?

John Weeks, Williamsport

SUSIE'S TEETH—

Gentlemen:

I'm wondering how many holes there are in those leaky boots because over in Lancaster, Harry R. Diller, DMD, seems to think those boots are absolutely no good (Leaky Boots, July 1968). I am caused to wonder if the DMD's

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might mean "Destiny of Divine Sportsman." I don't reckon the Fish Commission is hand tied by any phase of the boating regulations. There are those that desire such a coverage, but if that minority should get control of boating regulations, there will be "no more boat fishing." Any #!*% fool that would try boat fishing would probably be drowned. Let the DDS fill Susie's teeth, but let the Fish Commission fill the streams with fish and have just a wee say about those boats.

L. F. "Shorty" Manning, Norwood

HAPPY EXTENDED SEASON!
Dear Sir:
This is a "thank you" note to the Pennsylvania Fish Commission for permitting trout fishing on Clover Creek in Blair County, until October 31 last fall. I had some wonderful artificial fly and terrestrial insect fishing on this 17 mile stretch of water right up to the very last day in the most suitable weather of the year. Only a small group of ardent fishermen frequented the stream and all were very appreciative.

If again in 1969 there is an extended trout season on some streams, we trout fishermen up here would like the Pennsylvania Fish Commission to again consider extending the season on Clover Creek.

James R. Sinclair, Altoona

MUSKIES "WORTH IT!"
Gentlemen:
Enclosed find my application for membership in the Pennsylvania Husky Musky Club with picture of same. Also find a picture of a 35½ inch, 10 pound, 2 ounce Northern Pike taken at Falmouth on March 9, 1968 on a yellow bucktail. I had a total of three muskies last spring.

I will be very pleased to receive my "Husky Musky Patch" as it was an established goal. Next I will be fishing for citation size.

Keep up the good work on musky stocking and they are worth the hours of fishing expended!

Iver M. "Smoky" Stover, Harrisburg

And your picture appears in the Fish Tales section of this issue, along with a number of other Angler readers who've landed some nice ones!

ELDERLY ANGLER
Last spring I was at Dutch Davis' Sports Store in West Middlesex, when a man drove up and came in to buy a fishing license. He asked Dutch to fill the application out for him because he had left his glasses in the car, so in asking the questions Dutch asked for date of birth. This gentleman said he was born February 25, 1875—93 years old. He is Mr. Charles N. Heasley, R.D. 1, Pulaski. Mr. Heasley says he fishes the Shenango River from New Castle to the Pymatuning Reservoir and also goes to his cabin in the Pennsylvania Mountains to fish the trout streams.

William B. White, Pulaski

TIPS—
Dear Sir:
I thought our readers and sportsmen might like a couple good tips.

Plastic laundry bleach jugs can be converted into numerous useful items. Cut one in half horizontally; the top becomes a funnel or a seal hailing megaphone. The bottom, with the addition of a mere handle become a pail or bait bucket. With the bottom removed and the side opposite, the handle cut on a taper, the jug becomes a boat bailer. The discarded bottom becomes a plate tied to a weight on a line. A jug becomes a buoy. Filled with cement, it's an anchor.

In rough water run a rope through ring bolts fastened around the boat's gunwale, should you capsize, the rope will be easy to grasp and hold onto.

Howard F. Sherlock, Latrobe

NO LITTER, PLEASE
Gentlemen:
Conditions surrounding many of our lakes are not to my liking. Empty bottles, beer cans, paper and whatnot are very noticeable. The persons, if they can be deemed as such, should examine their conscience and also try to realize that others are trying to keep the fishing sites clean and sanitary. It should be discussed and something definite should be tried to offset conditions such as these. I often wonder, if the homes in which these trash hounds live are of the same surroundings and unhealthy conditions. If every keen minded fisherman who sees anything that is not to the ethics and code of the Commission while he is fishing a stream or lake, he should report this information to the authorities of that area. This in some small way might help lessen this filth strewn condition.

Leo N. Schoenig, Pittsburgh

Cooperation between sportsmen and officials can always mean better enforcement. Littering? See our answer to the "Jolted By Stream Note" letter on page two of this issue.

—Tom Eggler, Editor

"WELL YOU SAID I SHOULDN'T GO FISHING ALONE, DEAR!"
THE MONTH OF FEBRUARY with its blustery winds, snow squalls and knee deep snow brings out each year more and more fishermen who are learning—and liking what they learn—about ice fishing. The finger numbing cold and the snow blowing in your face are soon forgotten when the red flag goes up on the tip-up and a fat, sassy pickerel is soon flapping on the ice.

My earliest recollection of winter fishing goes back several years when my buddy John and I told our wives we were going fishing in February. Their standard reply was "you must be some kind of nuts, fishing now." Their words were quickly forgotten when arriving at a local lake with a warm water discharge into it we met a wine-sipping baritone voiced angler who sang continuously, from operatic arias to bar room ditties. Asking about his luck he held up two tremendous crappie in the 18 inch class that easily would have covered a foot ruler in depth.

Scattered over Pennsylvania are many rivers and lakes with warm discharges from power plants that during February always produce excellent fishing. Fish seem to congregate in such areas in droves and can be readily taken by any of the standard fishing methods.

In the last several years ice fishing has grown tremendously in popularity. I remember back in 1964 one cold February morning temperatures stood at 18 degrees below zero. With Game Protector George Szilvasi we were picking up rabbits in Allegheny County for the Game Commission trapping program. Our route took us past North Park Lake and I had bet George a cup of coffee that nobody would be out in this weather. Arriving at the lake we found three fishermen bundled up like Eskimos and with a makeshift shelter and several nice trout frozen solid on the ice next to them.

The ice fishing fraternity differs in many ways from others. When the action is slow, groups gather about a blazing fire and discuss baits, lures and methods and talk about the big one that wouldn't fit up through the hole. No matter what the conversation, however, one wary eye is watching for the tell tale dance of the red flag that signifies a fish is on.

Although pickerel and crappie are occasionally taken through the ice on small spinners, darts or spoons ice fishermen normally fish for them with minnows. Northern pike, walleye and bass likewise require minnows as bait. Trout taking methods vary over the state. Some waters do well with minnows or small red worms while others rely on salmon eggs or cheese balls. If you haven't used the phrase "What did you catch him on buddy" now is a good time to put it into practice. In open water trout areas small spinners seem to be most effective. And keep in mind that the winter season for trout closes midnight February 15.

Of all ice fishing areas in the state probably the best known and the most heavily fished is the Presque Misery Bay section of Lake Erie. Easy access is available at Presque Isle state park and with about four square miles of a 12 inch cover of ice to operate on you'll see practically every type of shelter known to man—from the elaborate shacks on runners with windows and floors to makeshift shelters of snow. Every possible bait, lure and method of ice fishing will probably also be seen.

The yellow perch is the prime target for ice fishermen here although smelt fishing is gaining in popularity while occasional northern pike, walleye and bass are taken. Depths in the bay go to 32 feet with the average being 20 feet. Veteran anglers here prefer short ice rods and jigs with mousie grubs, mealworms, perch eye or some fluorescent type ice jigs. Small emerald shiners on tip-up rigs will keep you busy hopping from one to the other when the perch are cooperating—and there is nothing more mouth watering than a pan full of yellow perch fillets.

Bait shops in the area are open all year long and carry an ample supply of baits, lures and rigs. Hotel and motel accommodations likewise are plentiful in the Erie area.

Waterways Patrolman Norm Ely, 2130 Eastern Avenue Wesleyville—16150 (phone 814-899-9535) rates this area in February as good as, or better than, any area in the state.

See you on the Presque Isle ice!
Twitches of excitement spread through northwestern Pennsylvania during the closing months of 1968 as sportsmen—and businessmen—began hearing reports of occasional coho salmon being caught along Keystone State shores of Lake Erie as "a few thousand jacks" found their way back to the streams they'd been reared and released in early last spring.

The coho—possibly Lake Erie's "instant success" fish—have until this fall to grow when the main run can be expected. The "jacks" returning last fall are all premature males returning to spawn one year earlier than the normal...
HAPPY COHO FISHERMAN (above) holds up his first trophy. It was his first time out! It hit a small silver spoon. Below left, Pennsylvania Fish Commission employees Howard Wilson and Bill Hawley check one of the weirs located on streams into which the coho were running. Wilson is the captain of the Perca, the Commission's research vessel on the lake. Hawley is the fisheries biologist in charge of the Erie operations. Below right a trio of sportsmen inspect one of the salmon captured in the stream. From left to right they are Harry Flynn, active sportsman and frequent helper with the coho project, Wilson "Doc" Beil, who probably caught as many coho as anyone during the '68 run, and sportsman Bill Hill, Erie County Commissioner.
Cottagers and motels were suddenly packed. Campgrounds overflowed. Tackle dealers soon sold out entire stocks. Boat dealers and marina operators couldn't get equipment fast enough to meet demands.

Over 80,000 coho smolts (about six inches) were released into Pennsylvania's Lake Erie tributaries in the spring of 1968. At that time they were about eighteen months old—half their three year life cycle. They'd been reared in temporary holding ponds constructed by the Commission's Engineering Division during the snowy fall of 1967 after being hatched and held at Commission hatcheries. "There wasn't any question about when they were ready to leave" says Shyrl Hood, head of the Fisheries Division's Warmwater section. "They were crowding the daylights out of the screens, and frequently tried to jump them," he says.

About 20,000 of the fish were also held in ponds of the Elk Creek Trout Club and the 3CU Club, which both rear fish (normally trout) as part of the Commission's Cooperative Nursery Program.

Homewaters of the coho are the Pacific coast where they run into the ocean. They're called "anadromous" because...

continued on page 27
AFTER POURING COFFEE into our cups and returning the blackened pot to the fire, I glanced up in time to see the flag snap up on my distant tip-up. I had finished setting it and four others in holes only moments before and had just joined the group around the fire built with driftwood on shore. If this indicated the kind of action in store for us, we'd have a real sizzling day of fishing in this smallish lake located in the upper Appalachians of northern Pennsylvania.

I hurriedly set the cup in the snow and ran. I lost no time getting onto the ice.

Line still played out from the reel as I carefully lifted the tip-up from the hole. I could feel the throbbing of the fish. My heart pounded. I lost all consciousness of the near-zero temperature of the air and the stiff northerner that blew across the pond.

I figured that fish had plenty of time to get the bait into its mouth. I gave the line a sharp yank and fetched it in hand over hand, dropping loose coils around my feet. There’s no way of knowing what kind of fish it is. I pictured a trout, in my mind’s eye, but it could be a pickerel, or perch or possibly a hand-size bluegill. I’d know soon.

I pulled in a few more feet of line and then brought the fish through the hole. A fat chain pickerel began flopping wildly about on the ice.

I turned toward two buddies who had followed me onto the ice. They were gone. Both off across the ice toward flag waving tip-ups of their own. A sharp blast of wind swirled powdery snow around my face temporarily obscuring them from view. I got on with the job of rebaiting my line and returning the tip-up to the ice hole. I let the pickerel lay on the ice, knowing that within a few minutes the cold air would freeze it as hard as driftwood.

I trotted toward my nearest buddy who was kneeling down beside one of his ice-holes. A ten-inch perch lay on the ice beside his knee. I learned later that my other buddy missed scoring, with only a bare hook to show for his efforts. We returned to the fire side and sipped our hot coffee.

We were fishing this day in little known Hunter’s Lake, a smallish pond located near Eagles Mere, in northeastern Pennsylvania. We’d heard reports that trout, stocked before freeze-up, were biting. The new ice had been safe for barely a week when four of us decided to go. Three were old hands at this winter fishing game, but it was Steve’s first go at it. He’d seemed a bit reluctant to come along. We told him he had a choice—keep his tackle bundled up until spring, or give ice fishing a try. He had grown tired of loafing indoors and the boredom that follows, so he decided at the last minute to come along.
We rounded up extra tip-ups and a spare jig-rod for him to use. He could use our ice-picks to chip his holes.

Our snow tires had hummed as we drove over long stretches of bare highway, but quieted to a whisper when we turned off the main thoroughfare and onto the snow clad secondary road that led to Hunter's Lake. Numerous tire tracks in the snow indicated that other fishermen were already there. This assumption proved correct. We barely found room to park in the small clearing near the old breast of the dam. Fishermen were sprinkled everywhere on the ice. It looked like a winter carnival.

We set up shop on the ice near the far shore, some distance from the dam breast work and scattered in a semi-circle, each selecting sites to chip holes for our tip-ups. I showed Steve how to cut holes in the 8-inch thick ice and bevel all edges to minimize fraying lines. We measured depth of water below each hole by dropping a weighted line to the bottom. Lines of slightly shorter lengths were pulled from each tip-up reel. We baited hooks and dropped them into the holes. Luckily, I had stored a sizeable bucket of worms since last fall for this occasion. But if the fish wanted no part of this bait, we also had hardware-type lures—Swedish Pimple and Twistin' Minnie spoons—for jigging.

I helped Steve set out his tip-ups. Finally, with all of them set into place, we walked to shore where our friends had a roaring fire going. Coffee, pre-cooked at home, was perking in a pot. They handed cups to us as we sat down on our boxes of spare fishing gear. I had just poured coffee when the chance look showed the flag flying on the tip-up. It signalled action, the first of many runs onto the ice. Indeed, action remained so brisk during most of the day that it would have been far less troublesome to stay on the ice than to return continually to the warm fire. We caught chain-pickerel and perch, and lost several fish, one of which appeared to be a smallmouth bass but caught no trout.

This turn of events proved puzzling. Bass are supposed to be in some phase of hibernation at this time of year. And other fishermen nearby caught numerous brook and rainbow trout, among other fish, in the 10 to 14-inches class. Perhaps they fished deeper water. With this in mind, I chipped more holes toward the center of the pond and rigged up a “pimple pole,” a commercially made jig-rod, in preparation to jig small spoon-lures. After chipping the holes, I moved from one to another, pausing long enough to jig the little spoon temptingly in the dark water. A pickerel, of smallish size, and several nice perch tried to swallowed the silver-colored lure.

Steve’s reaction to his first go at winter fishing proved rewarding to all in our party. Inside of a half-hour, he operated like a veteran and took to the ice like a hound set in the midst of freshly stewed beef bones! His catch matched ours.

Everyone, almost to the last man on the lake, caught fish this day. I explained to Steve that action in winter isn’t always that brisk. There are times when fish refuse all baits but I doubt if he believed me. They bit so well that day it was difficult to imagine a time when they wouldn’t.

We cooked and ate our lunch by the fire. Several nearby fishermen caught more trout about noon. Later we learned that they used minnows and larval grubs found in golden rod stems to catch them—baits we hadn’t included that day.

Forty or fifty fishermen were on the ice throughout the day. In fact, there seemed to be a continuous procession of exchange going on, with some leaving, and others arriving to take over the vacant ice holes.

Toward mid afternoon, action slowed to a halt. We had plenty of fish so decided to fold gear and go home. Just as Steve was hesitant to come along this day, now he was every bit as reluctant to leave. He expressed regret at not getting involved years ago in this winter sport.

The pictures on these pages are of our outing—they show that ice-fishing is a winter activity that beats loafing around the house weekends. Be sure to try it this year before it’s too late!
**THE QUILL BACK CRICKET**

Crickets are major terrestrial insects, attract big trout.

**fly tying feature**

by

CHAUNCY K. LIVELY

THERE IS SOMETHING ABOUT hopping insects that seems to fascinate trout and makes them throw off their usual instincts of caution. Like grasshoppers, crickets offer a meaty mouthful to a waiting fish and with their highly developed hind legs, (the kicker legs) crickets make a commotion on the water that unmistakably announces their presence.

No part of the cricket’s life cycle is aquatic; yet, grassy banks along streams often abound in cricket life and enough of these cheerful little insects get into the water to attract the attention of the trout. The common field cricket is especially plentiful along the limestone meadow streams and it is this type that the Quill-Back Cricket imitates.

The approach to a dry fly imitation of the cricket is far different from that of the ephemerids, for unlike the mayflies the cricket is a low-floater, riding flush in the water’s surface film. This attitude negates the use of hackle and flotation of the fly must instead be achieved by a buoyant body material. The use of hollow deer hair, tied longitudinally on the hook and tightly segmented with thread to trap air pockets, serves perfectly.

Some years ago I tied and used a cricket made almost entirely of deer body hair and a highly successful pattern it was. But trout have sharp teeth and the all-hair cricket often became chewed up much sooner than the painstaking tying effort warranted. The tie was modified several times before we hit upon the idea of using a section of vinyl-coated goose quill over the back of the fly to protect the deer hair. The tough vinyl coating not only prevents breaking up of the delicate material but it helps to maintain the body shape. The Quill-Back Cricket shown on these pages is not only durable and a good floater but it attracts big trout.

The Fish-For-Fun Paradise water on Spring Creek is an ideal testing ground for terrestrial patterns and it was here that the Q-B Cricket had an impressive initiation on a June afternoon three years ago. It was a hot day and my wife and I had hiked to the shaded upper end of the project water to get out of the sun. On the opposite side of a long pool there was a heavy rise in a little slack-water bay snug against the road embankment. The trout was in a difficult spot to reach. The back cast had to be thrown through a narrow opening in the trees and the forward cast sent high and stopped over the mark, creating enough leader slack to allow the fly to float for a few seconds before drag took over.

My first two casts were short of the mark, I suppose mainly because I was a little timid about hanging up in the...
STEP ONE

1. Place a size #14 long shank hook in vise and tie in size A black Nymo thread at bend. Allow about a four inch end of thread to hang free as shown and spiral spool end of thread forward to eye. Cut off thread hanging at bend and lay aside for later use.

STEP TWO

2. For antennae select two straight black bear hairs and tie in just behind eye. Half-hitch. Antennae should be about twice the length of hook shank.

STEP THREE

3. Cut a medium-thick bunch of deer body hair (dyed black) from hide and hold in left hand with butts extending over eye. Take a loose turn of thread around hair and lower hair to hook. Take up slack in thread, bring thread under hook and over hair and gradually pull thread tight, causing hair butts to flare. Half-hitch. (Initial loop of thread around hair keeps hair on top of hook.)

STEP FOUR

4. Maintaining position of hair with left hand, spiral thread tightly around hair and work toward bend of hook. Spirals should be spaced about 1/8" apart.

STEP FIVE

5. Half-hitch thread at bend of hook. Body should have three or four segments with hair flaring both front and back.

STEP SIX

6. Carefully trim hair in front to a ball-shaped head. Avoid cutting antennae. Holding thread out of the way, trim hair in back to a point. Triangular may be easier if hook is removed from vise.

STEP SEVEN

7. For tails select two dark condor quill fibres and tie in against sides of body at rear windings. Fold back butt of each quill fibre and take two turns of thread over fold, locking tails in place. Trim away excess butts as shown.

STEP EIGHT

8. For quill back cut a section of dyed black goose primary, about 3/4" wide. Tie thin end flat over tail windings with shiny side down so that butt end of quill section extends back over rear of hook. Spiral thread forward and half-hitch behind head. With bodkin point, spread a drop of thin vinyl cement on top of quill section. While still tacky, fold quill forward and press against back. Tie off behind head with two turns.

STEP NINE

9. Trim away excess quill section snug against windings.

STEP TEN

10. Tie in two condor quill fibres to represent kicker legs at sides of body behind head. Tips should extend back almost to tips of tails. Fold back butts of condor quill and wind over fold as in Step 7. Trim away excess. (Note: If condor quill is not available the tails and kicker legs may be made of black goose quill fibres, taken from the short side of the primary.)

STEP ELEVEN

11. Invert fly in vise. Take piece of thread laid aside in Step 1, and cut it in two. Bind the two pieces of thread to body to form an "X" pattern. These will represent the primary legs. Move thread forward to eye of hook, whip finish and cut thread.

STEP TWELVE

12. Remove fly from vise and trim thread legs to length shown. Coat quill back with vinyl cement and apply a drop to ends of thread legs to prevent fraying. Put a drop of lacquer over whip finish and on exposed tail and leg windings. Quill-Back Cricket is now completed.
THAT OLD SAYING “the early bird gets the worm” often holds true for ice fishermen, although not always. In the pictures above a pair of anglers head across the ice with their gear loaded on a sled. They then unpack and begin setting up their shelter which can be formed from the unit.

The months between the Christmas holidays and the opening of trout season in April used to be the longest period of the year for me. There was little in the way of fishing to be found in the section of Pennsylvania where I live—until I discovered the thrills of ice fishing!

Like a lot of other sports one’s first experience will have a lasting effect upon his future attitude. If, on that first excursion, an angler should have a good trip he will undoubtedly become a permanent convert, but if he has a bad trip chances are he might never give it a second try. In case you are one of those people who are seriously considering giving ice fishing a try for the first time you should know all you can about this sport before you head for the ice that blankets your favorite lake.

Ice fishing is without question a cold sport but there are days when it is even too cold for ice fishing! When the temperature hovers close to zero and the wintry winds blow mercilessly can be poor days for ice fishing, especially for beginners. However, when the temperature rises into the upper teens and on into the twenties spending a day on the ice is fun—providing the proper clothing is worn.

In recent years the perfection of insulated clothing has probably done more for the advancement of ice fishing than has any other single thing. Wear a suit of insulated underwear under the heavy pants and coat you wear deer hunting. Along with this a good pair of insulated boots worn over a pair of wool socks and a hooded parka should offer plenty of protection. Gloves should not be forgotten but it is difficult to fish with them on so they can only be worn part of the time.

When selecting insulated clothing for cold weather wear, it pays to buy brand names for there is no other item a sportsman can be taken on so badly. Much of the insulated clothing that sells for bargain prices is practically worthless at low temperatures—when it is really needed. No matter how well the fish are biting nothing can ruin an ice fishing trip so quickly as getting unbearably cold.

Either an ice auger or a spud bar can be used for cutting the holes through the ice. Having used both I prefer the auger for it is faster, requires less effort to run, and is quieter than the spud bar. An auger is just an extra large brace and bit which was designed to drill holes through ice. These come in an assortment of sizes but one that cuts a hole six inches in diameter is sufficiently large for pan fish. A good one will cost somewhat between $8 and $10.

Once the holes are drilled a lot of slush comes to the surface. To prevent the holes from freezing shut quickly the slush should be skimmed off the surface of the water. On mild days the holes will rarely need to be freed of ice but when it is cold and the wind blowing or it is snowing hard, slush ice will continually form. To detect soft biting fish the holes should be kept clear of ice at all times.

Most ice skimmers consist of a dish shaped piece of metal which has a long handle attached. These are quite inexpensive. A simple but effective one can be made from a quart sized plastic milk bottle. Cut one side and the bottom away with a sharp knife so the remaining part is the shape of a scoop. To complete the job punch a number of holes in the bottom so the water can drain after the slush has been scooped.

Most equipment needed for ice fishing is quite simple. Anglers after pan fish often use an ice rod which is inexpensive to purchase or can easily be made at home. The one I prefer merely consists of two pieces of wood nailed together and a fiberglass tip or shaft inserted in one end. Two short dowels are placed on the handles to wrap the monofilament around. Use either 8 or 10 pound test. It’s easier to see and handle than lighter line.

A popular bait for pan fishing is small live minnows or larva such as mousies and wigglers. The last two are gathered by bait dealers in the fall and offered for sale throughout the winter. Both larva come in small plastic boxes filled with moist sawdust and contain close to 50 baits. A box of these can be kept all winter by storing them in a refrigerator when not fishing.

Hooks for ice fishing should be kept small, usually No. 10’s or 12’s. Many ice anglers prefer gold hooks for they feel they are more easily seen under water and act as attractors. Ice jigs are also popular especially when using...
TIPS FOR
THE BEGINNER

by
ED ATTS

ICE FISHING PRIMER

mousies or wigglers. These are merely long shanked hooks that have a brightly colored piece of metal attached behind the eye. By placing one or two larva on the hook and jigging it up and down frequently they attract fish from considerable distances. These are noted as being especially good for perch and bluegills.

Most panfish feed a few inches off bottom so it's important to have the bait at the proper depth. Carry a spool of bait casting line with a heavy sinker attached to one end to measure the depth of the water.

Drop the sinker through the hole and let the line run between the thumb and forefinger until the weight hits

AT THE TOP OF THE page ice fishermen bait up while a fellow fisherman cuts another hole through the ice. In the upper right corner an angler jigs for perch. Directly above ice fishermen equipped with ice skates for fast easy travel to their tip-ups, wait for that signal flag to go up. To the right angler Bill Ray holds a perch, one of many he's caught on Lake Erie's Misery Bay.

continued on page 26
LEE SMITH, Chambersburg angler, might be considered the "Dean" of ice fishermen in southcentral Pennsylvania if for no other reason than his equipment, a fancy set of tip-ups and an inlaid sled to carry them. "Smitty" creates an aura of expense and skill when he steps out on the ice, but he fractures the first part of the illusion when he gives a big grin and answers the inevitable question, "How much did they cost? About a buck and a half apiece and I've got two dollars in the sled."

The secret, of course, in the price is that he makes all his gear in a basement shop from bits of material scrounged here and there. Broom handles, bits of cast off piano wire, a scrap of red flannel from a lamp base, and pretty soon there is an accumulation that results in another set of tip-ups, another sled, or some other piece of attractive and useful outdoor equipment.

But getting back to the "skill" part of "Smitty's" winter fishing before going into the details of his rigs, Lee is an avid ice fisherman with a preference for the Lettkenkenny Dam in Franklin County. He says its high-walled, narrow valley holds the ice longer than other local areas and the trout are there in quantity and good size. Shawnee is his second choice, primarily for the variety of species the lake offers. For a change of scene he fans out to Opossum Lake, Fannetsburg, Cowan's Gap, Meadow Grounds and any other place where there's enough ice to hold him.

Minnows in the three to four inch range are THE bait and he maintains a steady supply in a special aerated tank in his garage year round. Occasionally, a night crawler or two will be used. The popularity of these baits last year resulted in an 18 inch brown from Lettkenkenny, a half dozen rainbows in the 17 inch class, and many smaller trout. There were also northerns from Shawnee, and he and his companion, Rowan Smith, pooled their talents on a 36 inch muskie from the same lake.

But back to the basement workshop to examine the tip-ups in some detail. A broom handle provides the main shaft for the tip-ups; hinged at the top with a ½ inch hardwood dial on a swinging arm that permits the line to angle down from the trigger to the water. The base of the broom handle is set in a block of wood which in turn is constructed to hold its position on the ice. This basic unit folds neatly into a nest on top of the sled.

Perhaps the outstanding feature of Lee's rig is the reel which is made from plexiglass. After some experimenting this material was found to be the best for several reasons: It was easy to form; the line supply was always visible; water did not freeze to the surface of the reel; and it could be handled in very cold weather without losing skin from the fingers. Finally, line did not freeze to the reel's surface. So much for the choice of materials, Lee's design is equally important.
ICE FISHERMAN prepares to remove hook from trout caught during a Pennsylvania Fish Commission Ice Fishing Clinic last winter.

LOOKING FOR SOMETHING INTERESTING TO DO THIS WINTER? PLAN A VISIT TO A PENNSYLVANIA FISH COMMISSION . . .

COOL SCHOOL

NEXT TWO PAGES
WATERWAYS PATROLMEN Anthony Murawske, Paul Swanson and Richard Owens (above) explain ice fishing equipment to a group of new ice fishermen during a clinic held last winter. As Swanson continues the demonstration, (below) a young angler sits out the session in a comfortable stroller while Mom keeps an eye on things. Note that handy tackle box slung carefully under the seat!

COOL SCHOOL-

A FROZEN LAKE MIGHT not look like a school but if you’re an ice fisherman—or if you’re about to learn plenty on a nearby lake this winter—rooms in the Keystone State—one of the ice fishing clinics.

Patterned to help teach old anglers new things, “schools” are held throughout the state permit.

You’ll learn what equipment is used to do it. If you don’t already know the differences, you’ll suddenly discover they’re not the same. New answers to many basic ice fishing questions—was where to “look” for the fish.

Conducted by the Commission’s Waterways Department, demonstrations by sportsmen who are ready to find fish. First time ice fishermen usually find the answers that many end the day with piscatorial pride.

Interested in attending? Contact your local conservation officer for information about when and where an Ice Fishing School is being held.
A tip-up is effective and easy to use, if you understand it. Below, Swanson explains how they work, while to the right a group gathers around an angler who proved that ice fishing can be fruitful.

MOMENTS OF THE OUTDOORS are shared by ice fishermen, above, as they wait for the flags to fly on their tip-ups while below Dad, Mom, and children enjoy a crisp winter afternoon on the ice. Right—the girls get in on the act!

At the homeroom of the neighborhood, becoming one—you can probably attending one of the “coolest” class-Pennsylvania Fish Commission’s numerous

as well as new anglers old tricks, the and where ice and weather conditions

hole through the ice as well as how to between a tip-up and a tippet you’ll fishermen who already know the an-find that what they didn’t understand

Patrolmen, the sessions often include be at one or another phase of the sport. re plenty of help getting started and lesson well learned.

at Waterways Patrolman for informa-school will be held near your home.
At this point, in many publications, a great deal of emphasis is placed on what is called “proper casting techniques.” Included are illustrations, as well as verbal instructions, advising the reader as to the proper way to grip a fishing rod, the correct arm movements, accepted foot positions, etc. No attempt is made to minimize the importance of good casting techniques. Doing things the accepted way might make you an expert caster—but some of the best casters may be really poor fishermen! It is much more important, especially to the new fisherman, to learn about fish and their habits. There will be more time later to develop a perfect casting style if this is your desire. To consistently catch fish, you must learn to “think like a fish.”

Talk to any good fisherman and before long, you will learn that he has a fairly good understanding of nature in general—he is an outdoorsman! By this, we mean he understands woodland animals, fish, trees, flowers, and all the other things that comprise the multitude of living things found outdoors.

Fish are perhaps as simple as any animal to learn about and understand. They seek three main things during their lifetime—a supply of food, cover in which to hide, and a chance to reproduce. Learn the food preferences of a particular fish, the type of cover he prefers, his spawning habits, and you are on your way to becoming equal to the task of catching him. Let's look at each point more closely and see how it may help us to catch fish.
FOOD
This is obviously the most elementary to understand. A fish, like any other living creature, needs a supply of food to sustain life. What type of food, and where he obtains it is what is really important to the fisherman. As an example, largemouth bass may seek the deep cool water during the hot days of July and August, but they return to the shallow edges of the lakes and ponds at night to search for food. The shoreline is full of crabs, frogs, small panfish and other types of food that make up the diet of the largemouth. By knowing what type of food he prefers, and when and where he feeds, we can plan to be where he is at the proper time to catch him.

COVER
Fish choose certain types of cover for two main reasons. First, it will provide him with protection from his enemies. Secondly, it will put him in the best possible position from which to catch an unsuspecting meal that is drifting or swimming by. Large brown trout feed a great deal during the night hours and rest in and around some sort of cover during the day. To know that these large trout may be found hiding in undercut banks or around submerged logs and rocks will place the fisherman at a great advantage.

SPAWNING
Although many species are protected during their actual spawning periods, the weeks immediately before and after spawning are often the most productive time to fish for these species. Walleye, for example, spawn very early in the spring, and often late winter fishing, prior to their spawning, and a few weeks immediately following spawning, will produce more walleye than any other time of the year.

As you can see in the examples you have just read, learning to "think like a fish" is extremely important to catching fish. Learning the habits of fish is something that cannot be done without putting forth some effort. The process can be slow, and sometimes distressing, especially when you continually come home with an empty creel, but there are short cuts you can take to learn more about fish and fishing.

Experience is said to be the "best teacher." This may be true, but learning by experience is usually a tedious process. Why wait to learn from experience when you can learn from the experiences of others. Books by the thousands are available that cover all phases of fishing. Most of these books are excellent, and you can learn something from all of them.

Another way to learn about fish and fishing more quickly is from other fishermen. Watch a good fisherman at work. Watch what he does and how he does it. Ask him some questions and you'll find that most good fishermen are more than eager to help a new fisherman get started.

CATCHING FISH
So far we have discussed the various types of fishing rods, reels, and lines. Suggestions have been made regarding suitable equipment for the new fisherman. We have mentioned how important it is to learn the habits and food preferences of individual species of fish. Now it is time to explore a little deeper some of the individual species found in the waters of Pennsylvania. We will discuss the food preferences of each fish, the types of equipment used in fishing for them, where they can be found, and perhaps pass along some tips on how to improve your chance of catching some of them.

PAN FISH
Fishermen have grouped our fresh water fish into two broad categories—game fish and panfish. The game fish group includes bass, trout, walleye, northern pike, muskelunge, and a few others. Panfish are such species as sunfish, bluegills, rock bass, crappies, perch, etc. Just how pan fish acquired their name has not been established, but it probably has something to do with the frying pan and the fact that many of these are excellent fish to eat.

The first fish that most young boys and girls catch are usually some species of pan fish. This is true because they are generally more abundant and therefore a great deal easier to catch than game fish. Don't ever look down your nose at pan fish, however, for they can provide some very exciting hours of sport fishing.

It is fallacy to assume that just anyone can catch all the panfish they want. There are tricks to all types of fishing that enable some fishermen to consistently catch more fish than others. This holds true with panfish as well as game fish.

BLUEGILLS—SUNFISH
Bluegills and sunfish are two of the most common fish found in our waters. They are abundant for several reasons. They are extremely prolific, meaning they reproduce quite readily under a variety of conditions, and will spawn more than once a year. They are abundant because nature intended them to be the source of food for many of our larger game fish that have immense appetites. Perhaps another reason for their large numbers is that they are greatly under-harvested since many fishermen do not seek these fish with as much enthusiasm as some of our larger game fish.

BLUEGILL
Bluegills and sunfish can be found in most of our warmwater lakes and ponds. They are generally found close to the shoreline for this is where the weed growth is the heaviest and the food they eat is most abundant in these weedy areas. The weeds also provide cover which acts as protection from the larger predatory fish intent on eating them.

If you are after sunfish and bluegills, fish near the weeds. Almost anytime of the day will find these little fellows actively feeding. They never seem to get enough to eat. Their choice of natural food is small aquatic organisms, bugs, nymphs, flies, small crustations, and almost any other edible thing small enough for them to swallow.

During the months of May and June the larger bluegills

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FISHING IN PENNSYLVANIA

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and sunfish are particularly active and easy to catch since they are at the peak of their spawning activity. They are busy guarding their nests and are quite willing to strike at anything that suggests a threat to the eggs. Use a bobber to keep your bait out of the weeds, bait your small hook (size 8 or 10) with a worm or any of the other natural type baits, and you're sure to catch bluegills and sunfish. This is also an excellent place to try out the new fly rod you recently purchased. You can use a variety of dry flies, wet flies, small poppers, and other fly rod type bugs. These will take bluegills, and at the same time you can gain valuable fly casting experience. With the fast action these fish usually provide, you can quickly develop into a pretty fair fly fisherman and be ready to try out your fly rod on the more elusive trout.

ROCK BASS

The rock bass is a river and stream fish found in most of the rivers and larger warm water streams throughout the Commonwealth. This fish is slowly winning a warm spot in the hearts of many Pennsylvania anglers. He inhabits the same type water and cover as the smallmouth bass and is an extremely sporty fish and excellent eating.

In the spring of the year, from the middle of May until about the first week in June, rock bass are actively spawning and guarding their nests. This is the time of year when rock bass fishing is at its best. A light spinning rod or fly rod, a container full of night crawlers, and you're ready for some really fast fishing action. You can expect many of the rock bass you catch to be in the eight to ten inch class.

Where to find the rock bass at this time of the year is the least of your worries since they seem to be almost everywhere. The Juniata River and the Raystown Branch in southcentral Pennsylvania, the North Branch of the Susquehanna River in northeastern Pennsylvania as well as the Susquehanna River south of Sunbury are the more popular rock bass fishing areas. Time of day seems to make little difference since these fish are active from daylight until dark.

Most successful rock bass fishermen will wade the river using hip boots or waist high waders. A size six hook seems to be a good choice, and the bait used covers a wide variety. Night crawlers, small minnows, crabs, and hellgrammites will all work wonders on rock bass. Artifical lures such as small silver or gold colored spoons and spinners are excellent. The newer rubber imitation crabs and hellgrammites have proved to be an outstanding lure.

One tip to the new fisherman when trying for rock bass is to fish your bait deep, near the bottom of the river or stream. It may sometimes pay to use a bobber but generally this fish is a bottom feeder.

Rock bass are so named for their preference for hanging near rock piles and ledges. Find an area such as this and the fish are sure to be nearby. We strongly recommend that you try this sport, particularly during the time of year previously mentioned. Take home a stringer of these fish, fillet, and deep fry them. You'll be a confirmed rock bass fisherman for the rest of your life!

CRAPPIES

Crappies or calico bass, if you prefer, are found in many impoundments within the Commonwealth. Both the black and the white crappie are quite common, and since their feeding habits, choice of food, and spawning requirements are the same, we will combine the two and refer to them as the crappie hereafter.

Early in the spring, usually immediately after "ice out" on many of the lakes and ponds, a flurry of crappie fishing activity will develop.
CRAPPIE

They're a school fish by nature so usually where you find one you'll find hundreds. They are eager to accept a variety of baits and artificial lures, and in some areas, are literally harvested by the thousands.

Crappies choose to congregate around and near brush piles, sunken tree limbs, docks, and various other forms of cover. They feed at a medium depth which is most important to remember since this can be the key to either catching or not catching crappies. The use of a bobber or float when using live bait is a must. Start by fishing your live bait twelve inches below the surface. If this does not produce fish, lower your bait another foot below your bobber. You may have to fish even deeper since crappies feed at different levels. Experiment until you find at what depth the fish are located. The general rule is to fish about three feet below the surface during the day, and possibly as shallow as six to twelve inches below the surface late in the evening since crappies feed nearer the surface at this time.

Small minnows an inch or two long are ideal bait for crappies. They will, however, hit a variety of other baits. Small chunks of meat cut from the side of crappies already caught do an excellent job. Small spoons and spinners, small lead-headed jigs, darts and various streamers and wet flies are exceptionally good.

Pymatuning Lake, Conneaut Lake, Raystown Dam and Lake Wallenpaupuck, are but a few of the outstanding crappie fishing areas in Pennsylvania. You can be sure there is a real crappie hot spot near your home.

NOTE: THE BEST SOURCE OF INFORMATION ABOUT FISHING IN YOUR AREA IS THE WATERWAYS PATROLMAN. CONTACT HIM FOR THE LATEST LOCAL FISHING CONDITIONS. Waterways patrolmen are men who have devoted their lives to promoting the sport of fishing and boating within our state. They spend a great deal of their time along the streams, rivers, and lakes. They know exactly what, where, and when the various species are being caught. They are more than willing to help you to get in on the action. Remember, this is a valuable source of information. Use it!

TROUT

Pennsylvania is blessed with hundreds of miles of trout streams and vast acres of deep water trout lakes. The propagation facilities of the Pennsylvania Fish Commission provide thousands and thousands of trout to be stocked in these waters each year. This stocking, combined with the natural reproduction that occurs in many streams, adds up to a fantastic number of these scrappy game fish available for the fishermen to harvest.

There are three main species of trout found in Pennsylvania waters—brook, brown, and rainbow. Generally, the brook trout is found in the colder, smaller headwater streams; the brown trout, in the larger streams; and rainbow trout in lakes and other impoundments. Many waters will contain all three species.

The opening day of trout season occurs around the middle of April. Early spring weather and water conditions can have a tremendous effect on how you will fish for trout this time of year. Late season fishing requires different techniques to be consistently successful.

Early in the spring the water is likely to be high, cloudy, and fairly low in temperature. Trout are usually a bit sluggish and tend to lie in the deeper pools feeding near the bottom. It is most important, when these conditions exist, to add weight to your line to get your bait or lure down to where the fish are feeding. The general rule is to fish slow and deep.

Early fishing can be productive if you use many of the natural trout baits. Small minnows, worms, night crawlers, and salmon eggs will all work well as long as you fish the bait near the bottom. Fly fishermen consistently take trout in the early spring on weighted artificial nymphs.

As the water clears and warms, trout become more active. Artificial lures such as small spoons and spinners can be quite effective at this time. Fly fishing begins to pick up as some of the early hatches begin to emerge. This is the time of year trout fishing is at its best. Early morning and late evening are generally the best times to be on your favorite fishing waters. Remember this rule!

Many excellent catches of rainbow trout come out of dams and lakes where the fisherman has been on the water at the crack of dawn. He has used a small gold or silver spoon on the end of his spinning line and worked the shoreline, casting out into the deep water and retrieving his lure slowly. Late evening fishing on a good brown trout stream can produce some outstanding catches. If you want a real trophy brown trout, try fishing after dark with a large night crawler or softshelled crab for bait.

Late season fishing for trout demands some special skills. The water is usually low and crystal clear. Trout are spooky at this time and will often shy away from many of the larger live baits and lures. The general rule is to fish with smaller terminal equipment and take care not to scare feeding fish with noisy wading or sloppy casting. A good dry fly fisherman with the right fly pattern can catch a lot of trout at this time of the year.

The choice of equipment for trout fishing is wide and varied. For live bait and artificial lures we would recommend the spinning or spin-casting outfits. A four or six pound test line is usually sufficient. A fly rod is a must for effectively fishing dry flies, wet flies, and nymphs.

Boots or waders are helpful when fishing the larger streams but are not an absolute necessity. The amount of equipment available for trout fishermen seems unlimited. Remember our earlier statement recommended that a few selected pieces of equipment, properly used, is all that is necessary to become a successful fisherman.

If you plan to take up fly fishing, you may find you'll want some special equipment. We would suggest you start by buying the basic materials needed to tie your own flies. This is not only economical but adds a great deal of interest to the sport. You will learn by reading, from other fishermen, and by experience, what types of flies will catch trout in your particular area.

For serious dry fly fishing you will want to use a tapered continued on next page
FISHING IN PENNSYLVANIA

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line on your fly rod. Finely tapered leaders are also a must.

There is no question that aquatic insects are the primary diet of trout. These are eaten in great quantities in their various stages starting with the nymphal stage and continuing until adulthood when emergence occurs. Learn what species of aquatic insects are found in a particular stream, tie a close imitation, fish it properly, and you can be a successful fly fisherman.

BASS

Black bass, as they are commonly called both largemouth and smallmouth are found in most of the warm water lakes, ponds, dams, streams, and rivers in the Commonwealth. Largemouth bass are primarily an impoundment fish, meaning they prefer slow or sluggish water found in lakes and dams. Smallmouth bass, on the other hand, are found in the larger warm water streams and rivers.

Largemouth bass, as a rule, grow a little larger than the smallmouth. Many fish in the Pennsylvania Angler Citation award class are caught every year in Pennsylvania. Some outstanding fish will weigh as much as six pounds.

LARGEMOUTH BASS

Immediately after spawning, near the early part of the bass season, the largemouth is extremely active. The water has not warmed as yet to the point he is uncomfortable, so he can be found in relatively shallow water. This is one of the best times of the year to fish for the largemouth. Later on in the summer, this fish will spend the daylight hours off shore in the deeper cool water and return to the shoreline only at night to feed. At this time of the year, night fishing is a must if you want to catch the largemouth. Remember—to consistently catch fish, you must plan to be on the water when the fish are active and feeding—not when it is convenient for you to go fishing. This applies to all fish! We said previously there is a great difference between fishing and catching fish. You may enjoy sitting in a boat, soaking up the sun on a hot summer afternoon while fishing for bass. You will find, however, that you are just fishing—not catching! To catch the largemouth, you would do better to stay off the lake until midnight, for this is when the fish will feed.

Night fishing for largemouth bass with a surface plug will provide all the thrills a fisherman can stand. Dark nights, without moonlight, are generally considered the best.

Late spring and early summer, is an excellent time then, to fish for largemouth. They will hit a variety of underwater lures and bass plugs. One of the best lures is the black rubber or plastic night crawler. Rig the artificial night crawler to the end of your monofilament line and add several small split shot. Cast the line and allow it to sink; then retrieve it slowly toward you so it bumps along the bottom. This is one of the best methods for catching largemouth. Live bait fishing can be productive. A large artificial night feeder, and will readily hit surface plugs at night. It is also excellent. Occasionally the smallmouth will populate the larger dams in good numbers, but generally, they prefer the faster moving waters found in rivers and streams.

Smallmouth bass seem to be most active early and again late in the season. June, July, October, and early November will find the hungry smallmouth ready to attack a variety of lures, plugs, and live bait. The smaller bass plugs, spinners, and spoons work well. Two of the most outstanding lures are the rubber artificial crab, and hellgrammite. These have been used on all the major rivers and dams. Smallmouth bass readily strike large bugs and poppers, especially when fished late in the evening.

PART THREE—NEXT MONTH!

SMALLMOUTH BASS

The smallmouth bass is considered by many experienced fishermen to be the scrappiest of all fresh water game fish. There is no question that a two or three pound smallmouth on the end of a light spinning outfit can really put on a show. They like to break water, and may jump three or four times during the fight.

Our larger rivers such as the Susquehanna, Allegheny, Juniata, and Delaware contain an abundance of smallmouth bass. Many of the tributaries to these rivers are also excellent. Occasionally the smallmouth will populate the larger dams in good numbers, but generally, they prefer the faster moving waters found in rivers and streams.

Smallmouth bass can be found lurking in the deepest pools during the afternoon hours. Early morning and late in the evening, they will work out of the pools into the riffles to search for food. For some of the larger waters, a boat is most helpful in getting to the area where the fish are, but many times the use of waders or hip boots can put you in position to catch these fish.

Equipment used for smallmouth is much the same as for largemouth. The fly rod can be effectively used in river fishing, and the smallmouth readily strikes large bugs and poppers, especially when fished late in the evening.
EASY TO BUILD DOCK—

Each year the individual boat owner is plagued by two major problems: constructing a dock in the spring and dismantling it in the fall.

Frankly, there’s no way out of it. You either work up a sweat lugging around a 10, 15 or 20 foot length of dock, or walkway; or else you find an easier way of doing it.

I found, through a suggestion from a carpenter friend, an easier way to construct a dock. It was tried last spring, tested and found suitable enough to pass along to other boat owners who run into the same problems each spring and fall.

Not only does this type of construction make it much easier for one man to handle during construction and dismantling, but it should also assure a longer lasting dock since everything comes apart and can easily be covered, even those former hard-to-get-at areas, with a coat of paint or other preservative.

It is put together piece-by-piece, dismantled in the same manner, and lag screws or bolts are used to fasten it to the uprights rather than nails or spikes. Don’t forget to use washers which will prevent the heads from working into the wood.

Cypress, white pine, spruce or cedar will all hold up quite well in the weather but a local lumber company suggests that fir does just as well.

Only four different sizes of lumber are required. Prices will vary depending on where you purchase your lumber and whether new or used lumber is used in construction. I found, for example, that by using new lumber it would cost slightly over $15 for materials for a 16 foot length of dock. However there are some “cash and carry” yards in business mainly for the do-it-yourselfer, where the same lumber can be purchased for less.

The list of materials and the average cost, is as follows:

Four 8 foot lengths of 1 by 3 inch furring strips $1.28
1 by 12 inch lumber for flooring ................... $8.00
Total .................................. $9.28

Incidentally the only cutting required would be the flooring into two and one half foot lengths, on which the above figuring was based, although you can make it any width you desire.

Also, I would suggest giving everything a good coat of paint, or preservative before assembling.

After your paint job has dried sufficiently, nail two 8 foot lengths of the 2 by 2 inch lumber to the inside of one of the 16 foot lengths of 2 by 6’s. Nail them about an inch, or the thickness of the floor boards, below the top edge of the 2 by 6. Fasten the other two 8 foot lengths of 2 by 2 inch lumber to the other 2 by 6 in the same manner.

On top of these 2 by 2’s will rest the floor boards which are not nailed down but held in place by the furring strips. Only three or four nails are required to hold the furring strips in place.

However don’t assemble this on land, in your basement or garage. If you do you’re only defeating your purpose.

After the 2 by 2’s are nailed to the 2 by 6’s, the latter are fastened to the uprights, either 2 by 4’s or 4 by 4’s, which have already been set in the river or lake bottom. One end of the 2 by 6 rests on shore, it can be anchored there by a stake driven into the ground, while the other end is attached to the upright with lag screws or bolts.

After both 2 by 6’s are in place, it’s a simple matter to lay the floor boards in place, nail the furring strips down along both edges and the job is done.

Next fall just rip up the furring strips, tuck the floor boards under your arms, pick up the 2 by 6’s (after removing the lag screws or bolts) give everything a coat of paint and store until the following spring. That’s all there is to it.

COAST GUARD AUXILIARY CITED

The U. S. Coast Guard Auxiliary has been awarded the National Safety Council’s Distinguished Service Safety Award for national leadership in water safety.

The award was based on the following 1967 accomplishments:

1. 128 lives saved.
2. 7,334 assists in rescue missions.
3. Instruction of over 180,000 boat owners.
4. 177,000 courtesy examinations.
5. Patrolling 4,500 regattas.
REAL DUMMY!

While attending the Fish Commission exhibit at the Bloomsburg Fair, we had a patrol boat on display. Officer Frank Kann of Laport was sitting in the boat reading the recent issue of the Pennsylvania Angler when a lady came along and pressed her fingers into his arm several times. As he looked up from the magazine, the lady, obviously frightened, excitedly explained “I thought you were a dummy!”—Waterways Patrolman STEPHEN A. SHAB-BICK (Wyoming County).

CLOE LAKE BONUS

Fishermen using the Pennsylvania Fish Commission owned Cloe Lake near Punxsutawney during the extended fall trout season found themselves a bonus, besides the 15 to 18 inch rainbow trout they were catching. Several bass in the 18 to 22 inch class were taken and also a few large northern pike from 24 to 26 inches were landed.—Waterways Patrolman JAMES F. DONAHUE (Jefferson County).

TIDIOUTE TOURNAMENT

While on duty at the State Fishing Tournament at Tidioute, some fishermen complained that the fishing was no good in the Allegheny River. I took them by the arm and showed them the collection of trophies that were registered at the Water Company Office at contest headquarters. Nearly 165 fish were turned in on the first day of the contest. Most of these fish were caught by individuals that are known experts on the river. It looks as if the old saying that 10% of the fishermen catch 90% of the fish holds true at this contest.—Waterways Patrolman BERNARD D. AMBROSE (Elk County).

PALOMINO APPEAR

It seems that the palomino trout waited until the fall extended season to start to bite at Lyman Lake. Some nice ones were taken.—Waterways Patrolman KENNETH ALEY (Potter County).

HAND FED

Young Scott Haller of Tionesta was trying to convince his grandfather Lud Haller (Haller’s Fishing Contest—Tionesta) that he wasn’t trying to catch a trout at Tubbs Run—just trying to pet it! It seems that Scott stuck his hand into the water and Mr. Trout (“. . . at least three feet long” said Scott) must have thought it was food and took a bite on a finger. Scott’s wound required home first-aid treatment. Scott is just one of the many youngsters who are enjoying the thrill of feeding the big trout in Tubbs Run which were placed there recently by the Pennsylvania Fish Commission after it was announced that a portion of the stream would be set aside for nursery waters.—Waterways Patrolman JOSEPH KOPENA (Forest & Clarion Counties).

LANDING PROBLEMS

Recently Special Warden Waybright told me that while patrolling the waters in Lebanon County, he saw a fisherman standing on a flimsy boat dock hook a hefty fish and play it perfectly. But as the fish floated near the surface the fisherman picked up his landing net and leaned over to net the fish. Suddenly the dock tilted and the fisherman did a perfect swan dive into the lake! The water was pretty deep because the man was about 6’4” and all that could be seen was the fish fly he had on the top of his hat. He came out dripping wet, but with a smile on his face, for somehow he had managed to get the fish into the net. The fisherman turned out to be a secretary for one of the Hummelstown clubs.—Waterways Patrolman SAMUEL W. HALL (Lancaster & Lebanon Counties).
POCKETBOOK PROBLEMS

Many jokes have been made about a woman's pocketbook, but recently my deputy and I witnessed an incident that beats them all. We were on patrol one afternoon and saw a woman fishing from a dock. We stopped to ask how the fishing was and saw she did not have a fishing license displayed. I asked to see it and she said "just a minute, I have it somewhere in my pocketbook." And this is when the fun began. She started to hunt and dig and it was quite obvious that she had a lot of junk in that old pocketbook. The more she looked, the madder she got and we didn't have a fishing license either. Finally, in desperation, she dumped the pocketbook upside down on the dock. You wouldn't believe what fell out! Curlers, salmon eggs, hair pins, bobbers, lipstick, comb, books, split shot, money, pliers, and a million other odds and ends. And believe it or not, way down at the bottom—the license!—Waterways Patrolman JAMES T. VALENTINE (Huntingdon-Fulton Counties).

SPAWNING TROUT

I often hear fishermen state "There is no natural spawning of trout in the streams" and this shows many of our trout fishermen are missing one of the most beautiful things found in a good trout stream. For over thirty years I have enjoyed watching trout spawn. It has changed very little. There are plenty of streams in Pennsylvania where a person can find nature at its best. Anyone who enjoys what a good trout stream has to offer, besides fishing, should visit one in the fall of the year and see trout mating habits. The experience of watching trout mating in the wild, is something you'll never forget and can only add to your enjoyment of trout. And it does happen in Pennsylvania!—Waterways Patrolman WILLIAM E. McILNAY (Bedford and Fulton Counties).

BIG EELS?

The Republican and New Age Newspaper of Tunkhannock carried this news item in their columns eighty years ago. "The grist mill at Meshoppen had to be shut down due to a very large eel getting caught in the turbine and shut off the water supply." In 1952 while I was helping in the test netting of Pages Pond near New Milford in Susquehanna County, Mr. Gordon Trembley, our present assistant executive director, then an Aquatic Biologist and his crew took an eel forty-eight inches long that weighed nine pounds. Anybody heard of one larger?—Waterways Patrolman HARLAND F. REYNOLDS (Wayne County).

FUNERAL

While attending the Fish Commission exhibit at Bloomsburg, a friend of mine told me that while stocking Bowman's Creek there were 175 cars in the procession. This man overheard a fisherman remark "That's quite a funeral they are having for those trout."—Waterways Patrolman STEPHEN A. SHABBICK (Wyoming County).

MORE DELAWARE MUSKIES

Each year about the second or third week in October, the walleye in the Delaware River become quite active. Many fine catches of both walleye and bass reported to me each year in October and November but this year several muskies have been reported from the Delaware. Recently one was reported above Bushkill that was some 35 inches in length and weighed about 12 pounds but I'm sure there are others we didn't hear about. It would be a great help if persons who catch these trophy fish in the Delaware would report them to their Waterways Patrolmen.—Waterways Patrolman WALTER J. HURKHART (Monroe County).

DOGGED OFFICER

A Dog Law Officer from the Johnstown area had a thermos of coffee along streamside. He had just poured himself a cup when it started to rain. Since the car was not far away, he set the cup down and went for a raincoat. On returning, an overgrown shepherd pup was making off with the cup. However, after a chase and some coaxing the dog dropped the cup and headed back to a farm.—Waterways Patrolman ANTHONY MURAWSKI (Cambria County).

SNEAKY FISH

Deputy Game Protector Wilbert Sarver and I were working the display booth at the Big Knob Fair one evening when a boy about seven approached me and said, "I went fishing once and almost caught a bite, but it got away." Then he leaned over very close, cupped his hand to his mouth and whispered "Them fish are sneaky!"—Waterways Patrolman DONALD PARRISH (Beaver County).

LOW BRIDGE

During the National Plowing Contest at Hershey last summer I had the pleasure of acting as a guide on bus tours around the town of Hershey. Along the route the bus passed under a low bridge which was also extremely narrow—so low and narrow that clearance on the sides and top were less than a foot. Each time we approached the underpass, I asked the passengers to please duck their heads—it was surprising how many people did just that!—Waterways Patrolman JAMES F. DONAHUE (Jefferson County).
THE QUILL BACK CRICKET

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trees behind me. Finally I made a lucky cast that landed just right and a pointed snout parted the water and took the Cricket. The big trout never jumped but he tore up and down the pool several times, occasionally thrashing at the surface, before the constant rod pressure turned his head. Eventually a magnificent specimen of brown trout was netted, a male of twenty-three inches with a hooked lower jaw.

I moved upstream and caught several smaller browns along the pump house wall but the challenge of fishing the slack-water bay downstream fascinated me and I walked back to the big pool. They say lightning never strikes twice in the same place, but would you believe that the next time I cast the Cricket back to the grassy overhang I hooked and landed, after a long struggle for my leader point was 6x, a female brownie of twenty-six inches? That little bay must be a cricket haven for it has since produced a surprising number of big browns to the Q-B Cricket.

The Cricket is primarily a mid and late season pattern but I’ve taken trout with it in early May. One day in June the sulfurs were emerging in good numbers on Pen’s Creek and the trout would scarcely look at them. Yet the Cricket scored time after time on trout that had steadfastly refused the sulfur duns.

The Cricket works best along grass banks because it is here that the naturals are most often found. On flat water it is frequently best to give the pattern an occasional twitch for the trout expect some animation when the natural is near the water.

Although the photo-illustrations show the tying procedure for a black Q-B Cricket, a brown pattern may be tied by substituting reddish-brown deer body hair for the body dyed brown duck quill for the back and brown Nymo for tying thread. It’s a good idea to have a supply of both black and brown patterns on hand.

Tradition has it that a cricket on the hearth is an omen of good luck. So, too, is a supply of “Crickets” in the fly box.

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ICE FISHING PRIMER

bottom. Tie a loop in the line to mark the surface and withdraw it. Stretch the measuring line out across the ice and lay the fishing line along side. Attach a bobber to the monofilament so it will hold the bait about a half foot off the bottom of the lake. To take the bait to the desired depth quickly and then keep it there several split shot can be attached several inches up the line from the hook.

Since it is nearly always cold when ice fishing and the fingers can become numbed quickly it is best to get all the tackle arranged before leaving home. Before each ice fishing trip check to make sure all ice rods are equipped with hooks or ice jigs and that sufficient shot is attached to the line. Once on the ice all you have to do is check depth, attach the bobbers, and bait the hooks.

Probably the most satisfactory way to transport ice fishing equipment across the ice is in a box carried on a sled. It should be large enough to hold everything that is needed, including the ice auger. It can also double as a seat while waiting for the bobbers to dip under the surface.

On certain days when the wind is blowing it may be impossible to stay on the ice without some type of protection from the wind. Some anglers prefer an ice fishing shanty which gives them protection on four sides. Others employ a less elaborate set-up which usually consists of a one or two side wind break built from either plastic, canvas, or cardboard. These have the advantage of being far more mobile.

The wind break I use consists of a single piece of cardboard which is supported by two pieces of wood that slide inside brackets fastened to the back of the box I carry on my sled. To keep these in place when the wind is blowing hard it is necessary to drill two holes in the ice with the auger to give added support so the wind break, box and sled don’t all blow away.

This type of wind break is that it can be easily and quickly erected and can be moved from one place to another on the ice with little difficulty. When the action slows in one place it is a simple matter to raise the wooden supports out of the brackets, lay the cardboard on top of the box, and pull to a new location.

About the only other thing needed for ice fishing is a fire for warmth. A charcoal fire built in a small charcoal grill works well and can also be used to cook hamburgers, hotdogs or your favorite soup.

And many anglers have discovered the small portable heaters which are being marketed by several leading suppliers of camping equipment. These are capable of providing all the heat needed to keep several anglers warm no matter how cold the weather gets.

Both pan fish and game fish are legal to take through the ice, but the beginning ice fisherman will probably enter the sport more if he first goes after pan fish for they hit far more often. By taking the time to get properly outfitted for that first ice fishing trip and finding an ice covered lake where the pan fish are co-operative chances are good you will never again lack for something to do on those idle winter days!
they run from fresh water to salt water and back to fresh water to finally spawn.

Fisheries biologists weren't sure what would happen when they transplanted salmon to an inland body of water as are the great lakes. But results so far indicate the coho gets along fine without heading out to sea—so long as they have a big body of water to live in and plenty to eat.

As the end of the third year of their life nears they begin heading home—in some experiments back to the very pools where they spent the first half of their life! Sport fishing begins developing as soon as they start schooling offshore from their "home" streams and continues until they start actual migration into the stream. They then quit all eating and ultimately die apparently from starvation after spawning.

Since Pennsylvania's tributaries to Lake Erie are relatively small and pass through many private properties coho fishing has been legally limited to the lake itself with the streams designated as "nursery waters" during the runs. Returning coho will be captured as they enter the streams. Hatchery personnel will then artificially spawn them to provide the needed eggs for continuation of the program. Rather than waste the fish which have evaded anglers and made it into the streams, the carcasses will then be sold on the commercial market to the highest bidder.

Just what next fall will bring is anybody's guess, but if the coho return as expected—well fed and fierce—the twitches of excitement felt in northwestern Pennsylvania last fall will certainly be tremors!

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Ice Fishing DELUXE

The reel is made in three layers with the outer layer carefully beveled to allow the free flow of line. After some experimenting, it was found that an angle of about 40º was best. "Smitty" attaches the reels to the broom stick portion of the rig a few inches below the hinge from there the line trails out to the end of the swinging arm after passing through the trigger.

This latter part is a work of engineering skill in itself. Basically it involves a square of plexiglass that is delicately balanced and sensitive to the slightest tug. It's part of Lee's ice fishing theory that fish ought not to be scared away by trigger resistance or any unusual tension on the line as they take the bait. In his trigger device there is virtually no resistance and there is a natural free flow of line as the fish hits and runs.

The secret of the trigger is in adjusting the plexiglass weight, the curve of the piano wire holding the flag, and the position of the flag itself on the piano wire. When all these things are in order to suit weather conditions, line size and bait being used, "Smitty" is in business.

And that's about it for the tip-ups other than a few incendental such as repeating the price—about $1.50 per rig. Oh, yes, all the wooden parts have been hand-rubbed and varnished against weathering and the various screws and adjustment fittings are covered with what appears to be a smooth brown plastic easily handled in the cold. "No plastic," says "Smitty," a grin on his face again, "I just dipped the heads of the screws in some old wood glue a few times."

And that's that except for the sled that contains the five tip-ups and other assorted gear. The carryall is itself a work of craftsman's art with its contrasting dark wood sides and light wood trim. The tip-ups fit in slots in the top compartment which is weather-proof when closed. A series of drawers and compartments slide in and out smoothly at the end of the sled and hold an assortment of gear, some dry clothing and other odds and ends dear to and needed by the serious ice fisherman.

"Smitty" is not to be denied his comfort while out on the ice so his sled has a foam rubber seat at the back end to help ease the strain of any long wait between strikes. And one of the drawers is insulated for food and beverage preservation "After all," as Lee said, "who wants to eat a frozen sandwich?"

Regardless of the appearance to the contrary, Lee insists that the sled was inexpensive to build. About two dollars worth of hardware covered the money spent. Wood came from odds and ends around his shop. The foam rubber was rescued from a discarded chair about to be taken to the dump. The only real expense was his time, which was a labor of love anyway. Speaking of time, "Smitty" indicated that he had about 24 working hours in the five tip-ups and a bit more in completion of the sled.

Incidentally, when the Chambersburg angler doesn't want to have the whole rig along, he uses his "portable" outfit. The five tip-ups and their carrier were made from a couple of old aluminum lawn chairs and were actually the forerunners of the improved rigs described above. They work generally on the same principal, but "Smitty" prefers his wooden jobs over the lighter metal ones primarily for the ease of handling them out on the ice. The wood has the advantage of leaving the skin on his fingers and the plexiglass reels won't freeze as do the metal ones of the "lawn chair" set.

And that would seem to be the story on Lee Smith and his super tip-ups, but it isn't—not quite. As "Smitty" puts it, "They need a little work yet. Next year I'm going to switch to fluorescent orange for the flag color and maybe adjust the trigger a little and . . . ."
NEAR THE JUNIATA

THE JUNIATA RIVER has long been known for its fabulous fishing. It is no accident that several fine campgrounds are located within easy driving distance of this attractive river. They also each have fishing facilities of their own.

In southern Huntingdon County, near the Raystown Branch of the Juniata, is Trough Creek State Park. This 600-acre park is located south from Route 26 at Marlesburg. Consisting of only 30 campsites, it is one of the smaller camping areas among the state parks and is not as crowded as many of the larger ones.

Throughout the week a choice of campsites is readily available but it is advisable to arrive early Friday for weekends in the middle of the season. All sites are in an attractive wooded setting. Sanitary facilities are pit type. The nearest store to purchase food supplies and ice is approximately six miles.

Great Trough Creek which meanders through the campground is stocked by the Pennsylvania Fish Commission. Game species available are trout and bass but suckers and bluegills are abundant. The stream empties into the Raystown Branch of the Juniata approximately two miles from the park.

A more heavily used state park in the area is Greenwood Furnace in the northern part of Huntingdon County. Located on Route 305, four and one-half miles east of McAlevy's Fort, this park also has 30 developed campsites. There is also an overflow area which has a capacity of about ten additional units.

The campground is located in an open area but most sites have some shade. Central feature of the park is a five-acre lake formed by damming up East Standing Stone Creek which runs through the campground. The lake is only about 200 yards from the camping area.

Swimming and fishing are the principal recreational activities. The lake is stocked with trout. Ice is available at the campground itself and groceries and gas are within four miles.

Further east, in Mifflin County, there is a very fine private campground located near McVeytown—Idle Acres Camping Area. There are 40 spacious grassy campsites, each 40 x 40 feet, about half of which are shaded and half in the open. Open full time from Memorial Day to Labor Day, the area is also open weekends only during May, September and October.

This is an ideal spot for the fishing family with small children. Plenty of activities are available to keep the little ones amused. A unique feature of the playground is a giant "Time Tunnel" slide converted from an old schoolhouse fire escape. This alone keeps the children amused all day. Swings and a tether ball are also provided.

Right on the grounds of Idle Acres are two natural limestone caves. Both are state safety approved. Campers can freely explore them at no extra charge. Family hikers have four trails from which to choose. Three of them take about one hour to hike and the other takes two hours.

Twenty-eight sites have electricity. In the washrooms flush sanitary facilities, tiled showers and mirrored vanities provide most of the comforts of home.

A small, 3/4-acre pond is located on the grounds. Mosquito run stocked with trout by the Fish Commission goes through the area. The Juniata River offering fine bass fishing is only 5-mile away.

Groceries, gas and ice can all be found within walking distance from the campground at McVeytown. Lifeguard swimming can be found approximately ten miles away at Greenwood Furnace State Park or at Kiskacoquilas Amusement Park.

This would also be an ideal spot for anyone who may have been wishing to try camping, but does not want to buy a lot of expensive equipment for that first experience. Owners Don and Joyce Fuhrer have rental equipment available. You can choose between an 8 x 16 tent or a fully equipped 8 x 20 trailer. The Fuhrers would be happy to supply you with rates and information.

Nearby are several attractions of interest to those interested in methods of transportation. At Lewistown Jack's Creek Bridge built in 1813 to serve the original Pittsburgh-Harrisburg turnpike, the only stone arch bridge in Pennsylvania built without a keystone. At Strodes Mill you can see three locks of the old canal. East of Lewistown, there can be seen five types of transportation at once, the paved highway, parts of the old "pike," ruins of the canal, the Juniata River used for boating and the tracks of the Pennsylvania Railroad.

East of Huntingdon on Route 22 is the Swigart Museum which has a large display of antique automobiles, name plates, license plates and other automobile parts. The museum is open from June 1 through Labor Day. Thirty-six miles south of Lewistown on U.S. 522 is the East Broad Top Railroad, the last steam powered narrow-gauge railroad east of the Mississippi River. Tourists may take a three-mile trip over valleys and streams.
A FISHING FEATURE FOR FISHERMEN

Jonestown Angler Gordon Strauss Jr., 7, holds a 19-in., 4-lb. largemouth bass that won him a Pennsylvania Angler Junior Fishing Citation. He caught the big fish from Shuey's Lake in Lebanon County. It took a black rubber worm fished with spinning gear.

FISHERMAN Iver M. "Smoky" Stover of Harrisburg holds a 35½-in., 10-lb. northern he caught last spring while fishing at Falmouth access area on the Susquehanna River. He also landed three muskies—40-in., 37-in., and 31½-in. All were caught on a bucktail.

New Stanton angler Earnest Beckett (right) landed a 32-in. northern during the dedication of the new High Point Lake. Shown with him is Robert J. Bieho, Executive Director, Fish Commission, who attended the dedication ceremonies.

Not many fishermen manage to catch a citation size fish but angler Joe Kuba landed a 15½-in. yellow perch and a 23½-in. largemouth bass. Both were caught on spinning tackle and a plastic nightcrawler from Twin Lakes.

Ten-year-old Jerry Reynolds, York, holds a 27½-in., 6-lb. walleye he caught at Pinchot Lake in York County last fall. The catch won him a Pennsylvania Angler Junior Fishing Citation.

Coho Salmon was hooked by Richard Beckman, 5, of Erie, while he was trolling with his Dad in Lake Erie during October near the mouth of Trout Run. It measured 20½-in., weighed 4-lbs., 12-oz., and took a mepps.
ANGLER ARchie CAMPFIELD of Hawley holds rainbow caught at Lake Wallenpaupack. It measured 19-in., and weighed 2½-lbs., and won him a Fishing Citation.

HENRY MITTERLING of Sunbury holds 22½-in., 5-lb., 6-oz. smallmouth bass caught last fall fishing the Susquehanna. He used spinning gear and a minnow.

CONTEST WINNER Warren Feathers of Concewburg holds 24½-in., 6-lb., 2-oz. rainbow he caught from Potter County’s Lyman Lake last spring, became the winner of the rainbow division of Potter County Big Trout Contest. He used spin gear.

BETHELHEM Angler Thomas Andrew won a Junior Fishing Citation when he hooked and landed this 14½-in. brook trout from Monocacy Creek.

JIM SMITH, 16, of Berwick holds 25-in., 3½-lb. walleye he caught last year while fishing the Susquehanna River. He used spin gear and worms.

BIG CATCH for little fisherman! Kurt Schenkelmeier, 15, Johnstown, holds 15½-in., 1½-lb. bullhead he caught while on a fishing trip to Raystown.

WILLIAM GUARINO of Ransom holds 22-in. catfish he caught near his home from the Susquehanna River. He was using nightcrawlers and spinning gear.

FISHERMAN Gerald Teitze of Smithton holds stringer of trout caught from the Yough. All were caught on one outing.

LOYALHANNA ANGLER Lawrence R. Hausted received an honorable mention membership in Pennsylvania’s High Musky Club last spring when he landed this 36½-in., 9½-lb. musky. He was fishing Lake Somerset. Bait used, not driven.
ALLENTOWN ANGLER Kenneth Hilbert won both Junior and Senior Angler Fishing Citations when he caught this 16-lb., 2-1/2-oz. bullhead from Jordan Creek last fall. The 15-year-old fisherman was using spinning gear and crawlers.

STARTING TO be caught in the Allegheny River are some good size flathead catfish. This one weighed 24-lbs., measured 36-ins., and was caught by fisherman Charles Chaball III. He was using spinning gear and a sucker for bait.

PYMATUNING LAKE produced this 23-in., 8-1/2-lb. channel catfish for fisherman John Greenawalt of Linesville last summer. Mr. Greenawalt was fishing near Harris Island when the big fish struck a worm.

BETHLEHEM FISHERMAN David St. Clair holds 24-1/4-in., 8-lb., 14-oz. largemouth bass that won him his Pennsylvania Angler Fishing Citation. He was fishing Pike County's Mink Pond when he caught the fish on a rubber worm and spin gear.

MARYLAND FISHERMAN Joseph C. Mooney of Cumberland holds 24-1/4-in., 4-lb. chain pickerel he caught at Koon Lake in Bedford County last fall. He was using ultra light gear and a mepps spinner when he made the catch.

DALE RANSOM of Genesee took first place in the brook trout class of the Potter County Big Trout Contest last year with his 19-1/2-in., 2-lb., 4-oz. brookie. He caught it opening day on a worm.

THIRTEEN-YEAR-OLD Jack Bunnell of Courdersport holds 21-in., 5-lb., 6-oz. brown trout caught from the Allegheny River last summer to take first place in Potter County's Big Trout Contest.

JUNIOR CITATION WINNER Charles R. Hollein Jr. of Butler stands with the fisherman who taught him, James Robinson. The smallmouth bass he's holding measured 19-1/4-in., and weighed 3-1/2-lbs.
CASTING WITH THE CO-OPS

A MONTHLY FEATURE ABOUT CO-OP NURSERY PROJECTS

POLK STATE SCHOOL

INNOVATIONS IN construction and management are the order of the day in many of the cooperative nurseries scattered around the state. The Polk State School and Hospital Nursery in Venango County is no exception to this premise. Let's take a closer look at it.

The original project was started on the hospital grounds in 1959, but the current nursery and rearing pond has been used about seven years. According to Gaylord Brooks, activity aid at the school, there have been as many as 150 resident students involved in the nursery work at alternate times during the last several years. During the summer months, this group is narrowed down to about 20 to keep the grounds presentable and do the feeding and algae skimming necessary to keep the pond in good order and the fish healthy.

But this does not deal with the innovations mentioned above. Back to them! The first item to attract attention is a small shed containing an air pump, electrical equipment to operate it and a long, round brass aerator in the pond itself. The aerator is the first we've encountered in more than a year on the cooperative nursery trail.

Functional use of this equipment is to solve oxygen problem in warm weather. The nursery is an oval-shaped pond with a somewhat limited water source. As a result, temperature and oxygen problems create trouble for the boys manning the project. The aerator was discussed, devised and implemented and seems to have resolved the issues of the moment. As cooler weather develops, the air pump is turned off and the fish continue to thrive in a more natural environment.

Mr. Brooks and his boys didn't stop at this point but went on with other phases of the project that were new and interesting. For one thing, they experimented with raising suckers and minnows from eggs. Most cooperative nursery projects at the moment concentrate on trout. But these fellows expanded their efforts into other species. The results were successful enough to supply area bait dealers with a reasonable number of minnows and young suckers to be sold for bait. This was a legitimate activity, properly approved by the school and the Fish Commission, and most of the money received from the sale of the minnows was put into the Occupational Therapy Fund which helped finance the trout nursery. So much for the second variation from the standard theme of many cooperative nurseries.

Now let's go to another.

The third interesting feature of the Polk State School Nursery project was the use of homemade food pellets. Again Gaylord Brooks was our informant. He indicated that a large farm is part of the general facility. Meat, raised on the farm and utilized in the school kitchens, pro-duced a certain amount of waste products. This material was reclaimed by the students and pellets were formed. Pig blood, ground livers and spleens, and other similar bits were ground together, pressed into pellets and baked. The end product was an acceptable trout food that, when fed, resulted in reasonable fish growth.

Harry L. Watkins, Director of Recreational Activities at the school, chimed in at this point with a note of support for the food experiment. "It continues the project for us and is of considerable interest to the people involved. It gives them a continuation of their work and a greater sense of accomplishment in producing their own food and they see the results as the fish grow and mature," he said.

Now all this is well and good for the innovations and the worthwhile activity angles, but what of the fish themselves? The nursery annually produces about 2,000 brook trout. Where do they go? Well, the school and nursery are located in Venango County and according to Waterways Patrolman Clarence Shearer, "The county gets them. Actually we put most of them in the Little Sandy Creek near Polk on Route 62." he continued. "It's a pleasant little stream that courses for about six and a half miles in the general area of the school."

And that was about it for the Polk State School Nursery visit. Paul Byers, assistant cooperative nursery coordinator, gathered up his water testing kit; we took a last look at the spacious, well-kept grounds of the school and said goodbye to our hosts.

One thought that remained in our minds as we drove along part of the Little Sandy, headed back for Franklin was that Casting with the Co-ops does more than just improve the sport fishing in a given area. It also provides a worthwhile educational opportunity and occupational therapy for some of those involved.

THREE RESIDENTS at the Polk State School look at the raceway where the 2,000 trout that they rear each year are held.
FROM C. E. F., KITTANNING:

"How can I get my 22-foot inboard cruiser to handle better at low speeds and in reverse; would a larger rudder help?"

-Increasing the size of the rudder will make your boat easier to maneuver when going astern or maneuvering at low speed, but the added blade area will cut your top speed and probably increase the boat's tendency to sheer off course unless the wheel is held tightly. Any production boat is the result of many compromises, and in your craft the manufacturer sacrificed low speed handling ability for a relatively high cruising speed with moderate horsepower and economical hull construction. Rather than modifying the rudder, we would recommend practicing boathandling so as to get the most from what you have to work with.

FROM L. G. E., MONONGAHELA:

"What type of depth sounder would you recommend for an outboard runabout used on the rivers and lakes?"

-Several manufacturers offer battery-operated models that use ordinary flashlight cells, which show the depth on a dial similar to a tachometer. This type is more useful than the flashing-light sounder on a small boat, since bright sunlight may make it difficult to see the flashes that indicate the reading.

FROM A. J. B., PITTSBURGH:

"Where can I get information on purchasing a kit of pre-cut parts to build a boat?"

-Two firms which offer a wide selection of boat kits are: Glen L, 9152R Rosecrans, Bellflower, Cal. 90706, and Laker Boat Kits, 9200 Interstate 35W South, Minneapolis, Minn. 55431. Both companies will send catalogs on request.

FROM T. V. H., JOHNSTOWN:

"Where can I get parts for a 'Hot-Rod' outboard motor?"

-We suggest writing the manufacturer, Swanson Outboard Service Co., 5215 Lakeland Ave. N., Minneapolis, Minn. 55429. So far as we know, there are no dealers in your area who handle this engine.

FROM G. P. S., MEYERSDALE:

"The used boat trailer I bought has bad wheel bearings, and the only name I can find on it is 'Kingfish'; where can I get replacements?"

-This trailer is no longer manufactured, but any large bearing supply house should be able to furnish replacement bearings. Take along your old bearing and the seal, if any, so they know what you are looking for.

FROM J. E. H., GEORGETOWN:

"Is it possible to repair an aluminum outboard propeller, and if so, who does this kind of work?"

-We are informed by Ted Miller, of Mercury Outboard Sales, Export, that his shop repairs aluminum propellers as well as bronze. Provided the blades are not too badly chewed off, a reconditioning job generally runs about half the cost of a new prop.

FROM W. J. E., PITTSBURGH:

"If I buy a used boat from a dealer, who then goes out of business without paying the original owner who left the boat with the dealer to be sold, can the original owner take back the boat I have paid for?"

-There are quite a few questions of law and of fact involved here, and the result could go either way, depending on how the transaction was arranged and what papers were signed by the various parties. We would suggest retaining a competent attorney.

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